Mid-East Texas
Groundwater
Conservation District

Groundwater Management Plan

Approved Plan
June 24, 2014

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Mid-East Texas Groundwater Conservation District Groundwater

Management Plan – 2014

The Mid-East Texas Groundwater Conservation District (the "District") was created by the authority of Section 59, Article XVI, of the Texas Constitution, and in accordance with Chapter 36 of the Texas Water Code ("Water Code"), and by Article 4, House Bill 1784 [Act of May 28, 2001, 77th Leg. R.S., ch. 1307, 2001 Tex. Gen. Laws 3199, 3205] and Article 3, Part 15, Senate Bill 2 [Act of May 27, 2001, 77th Leg. R.S. ch. 967, 2001 Tex Gen Laws 1991, 2055].

The District is a governmental agency and a body politic and corporate. The District was created to serve a public use and benefit, and is essential to accomplish the objectives set forth in Section 59, Article XVI, of the Texas Constitution. The District's boundaries are coextensive with the boundaries of Freestone, Leon and Madison Counties, Texas, and lands and other property within these boundaries will benefit from the works and projects that will be accomplished by the District.

District Mission and Purpose of Management Plan

The 75th Texas Legislature in 1997 enacted Senate Bill 1 ("SB 1") to establish a comprehensive statewide water planning process. In particular, SB 1 contained provisions that required groundwater conservation districts to prepare management plans to identify the water supply resources and water demands that will shape the decisions of each district. SB 1 designed the management plans to include management goals for each district to manage and conserve the groundwater resources within their boundaries. In 2001, the Texas Legislature enacted Senate Bill 2 ("SB 2") to build on the planning requirements of SB 1 and to further clarify the actions necessary for districts to manage and conserve the groundwater resources of the state of Texas.

The Texas Legislature enacted significant changes to the management of groundwater resources in Texas with the passage of House Bill 1763 (HB 1763) in 2005. HB 1763 created a long-term planning process in which groundwater conservation districts (GCDs) in each Groundwater Management Area (GMA) are required to meet and determine the Desired Future Conditions (DFCs) for the groundwater resources within their boundaries by September 1, 2010. In addition, HB 1763 required GCDs, to share management plans with the other GCDs in the GMA for review by the other GCDs.

The Mid-East Texas Groundwater Conservation District's management plan satisfies the requirements of SB 1, SB 2, HB 1763, the statutory requirements of Chapter 36 of the Texas Water Code, and the administrative requirements of the Texas Water Development Board's (TWDB) rules.

Technical District Information Required by Texas Administrative Code

Estimate of Modeled Available Groundwater in District Based on Desired Future Conditions

Texas Water Code § 36.001 defines modeled available groundwater 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".

The joint planning process set forth in Texas Water Code § 36.108 must be collectively conducted by all groundwater conservation districts within the same GMA. The District is a member of GMA 12. GMA 12 adopted DFCs for the Carrizo-Wilcox, Queen City, Sparta and Yegua-Jackson aquifers on August 11, 2010. The adopted DFCs were then forwarded to the TWDB. The submittal packages for the DFCs can be found here:

http://www.twdb.texas.gov/groundwater/docs/DFC/GMA12_DFC_Adopted_2010-0811.pdf

The DFCs for the Yegua-Jackson aquifer were modified based on information obtained from the TWDB and research conducted by each District within GMA 12. This analysis resulted in a subsequent revision of the DFCs for the Yegua-Jackson aquifer on June 30, 2011. The revised DFCs were then forwarded to the TWDB. The submittal package for the DFCs can be found here:

http://www.twdb.texas.gov/groundwater/docs/DFC/GMA12_DFC_Adopted_2011-0630.pdf

The desired future conditions for the relevant major and minor aquifers as adopted by the Mid-East Texas Groundwater Conservation District are listed in Table 1.

Table 1. Desired future conditions for the relevant aquifers in the Mid East Texas Groundwater Conservation District.

Aquifer	Desired Future Condition (DFC) based on average feet of drawdown
Carrizo	55
Calvert Bluff (Upper Wilcox)	70
Simsboro (Middle Wilcox)	115
Hooper (Lower Wilcox)	95
Queen City	0
Sparta	0
Yegua-Jackson	5

The modeled available groundwater for the Major and Minor Aquifers were developed based on TWDB GAM Runs as summarized in Table 2.

Table 2. Modeled available groundwater for the relevant aquifers in the Mid East Texas Groundwater Conservation District.

Aquifer	County	Modeled Available Groundwater (MAG) AF/yr					
		2010	2020	2030	2040	2050	2060
Carrizo	Freestone	200	199	197	195	191	190
Carrizo	Leon	8,717	8,278	8,220	8,272	8,349	8,356
Carrizo	Madison	2,838	2,859	2,768	2,654	2,552	2,542
Calvert Bluff (Upper Wilcox)	Freestone	756	741	724	719	707	707
Calvert Bluff (Upper Wilcox)	Leon	2,649	2,824	2,957	3,069	3,194	3,205
Calvert Bluff (Upper Wilcox)	Madison	0	0	0	0	0	0
Simsboro (Middle Wilcox)	Freestone	3,348	3,560	3,570	3,569	3,536	3,535
Simsboro (Middle Wilcox)	Leon	3,316	3,373	3,470	3,551	3,629	3,635
Simsboro (Middle Wilcox)	Madison	0	0	0	0	0	0
Hooper (Lower Wilcox)	Freestone	834	805	826	832	828	827
Hooper (Lower Wilcox)	Leon	0	0	0	0	0	0
Hooper (Lower Wilcox)	Madison	0	0	0	0	0	0
Queen City	Freestone	0	0	0	0	0	0
Queen City	Leon	594	594	594	594	594	594
Queen City	Madison	380	380	380	380	380	380
Sparta	Leon	21	21	21	21	21	21
Sparta	Madison	3,313	3,313	3,313	3,313	3,313	3,313
Yegua-Jackson	Leon	4	4	4	4	4	4
Yegua-Jackson	Madison	1,118	1,118	1,118	1,118	1,118	1,118

References:

MAG values for the Carrizo-Wilcox Aquifer were documented in TWDB GAM Run 10-044 MAG (Wade Oliver, September 1, 2011).

MAG values for the Queen City Aquifer were documented in TWDB GAM Run 10-045 MAG (Wade Oliver, September 1, 2011).

MAG values for the Sparta Aquifer were documented in TWDB GAM Run 10-046 MAG (Wade Oliver, September 1, 2011).

MAG values for the Yegua-Jackson Aquifer were documented in TWDB GAM Run 10-060 MAG (Wade Oliver, July 9, 2012).

Amount of Groundwater Being Used within the District on an Annual Basis

Please refer to Appendix A.

Annual Amount of Recharge From Precipitation to the Groundwater Resources within the District

Please refer to Appendix B.

Annual Volume of Water that Discharges from the Aquifer to Springs and Surface Water Bodies

Please refer to Appendix B.

Estimate of the Annual Volume of Flow into and out of the District, and Between Aquifers in the District

Please refer to Appendix B.

Projected Surface Water Supply within the District

Please refer to Appendix A.

Projected Total Demand for Water within the District

Please refer to Appendix A.

Water Supply Needs

Please refer to Appendix A.

Water Management Strategies

Please refer to Appendix A.

Methodology to Track District Progress in Achieving Management Goals

An annual report ("Annual Report") will be created by the general manager of the District and provided to the members of the Board of the District. The Annual Report will cover the activities of the District including information on the District's performance in regards to achieving the District's management goals and objectives. The Annual Report will be delivered to the Board each year coordinating collection of permitted pumping data, downloaded available drought information, and water level monitoring. A copy of the Annual Report will be kept on file and available for public inspection at the District's offices upon adoption.

Management of Groundwater Supplies

The District will manage the supply of groundwater within the District in order to conserve the resource while seeking to maintain the economic viability of all resource user groups, public and private. The District will monitor water levels for water wells identified by the Texas Water Development Board and the District to ensure that drawdown amounts are within the parameters of the Desired Future Conditions (DFC's) as approved.

The District will adopt and routinely review rules to regulate groundwater withdrawals by means of spacing and production limits. The District may deny a well construction permit or limit groundwater withdrawals in accordance with guidelines stated in the rules of the District. The goal of the District is not to deny permits but to ensure that permits issued represent an achievable quantity of groundwater based on the best science available.

The relevant factors to be considered in making a determination to deny a permit or limit groundwater withdrawals will include:

1. The purpose of the rules of the District.
2. The equitable distribution of the resource.
3. The economic hardship resulting from grant or denial of a permit of the terms prescribed by the permit.

In pursuit of the District's mission of protecting and managing the resource, the District may require reduction of groundwater withdrawals to amounts which will not cause harm to the aquifer. To achieve this purpose, the District may, at the Board's discretion, amend of revoke any 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 observed by the District. The District will enforce the terms and conditions of permits and the rules of the District by enjoining the permit holder in a court of competent jurisdiction as provided for in Section 36.102, Texas Water Code.

Actions, Procedures, Performance, and Avoidance for District Implementation of Management Plan

The District will implement the provisions of this management plan and will utilize the objectives of the plan as a guide for District actions, operations and decision-making. The District will ensure that planning efforts, activities and operations are consistent with the provisions of this plan.

The District has adopted rules in accordance with Chapter 36 of the Texas Water Code. The development of rules is based on the scientific information and technical evidence available to the District. Current rules are available at:

http://www.mideasttexasgcd.com/METGCD%20Rule%20Amendments%20(Effective%2012-17-2013).pdf

The District will encourage cooperation and coordination in the implementation of this plan. All operations and activities will be performed in a manner that encourages the cooperation of the citizens of the District and with the appropriate water management entities at the local, regional and state level.

The geology of the aquifers within the boundaries of the Mid-East Texas Groundwater Conservation District can be found by following the link below to a publication developed by the Texas Water Development Board (TWDB) entitled "*The Aquifers of Texas*". This publication is an excellent resource to use regarding aspects and characteristics of the major and minor aquifers that provide groundwater resources for this District.

http://www.twdb.texas.gov/publications/reports/numbered_reports/doc/R380_AquifersofTexas.pdf

Management Goals

1. Providing for the Most Efficient Use of Groundwater in the District

1.1 Objective – Each year, the District will require all new exempt or non-exempt wells that are constructed within the boundaries of the District to be registered with the District in accordance with the District rules.

1.1 Performance Standard – Each year the number of exempt and non-exempt wells registered by the District for the year will be incorporated into the Annual Report submitted to the Board of Directors of the District.

2. Controlling and Preventing the Waste of Groundwater in the District

2.1 Objective – Each year, the District will make an evaluation of the District Rules to determine whether any amendments are recommended to decrease the amount of waste of groundwater within the District.

2.1 Performance Standard – The District will include a discussion of the annual evaluation of the District Rules and whether any amendments to the rules are recommended to prevent the waste of groundwater in the Annual Report of the District provided to the Board of Directors.

2.2 Objective – The District will provide information to the public on eliminating and reducing wasteful practices in the use of groundwater.

2.2 Performance Standard – The District will post and maintain an article or a link to an article relevant to the public on eliminating and reducing wasteful practices in the use of groundwater.

3. Controlling and Preventing Subsidence

This Management Goal is not Applicable to the District.

4. Conjunctive Surface Water Management Issues

4.1 Objective – The District will participate in the regional planning process by attending and participating as a voting member for Groundwater Management Area 12 the Region C and Region H Regional Water Planning Group meetings.

4.1 Performance Standard – The attendance of a District representative to Region C and Region H Regional Water Planning Group meetings will be noted in the Annual Report.

5. Natural Resource Issues Affecting the Use and Availability of Groundwater or affected by the Use of Groundwater

5.1 Objective – The district will require annual groundwater production reports from all oil and gas operators within the district that are using groundwater for drilling and well development operations, including hydraulic fracturing, and will maintain a database of groundwater production data related to oil and gas development.

5.1 Performance Standard – The general manager will develop an annual summary and assessment of groundwater production related to oil and gas activities and prepare a report for the board that presents the total oil/gas related groundwater production within the district and within each county.

6. Addressing Drought Conditions

6.1 Objective **–** Each month, the District will download available drought information, for the counties in the District, from available websites on the internet.

6.1 Performance Standard **–** Quarterly, the District will make an assessment of the status of drought in the District and prepare a quarterly briefing for the Board of Directors. The downloaded maps, reports and information will be included with copies of the quarterly briefings, and combined with results of groundwater monitoring data and permitted pumping data in the District Annual Report to the Board of Directors.

7. Addressing Conservation, Recharge Enhancement, Rainwater Harvesting, Precipitation Enhancement, and Brush Control

A. Conservation

7A.1 Objective – The District will provide information relevant to public education and awareness regarding water conservation of the use of groundwater.

7A.1 Performance Standard **–** The District will post and maintain an article or a link to an article listed under water conservation on the District website.

B. Recharge Enhancement

7B.1 This management goal is not applicable to the District.

C. Rainwater Harvesting

7C.1 Objective – The District will provide information relevant to public education and awareness regarding rainwater harvesting.

7C.1 Performance Standard – The District will post and maintain an article or a link to an article listed under rainwater harvesting on the District website.

D. Precipitation Enhancement

7D.1 This management goal is not applicable to the District.

E. Brush Control

7E.1 This management goal is not applicable to the District

8. Addressing in a quantitative manner the desired future conditions (DFC) of the groundwater resources in the District

8.1 Objective – The desired future conditions established for the District were based on Groundwater Availability Model simulations performed with the Central Queen City-Sparta GAM version 2.02 (for the Sparta, Queen City, Carrizo, and Wilcox Aquifers) and with the Yegua-Jackson GAM (for the Yegua-Jackson Aquifer). The model results include cell by cell estimates of groundwater elevations and drawdown for each year of the predictive period (2010 to 2060). In order to assess the desired future condition in the District, these model results will be compared annually to groundwater monitoring data that is available from the TWDB groundwater database.

8.1 Performance Standard – In spring of each year, the District will download groundwater data from the Texas Water Development Board groundwater database for wells within the district as well as for select wells in neighboring counties, including Anderson, Brazos, Limestone, Robertson, and Walker Counties. As of spring 2014, there are 33 wells within the district boundaries (see Table 3 below) and 18 wells located near the borders of the district within the adjacent counties (see Table 4 below). The measured water levels and drawdowns in these wells will be compared to the modeled water levels from the corresponding model grid cells. The comparisons will be summarized in tabular and graphical form in an Annual Report, prepared by the general manager and submitted to the board, which can be used to evaluate the measured drawdowns within the district relative to the current accepted desired future conditions.

Table 3. Table of monitoring wells with multiple water level measurements within the Mid East Texas Groundwater Conservation District.

State Well#	County	Depth to Top of Screened Interval	Total Well Depth	Aquifer	*Water Level Measurements* First	Latest	Count
39-14-702	Freestone	90	200	Hooper	11/12/99	10/30/13	14
39-15-802	Freestone	416	496	Hooper	11/08/99	10/30/13	15
39-23-101	Freestone	169	242	Hooper	11/08/99	10/30/13	13
39-23-404	Freestone	260	350	Simsboro	11/08/99	10/30/13	13
39-30-605	Freestone	N/A	421	Hooper	09/11/00	10/30/13	13
39-31-301	Freestone	266	629	Simsboro	11/08/99	10/30/13	15
39-32-205	Freestone	302	324	Calvert Bluff	11/08/99	10/30/13	15
38-26-109	Leon	260	367	Carrizo	09/12/00	10/23/12	13
38-26-401	Leon	N/A	840	Calvert Bluff	09/12/00	11/19/10	9
38-26-706	Leon	N/A	57	Queen City	11/15/99	10/30/13	13
38-41-203	Leon	137	169	Queen City	11/15/99	11/01/13	13
38-42-705	Leon	583	654	Queen City	11/15/99	10/31/13	14
38-43-101	Leon	616	676	Carrizo	11/15/99	10/30/13	15
38-49-802	Leon	1016	1120	Carrizo	11/12/99	10/31/13	15
38-50-102	Leon	520	550	Queen City	11/12/99	10/31/13	12
38-50-301	Leon	205	220	Queen City	11/15/99	10/31/13	14
39-40-303	Leon	65	192	Queen City	11/16/99	10/30/13	14
39-40-601	Leon	391	400	Carrizo	11/15/99	11/01/13	15
39-40-906	Leon	790	840	Calvert Bluff	11/15/99	11/01/13	15
39-54-602	Leon	336	356	Carrizo	11/15/99	10/23/12	14
39-54-604	Leon	123	200	Carrizo	11/15/99	10/29/13	16
39-55-302	Leon	503	544	Carrizo	11/16/00	11/01/13	14
39-55-701	Leon	211	253	Queen City	11/15/99	10/29/13	13
39-55-902	Leon	685	731	Carrizo	11/15/99	10/29/13	13
39-56-301	Leon	407	432	Queen City	11/15/99	11/01/13	14
39-64-705	Leon	1080	1202	Carrizo	11/12/99	10/31/13	16
38-58-502	Madison	248	270	Yegua-Jackson	11/11/99	10/31/13	15
39-64-901	Madison	417	441	Sparta	11/10/99	10/31/13	15
59-08-701	Madison	611	645	Sparta	11/10/99	10/31/13	15
59-08-903	Madison	305	330	Yegua-Jackson	11/10/99	10/31/13	16
59-16-102	Madison	598	682	Yegua-Jackson	11/10/99	10/31/13	15
60-01-502	Madison	1016	1060	Sparta	11/10/99	10/31/13	14
60-03-102	Madison	240	273	Yegua-Jackson	11/11/99	10/31/13	13

Table 4. Table of monitoring wells with multiple water level measurements in areas directly adjacent to the Mid East Texas Groundwater Conservation District.

State Well#	County	Depth to Top of Screened Interval	Total Well Depth	Aquifer	*Water Level Measurements* First	Latest	Count
38-01-102	Anderson	467	510	Hooper	11/06/00	11/14/13	14
38-02-402	Anderson	548	630	Calvert Bluff	11/18/99	11/14/13	15
38-03-101	Anderson	77	77	Queen City	11/18/99	11/13/13	15
38-10-111	Anderson	732	790	Simsboro	11/18/99	11/14/13	13
38-10-205	Anderson	630	680	Calvert Bluff	11/18/99	11/12/12	14
38-19-802	Anderson	356	408	Carrizo	11/16/99	11/14/13	14
59-14-101	Brazos	N/A	133	Sparta	11/08/99	07/03/13	24
39-29-801	Limestone	210	250	Hooper	11/12/99	10/29/13	16
39-37-601	Limestone	117	353	Simsboro	11/12/99	10/29/13	19
39-37-801	Limestone	260	446	Hooper	11/12/99	10/29/13	15
39-38-902	Limestone	237	268	Calvert Bluff	11/12/99	10/29/13	13
39-45-202	Limestone	370	539	Hooper	11/12/99	10/29/13	14
39-46-702	Robertson	620	660	Calvert Bluff	11/09/99	07/11/13	24
39-53-703	Robertson	N/A	450	Calvert Bluff	11/09/99	07/22/11	15
39-61-501	Robertson	1134	1202	Simsboro	11/09/99	07/26/13	30
59-05-101	Robertson	N/A	38	Queen City	11/09/99	01/13/11	10
59-05-301	Robertson	255	750	Carrizo	11/09/99	03/24/11	13
60-03-902	Walker	N/A	2314	Sparta	11/11/99	10/09/12	11

Appendix A

Estimated Historical Water Use and 2012 State Water Plan Datasets: Mid East Texas Groundwater Conservation District (February 14, 2014)

Estimated Historical Water Use And 2012 State Water Plan Datasets:

Mid-East Texas 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
February 14, 2014

GROUNDWATER MANAGEMENT PLAN DATA:

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

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

The five reports included in 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 Texas State Water Plan (SWP)

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

DISCLAIMER:

The data presented in this report represents the most up-to-date WUS and 2012 SWP data available as of 2/14/2014. Although it does not happen frequently, neither of these datasets are static so they are subject to change pending the availability of more accurate WUS data or an amendment to the 2012 SWP. District personnel must review these datasets and correct any discrepancies in order to ensure approval of their groundwater management plan.

The WUS dataset can be verified at this web address:

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

The 2012 SWP dataset can be verified by contacting Sabrina Anderson (sabrina.anderson@twdb.texas.gov or 512-936-0886).

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

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

Groundwater and surface water historical use estimates are currently unavailable for calendar year 2012. TWDB staff anticipates the calculation and posting of these estimates at a later date.

FREESTONE COUNTY

All values are in acre-fee/year

Year	Source	Municipal	Manufacturing	Mining	Steam Electric	Irrigation	Livestock	Total
2011	GW	3,480	0	6,327	152	613	134	10,706
	SW	48	0	373	30,695	70	1,203	32,389
2010	GW	2,944	0	3,749	135	216	134	7,178
	SW	26	0	235	15,435	83	1,202	16,981
2009	GW	3,166	60	3,605	146	76	156	7,209
	SW	28	0	216	14,715	67	1,398	16,424
2008	GW	3,183	50	3,538	241	43	140	7,195
	SW	25	0	213	196	0	1,247	1,681
2007	GW	2,787	50	0	155	0	229	3,221
	SW	277	0	0	0	1,130	2,063	3,470
2006	GW	3,068	79	0	113	38	216	3,514
	SW	277	0	0	149	60	1,942	2,428
2005	GW	2,969	31	0	110	0	187	3,297
	SW	276	107	0	60	76	1,685	2,204
2004	GW	2,727	0	0	95	0	565	3,387
	SW	275	129	0	9,830	21	1,088	11,343
2003	GW	2,847	14	0	99	0	570	3,530
	SW	274	46	0	37	57	1,099	1,513
2002	GW	2,723	14	0	99	0	507	3,343
	SW	151	147	0	2,065	9	976	3,348
2001	GW	2,708	14	0	117	0	511	3,350
	SW	174	47	0	2,955	8	984	4,168
2000	GW	2,930	7	0	91	0	611	3,639
	SW	173	40	0	10,390	8	917	11,528

LEON COUNTY

All values are in acre-fee/year

Year	Source	Municipal	Manufacturing	Mining	Steam Electric	Irrigation	Livestock	Total
2011	GW	3,055	819	1,577	0	223	86	5,760
	SW	0	0	60	0	3	1,633	1,696
2010	GW	2,818	544	717	0	31	86	4,196
	SW	0	0	27	0	0	1,643	1,670
2009	GW	2,627	557	740	0	21	75	4,020
	SW	0	0	28	0	0	1,427	1,455
2008	GW	2,512	687	777	0	208	73	4,257
	SW	0	0	30	0	0	1,378	1,408
2007	GW	2,605	748	32	0	88	111	3,584
	SW	0	0	0	0	0	2,113	2,113
2006	GW	2,642	798	50	0	242	84	3,816
	SW	0	0	0	0	0	1,587	1,587
2005	GW	2,692	766	91	0	285	90	3,924
	SW	0	0	0	0	0	1,700	1,700
2004	GW	2,489	533	124	0	300	702	4,148
	SW	0	0	249	0	0	1,157	1,406
2003	GW	2,324	450	123	0	300	695	3,892
	SW	0	0	248	0	0	1,147	1,395
2002	GW	2,291	430	127	0	542	613	4,003
	SW	0	0	251	0	0	1,011	1,262
2001	GW	2,288	466	131	0	542	634	4,061
	SW	0	0	248	0	0	1,046	1,294
2000	GW	2,406	545	164	0	542	1,014	4,671
	SW	0	0	248	0	0	676	924

MADISON COUNTY

All values are in acre-fee/year

Year	Source	Municipal	Manufacturing	Mining	Steam Electric	Irrigation	Livestock	Total
2011	GW	3,765	0	116	0	133	96	4,110
	SW	0	0	99	0	0	861	960
2010	GW	3,316	0	7	0	10	97	3,430
	SW	0	0	6	0	0	876	882
2009	GW	2,865	212	3	0	7	99	3,186
	SW	0	0	3	0	0	892	895
2008	GW	2,335	192	0	0	7	92	2,626
	SW	0	0	0	0	0	832	832
2007	GW	2,388	197	0	0	5	109	2,699
	SW	0	0	0	0	10	978	988
2006	GW	2,357	227	0	0	0	111	2,695
	SW	0	0	0	0	15	1,000	1,015
2005	GW	2,345	210	0	0	0	113	2,668
	SW	0	0	0	0	16	1,015	1,031
2004	GW	2,134	191	0	0	0	286	2,611
	SW	0	0	0	0	0	685	685
2003	GW	2,032	188	0	0	0	281	2,501
	SW	0	0	0	0	0	676	676
2002	GW	2,097	195	0	0	0	252	2,544
	SW	0	0	0	0	0	605	605
2001	GW	2,044	177	0	0	0	261	2,482
	SW	0	0	0	0	0	626	626
2000	GW	2,261	205	0	0	0	348	2,814
	SW	0	0	0	0	0	522	522

Projected Surface Water Supplies
TWDB 2012 State Water Plan Data

FREESTONE COUNTY

All values are in acre-feet/year

RWPG	WUG	WUG Basin	Source Name	2010	2020	2030	2040	2050	2060
C	COUNTY-OTHER	BRAZOS	WORTHAM LAKE/RESERVOIR	0	0	0	0	0	0
C	COUNTY-OTHER	TRINITY	TRINITY RIVER RUN-OF-RIVER MUNICIPAL	41	41	41	41	41	41
C	COUNTY-OTHER	TRINITY	TRWD LAKE/RESERVOIR SYSTEM	271	316	303	270	236	206
C	COUNTY-OTHER	TRINITY	WORTHAM LAKE/RESERVOIR	0	0	0	0	0	0
C	IRRIGATION	TRINITY	TRINITY RIVER COMBINED RUN-OF-RIVER IRRIGATION	87	87	87	87	87	87
C	LIVESTOCK	BRAZOS	LIVESTOCK LOCAL SUPPLY	83	83	83	83	83	83
C	LIVESTOCK	TRINITY	LIVESTOCK LOCAL SUPPLY	960	960	960	960	960	960
C	MINING	TRINITY	OTHER LOCAL SUPPLY	120	120	120	120	120	120
C	STEAM ELECTRIC POWER	TRINITY	FAIRFIELD LAKE/RESERVOIR	870	870	870	870	870	870
C	STEAM ELECTRIC POWER	TRINITY	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	20,000	20,000	20,000	20,000	20,000	20,000
C	STEAM ELECTRIC POWER	TRINITY	TRINITY RIVER RUN-OF-RIVER MUNICIPAL	0	0	0	0	0	0
C	STEAM ELECTRIC POWER	TRINITY	TRWD LAKE/RESERVOIR SYSTEM	6,722	6,722	6,026	5,214	4,566	3,981
C	TEAGUE	TRINITY	TEAGUE CITY LAKE/RESERVOIR	0	0	0	0	0	0
	Sum of Projected Surface Water Supplies (acre-feet/year)			**29,154**	**29,199**	**28,490**	**27,645**	**26,963**	**26,348**

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.

FREESTONE COUNTY

All values are in acre-feet/year

RWPG	WUG	WUG Basin	2010	2020	2030	2040	2050	2060
C	IRRIGATION	BRAZOS	2	2	2	2	2	2
C	LIVESTOCK	BRAZOS	122	122	122	122	122	122
C	TEAGUE	BRAZOS	209	281	301	327	353	383
C	COUNTY-OTHER	BRAZOS	194	197	196	192	190	190
C	MINING	BRAZOS	13	14	15	16	16	17
C	WORTHAM	TRINITY	272	321	369	414	453	495
C	LIVESTOCK	TRINITY	1,406	1,406	1,406	1,406	1,406	1,406
C	IRRIGATION	TRINITY	6	6	6	6	6	6
C	STEAM ELECTRIC POWER	TRINITY	12,173	18,210	20,524	23,999	28,234	33,398
C	MINING	TRINITY	103	112	117	122	128	132
C	COUNTY-OTHER	TRINITY	1,057	1,074	1,069	1,048	1,039	1,039
C	FLO COMMUNITY WSC	TRINITY	20	20	20	20	19	19
C	TEAGUE	TRINITY	327	439	472	512	553	599
C	FAIRFIELD	TRINITY	829	988	1,146	1,298	1,461	1,588
	Sum of Projected Water Demands (acre-feet/year)		**16,733**	**23,192**	**25,765**	**29,484**	**33,982**	**39,396**

LEON COUNTY

All values are in acre-feet/year

RWPG	WUG	WUG Basin	2010	2020	2030	2040	2050	2060
H	COUNTY-OTHER	BRAZOS	395	416	421	412	405	408
H	MINING	BRAZOS	221	213	209	205	201	198
H	LIVESTOCK	BRAZOS	423	423	423	423	423	423
H	JEWETT	BRAZOS	51	60	64	64	63	64
H	NORMANGEE	BRAZOS	42	46	49	48	47	48
H	IRRIGATION	TRINITY	542	542	542	542	542	542
H	BUFFALO	TRINITY	348	384	401	397	392	395
H	CENTERVILLE	TRINITY	189	203	210	207	205	206
H	JEWETT	TRINITY	151	177	192	191	188	190
H	LIVESTOCK	TRINITY	1,268	1,268	1,268	1,268	1,268	1,268
H	MANUFACTURING	TRINITY	714	842	967	1,093	1,207	1,313
H	MINING	TRINITY	1,296	1,251	1,226	1,204	1,183	1,166
H	COUNTY-OTHER	TRINITY	428	448	452	443	436	439

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
H	NORMANGEE	TRINITY	106	117	122	120	119	120
H	FLO COMMUNITY WSC	TRINITY	418	525	578	574	559	567
	Sum of Projected Water Demands (acre-feet/year)		**6,592**	**6,915**	**7,124**	**7,191**	**7,238**	**7,347**

MADISON COUNTY

All values are in acre-feet/year

RWPG	WUG	WUG Basin	2010	2020	2030	2040	2050	2060
H	COUNTY-OTHER	BRAZOS	106	110	113	115	118	122
H	LIVESTOCK	BRAZOS	120	120	120	120	120	120
H	MINING	BRAZOS	9	9	9	9	9	9
H	LIVESTOCK	TRINITY	630	630	630	630	630	630
H	IRRIGATION	TRINITY	19	19	19	19	19	19
H	MANUFACTURING	TRINITY	260	289	316	343	367	398
H	MINING	TRINITY	15	15	15	15	15	15
H	COUNTY-OTHER	TRINITY	896	931	959	971	998	1,032
H	NORMANGEE	TRINITY	10	11	12	12	13	13
H	MADISONVILLE	TRINITY	781	815	837	856	881	908
	Sum of Projected Water Demands (acre-feet/year)		**2,846**	**2,949**	**3,030**	**3,090**	**3,170**	**3,266**

Projected Water Supply Needs
TWDB 2012 State Water Plan Data

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

FREESTONE COUNTY

All values are in acre-feet/year

RWPG	WUG	WUG Basin	2010	2020	2030	2040	2050	2060
C	COUNTY-OTHER	BRAZOS	1	0	0	0	1	1
C	COUNTY-OTHER	TRINITY	440	466	459	451	427	397
C	FAIRFIELD	TRINITY	463	304	146	-6	-169	-296
C	FLO COMMUNITY WSC	TRINITY	5	5	5	5	6	6
C	IRRIGATION	BRAZOS	0	0	0	0	0	0
C	IRRIGATION	TRINITY	117	117	117	117	117	117
C	LIVESTOCK	BRAZOS	11	11	11	11	11	11
C	LIVESTOCK	TRINITY	263	263	263	263	263	263
C	MINING	BRAZOS	27	26	25	24	24	23
C	MINING	TRINITY	57	48	43	38	32	28
C	STEAM ELECTRIC POWER	TRINITY	16,164	10,127	7,117	2,830	-2,053	-7,802
C	TEAGUE	BRAZOS	179	107	86	60	34	5
C	TEAGUE	TRINITY	279	167	135	95	54	7
C	WORTHAM	TRINITY	288	-321	-369	-414	-453	-495
	Sum of Projected Water Supply Needs (acre-feet/year)		**0**	**-321**	**-369**	**-420**	**-2,675**	**-8,593**

LEON COUNTY

All values are in acre-feet/year

RWPG	WUG	WUG Basin	2010	2020	2030	2040	2050	2060
H	BUFFALO	TRINITY	0	-36	-53	-49	-44	-47
H	CENTERVILLE	TRINITY	0	-14	-21	-18	-16	-17
H	COUNTY-OTHER	BRAZOS	0	-21	-26	-17	-10	-13
H	COUNTY-OTHER	TRINITY	0	-20	-24	-15	-8	-11
H	FLO COMMUNITY WSC	TRINITY	0	-107	-160	-156	-141	-149
H	IRRIGATION	TRINITY	0	0	0	0	0	0
H	JEWETT	BRAZOS	0	-9	-13	-13	-12	-13
H	JEWETT	TRINITY	0	-26	-41	-40	-37	-39
H	LIVESTOCK	BRAZOS	0	0	0	0	0	0
H	LIVESTOCK	TRINITY	0	0	0	0	0	0
H	MANUFACTURING	TRINITY	0	-128	-253	-379	-493	-599
H	MINING	BRAZOS	0	0	0	0	0	0
H	MINING	TRINITY	0	0	0	0	0	0

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
H	NORMANGEE	BRAZOS	0	-4	-7	-6	-5	-6
H	NORMANGEE	TRINITY	0	-11	-16	-14	-13	-14
	Sum of Projected Water Supply Needs (acre-feet/year)		**0**	**-376**	**-614**	**-707**	**-779**	**-908**

MADISON COUNTY

All values are in acre-feet/year

RWPG	WUG	WUG Basin	2010	2020	2030	2040	2050	2060
H	COUNTY-OTHER	BRAZOS	0	-4	-7	-9	-12	-16
H	COUNTY-OTHER	TRINITY	1	-61	-106	-69	-100	-165
H	IRRIGATION	TRINITY	0	0	0	0	0	0
H	LIVESTOCK	BRAZOS	0	0	0	0	0	0
H	LIVESTOCK	TRINITY	0	0	0	0	0	0
H	MADISONVILLE	TRINITY	0	-34	-56	-75	-100	-127
H	MANUFACTURING	TRINITY	0	-29	-56	-83	-107	-138
H	MINING	BRAZOS	0	0	0	0	0	0
H	MINING	TRINITY	0	0	0	0	0	0
H	NORMANGEE	TRINITY	-1	-2	-3	-3	-4	-4
	Sum of Projected Water Supply Needs (acre-feet/year)		**-1**	**-130**	**-228**	**-239**	**-323**	**-450**

Projected Water Management Strategies
TWDB 2012 State Water Plan Data

FREESTONE COUNTY

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

Water Management Strategy	Source Name [Origin]	2010	2020	2030	2040	2050	2060
COUNTY-OTHER, BRAZOS (C)							
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [FREESTONE]	2	7	10	11	11	12
COUNTY-OTHER, TRINITY (C)							
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [FREESTONE]	12	40	54	58	61	65
PURCHASE FROM WATER PROVIDER (1)	NAVARRO MILLS LAKE/RESERVOIR [RESERVOIR]	0	0	0	0	0	0
PURCHASE FROM WATER PROVIDER (1)	TOLEDO BEND LAKE/RESERVOIR [RESERVOIR]	0	0	0	0	44	57
PURCHASE FROM WATER PROVIDER (2)	INDIRECT REUSE [NAVARRO]	60	0	21	61	47	60
SUPPLEMENTAL WELLS	CARRIZO-WILCOX AQUIFER [FREESTONE]	0	0	0	0	0	0
TOLEDO BEND PROJECT	TOLEDO BEND LAKE/RESERVOIR [RESERVOIR]	0	0	0	0	44	57
TRWD THIRD PIPELINE AND REUSE	INDIRECT REUSE [NAVARRO]	0	0	21	61	47	60
FAIRFIELD, TRINITY (C)							
CONVEYANCE AND TREATMENT PROJECT (2)	INDIRECT REUSE [NAVARRO]	0	0	0	0	0	23
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [FREESTONE]	7	24	37	73	95	116
MUNICIPAL CONSERVATION-EXPANDED	CONSERVATION [FREESTONE]	0	0	0	3	4	4
NEW WELLS - CARRIZO WILCOX AQUIFER	CARRIZO-WILCOX AQUIFER [HENDERSON]	0	0	0	282	282	282
SUPPLEMENTAL WELLS	CARRIZO-WILCOX AQUIFER [FREESTONE]	0	0	0	0	0	0
WATER TREATMENT PLANT - NEW	RICHLAND CHAMBERS LAKE/RESERVOIR NON-SYSTEM PORTION [RESERVOIR]	0	0	0	0	0	0
FLO COMMUNITY WSC, TRINITY (C)							
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [FREESTONE]	0	1	2	2	2	2
SUPPLEMENTAL WELLS	CARRIZO-WILCOX AQUIFER [FREESTONE]	0	0	0	0	0	0

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
IRRIGATION, TRINITY (C)							
SUPPLEMENTAL WELLS	CARRIZO-WILCOX AQUIFER [FREESTONE]	0	0	0	0	0	0
LIVESTOCK, TRINITY (C)							
SUPPLEMENTAL WELLS	CARRIZO-WILCOX AQUIFER [FREESTONE]	0	0	0	0	0	0
MINING, TRINITY (C)							
SUPPLEMENTAL WELLS	CARRIZO-WILCOX AQUIFER [FREESTONE]	0	0	0	0	0	0
STEAM ELECTRIC POWER, TRINITY (C)							
PURCHASE FROM WATER PROVIDER (1)	TOLEDO BEND LAKE/RESERVOIR [RESERVOIR]	0	0	0	0	1,538	1,822
PURCHASE FROM WATER PROVIDER (2)	INDIRECT REUSE [NAVARRO]	0	1,004	1,700	2,512	1,623	1,923
SUPPLEMENTAL WELLS	CARRIZO-WILCOX AQUIFER [FREESTONE]	0	0	0	0	0	0
TRA FREESTONE COUNTY REUSE	INDIRECT REUSE [FREESTONE]	0	0	0	0	6,760	6,760
TEAGUE, BRAZOS (C)							
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [FREESTONE]	2	9	12	15	17	20
TEAGUE, TRINITY (C)							
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [FREESTONE]	4	13	19	23	27	31
NEW WELLS - CARRIZO WILCOX AQUIFER	CARRIZO-WILCOX AQUIFER [FREESTONE]	0	0	0	0	0	0
SUPPLEMENTAL WELLS	CARRIZO-WILCOX AQUIFER [FREESTONE]	0	0	0	0	0	0
WORTHAM, TRINITY (C)							
CONVEYANCE PROJECT (2)	INDIRECT REUSE [NAVARRO]	0	300	300	300	300	300
MUNICIPAL CONSERVATION-BASIC	CONSERVATION [FREESTONE]	14	38	49	58	68	78
PURCHASE FROM WATER PROVIDER (1)	RICHLAND CHAMBERS LAKE/RESERVOIR NON-SYSTEM PORTION [RESERVOIR]	0	300	300	300	300	300
WATER TREATMENT PLANT - EXPANSION	NAVARRO MILLS LAKE/RESERVOIR [RESERVOIR]	0	0	0	0	0	0
Sum of Projected Water Management Strategies (acre-feet/year)		**101**	**1,736**	**2,525**	**3,759**	**11,270**	**11,972**

Projected Water Management Strategies
TWDB 2012 State Water Plan Data

LEON COUNTY

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

Water Management Strategy	Source Name [Origin]	2010	2020	2030	2040	2050	2060
BUFFALO, TRINITY (H)							
EXPANDED USE OF GW	CARRIZO-WILCOX AQUIFER [LEON]	0	36	53	49	44	47
MUNICIPAL CONSERVATION - SMALL WUG	CONSERVATION [LEON]	0	21	22	22	22	22
CENTERVILLE, TRINITY (H)							
EXPANDED USE OF GW	CARRIZO-WILCOX AQUIFER [LEON]	0	14	21	18	16	17
MUNICIPAL CONSERVATION - SMALL WUG	CONSERVATION [LEON]	0	11	12	11	11	11
COUNTY-OTHER, BRAZOS (H)							
EXPANDED USE OF GW	CARRIZO-WILCOX AQUIFER [LEON]	0	21	26	17	10	13
MUNICIPAL CONSERVATION - SMALL WUG	CONSERVATION [LEON]	0	21	23	17	10	13
COUNTY-OTHER, TRINITY (H)							
EXPANDED USE OF GW	CARRIZO-WILCOX AQUIFER [LEON]	0	7	8	5	3	4
EXPANDED USE OF GW	QUEEN CITY AQUIFER [LEON]	0	6	8	5	2	3
EXPANDED USE OF GW	SPARTA AQUIFER [LEON]	0	7	8	5	3	4
MUNICIPAL CONSERVATION - SMALL WUG	CONSERVATION [LEON]	0	20	24	15	8	11
FLO COMMUNITY WSC, TRINITY (H)							
EXPANDED USE OF GW	CARRIZO-WILCOX AQUIFER [LEON]	0	107	160	156	141	149
MUNICIPAL CONSERVATION - MEDIUM WUG	CONSERVATION [LEON]	0	31	34	34	33	34
JEWETT, BRAZOS (H)							
EXPANDED USE OF GW	CARRIZO-WILCOX AQUIFER [LEON]	0	9	13	13	12	13
MUNICIPAL CONSERVATION - SMALL WUG	CONSERVATION [LEON]	0	3	4	4	3	4
JEWETT, TRINITY (H)							
EXPANDED USE OF GW	CARRIZO-WILCOX AQUIFER [LEON]	0	26	41	40	37	39
MUNICIPAL CONSERVATION - SMALL WUG	CONSERVATION [LEON]	0	10	11	11	10	11

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
MANUFACTURING, TRINITY (H)							
EXPANDED USE OF GW	CARRIZO-WILCOX AQUIFER [LEON]	0	0	105	234	291	390
EXPANDED USE OF GW	CARRIZO-WILCOX AQUIFER [LEON]	0	128	148	145	202	201
EXPANDED USE OF GW	QUEEN CITY AQUIFER [LEON]	0	0	0	0	0	8
NORMANGEE, BRAZOS (H)							
EXPANDED USE OF GW	CARRIZO-WILCOX AQUIFER [LEON]	0	4	7	6	5	6
MUNICIPAL CONSERVATION - SMALL WUG	CONSERVATION [LEON]	0	3	3	3	3	3
NORMANGEE, TRINITY (H)							
EXPANDED USE OF GW	CARRIZO-WILCOX AQUIFER [LEON]	0	11	16	14	13	14
MUNICIPAL CONSERVATION - SMALL WUG	CONSERVATION [LEON]	0	6	7	7	7	7
Sum of Projected Water Management Strategies (acre-feet/year)		**0**	**502**	**754**	**831**	**886**	**1,024**

MADISON COUNTY

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

Water Management Strategy	Source Name [Origin]	2010	2020	2030	2040	2050	2060
COUNTY-OTHER, BRAZOS (H)							
EXPANDED USE OF GW	SPARTA AQUIFER [MADISON]	0	4	7	9	12	16
MUNICIPAL CONSERVATION - SMALL WUG	CONSERVATION [MADISON]	0	4	6	6	7	7
COUNTY-OTHER, TRINITY (H)							
EXPANDED USE OF GW	CARRIZO-WILCOX AQUIFER [MADISON]	0	50	100	57	0	0
EXPANDED USE OF GW	QUEEN CITY AQUIFER [MADISON]	0	11	6	4	9	9
EXPANDED USE OF GW	SPARTA AQUIFER [MADISON]	0	0	0	8	91	156
MUNICIPAL CONSERVATION - SMALL WUG	CONSERVATION [MADISON]	0	52	53	54	55	57
MADISONVILLE, TRINITY (H)							
EXPANDED USE OF GW	SPARTA AQUIFER [MADISON]	0	34	56	75	100	127

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
MUNICIPAL CONSERVATION - MEDIUM WUG	CONSERVATION [MADISON]	0	34	50	51	53	54
MANUFACTURING, TRINITY (H)							
EXPANDED USE OF GW	CARRIZO-WILCOX AQUIFER [MADISON]	0	0	41	68	61	61
EXPANDED USE OF GW	CARRIZO-WILCOX AQUIFER [MADISON]	0	29	15	11	41	72
EXPANDED USE OF GW	QUEEN CITY AQUIFER [MADISON]	0	0	0	4	5	5
NORMANGEE, TRINITY (H)							
EXPANDED USE OF GW	CARRIZO-WILCOX AQUIFER [MADISON]	0	2	3	3	4	4
MUNICIPAL CONSERVATION - SMALL WUG	CONSERVATION [MADISON]	1	1	1	1	1	1
Sum of Projected Water Management Strategies (acre-feet/year)		**1**	**221**	**338**	**351**	**439**	**569**

Appendix B

TWDB GAM Run 13-024: Mid East Texas Groundwater Conservation District Management Plan (August 28, 2013)

GAM Run 13-024: Mid-East Texas Groundwater Conservation District Management Plan

by Ian C. Jones, Ph.D., P.G.
Texas Water Development Board
Groundwater Resources Division
Groundwater Availability Modeling Section
(512) 463-6641
August 28, 2013

The seal appearing on this document was authorized by Ian C. Jones, P.G. 477 on August 28, 2013.

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GAM RUN 13-024: MID-EAST TEXAS GROUNDWATER CONSERVATION DISTRICT MANAGEMENT PLAN

by Ian C. Jones, Ph.D., P.G.
Texas Water Development Board
Groundwater Resources Division
Groundwater Availability Modeling Section
(512) 463-6641
August 28, 2013

EXECUTIVE SUMMARY:

Texas State Water Code, Section 36.1071, Subsection (h), 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:

- for each aquifer within the district, the annual amount of recharge from infiltration of precipitation to the groundwater resources within the district, if any;
- 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 Mid-East Texas Groundwater Conservation District) fulfills the requirements noted above. Part 1 of the two-part package is the Historical Water Use/State Water Plan data report. The District should have received, or will receive, this data report from the TWDB Groundwater Technical Assistance Section. Questions about the data report should be directed to Mr. Stephen Allen, Stephen.Allen@twdb.texas.gov or (512) 463-7317.

The groundwater management plan for the Mid-East Texas Groundwater Conservation District should be adopted by the district on or before July 1, 2014 and submitted to the executive administrator of the TWDB on or before July 31, 2014. The current management plan for the Mid-East Texas Groundwater Conservation District expires on September 29, 2014.

This report discusses the methods, assumptions, and results from model runs using the groundwater availability models for the central portions of the Carrizo-Wilcox, Queen City, and Sparta aquifers (version 2.02) and the Yegua-Jackson Aquifer (version 1.01) (Kelley and others, 2004; Deeds and others, 2010). Tables 1 through 4 summarize the groundwater availability model data required by the statute, and Figures 1 through 4 show the areas of the models from which the values in the tables were extracted. This model run replaces the results of GAM Run 08-077 (Aschenbach, 2009). GAM Run 13-024 meets current standards set after the release of Gam Run 08-077 including a refinement of using the extent of the official aquifer boundaries within the district. If after review of the figures, Mid-East Texas Groundwater Conservation District determines that the district boundaries used in the assessment do not reflect current conditions, please notify the Texas Water Development Board immediately.

METHODS:

In accordance with the provisions of the Texas State Water Code, Section 36.1071, Subsection (h), the groundwater availability models for the central portions of the Carrizo-Wilcox, Queen City, and Sparta aquifers and the Yegua-Jackson Aquifer were run for this analysis. Mid-East Texas Groundwater Conservation District water budgets for the historical model periods were extracted using ZONEBUDGET Version 3.01 (Harbaugh, 2009). The average annual water budget values for recharge, surface water outflow, inflow to the district, outflow from the district, net inter-aquifer flow (upper), and net inter-aquifer flow (lower) for the portions of the aquifers located within the district are summarized in this report.

PARAMETERS AND ASSUMPTIONS:

Carrizo-Wilcox, Queen City, and Sparta aquifers

- We used version 2.02 of the groundwater availability model for the central part of the Carrizo-Wilcox, Queen City, and Sparta aquifers. See Dutton and others (2003) and Kelley and others (2004) for assumptions and limitations of the groundwater availability model for the central part of the Carrizo-Wilcox, Queen City, and Sparta aquifers.

- This groundwater availability model includes eight layers which generally represent the Sparta Aquifer (Layer 1), the Weches Confining Unit (Layer 2), the Queen City Aquifer (Layer 3), the Reklaw Confining Unit (Layer 4), the Carrizo Aquifer (Layer 5), the Upper Wilcox or Calvert Bluff Formation (Layer 6), the Middle Wilcox or Simsboro Formation (Layer 7), and the Lower Wilcox or Hooper Formation (Layer 8). Individual water budgets for the District were determined for the Sparta Aquifer (Layer 1), the Queen City Aquifer (Layer 3), and the Carrizo-Wilcox Aquifer (Layer 5 through Layer 8 collectively).

- Groundwater in the Carrizo-Wilcox, Queen City, and Sparta aquifers ranges from fresh to brackish in composition (Kelley and others, 2004). Groundwater with total dissolved solids of less than 1,000 milligrams per liter are considered fresh and total dissolved solids of 1,000 to 10,000 milligrams per liter are considered brackish.

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

Yegua-Jackson Aquifer

- We used version 1.01 of the groundwater availability model for the Yegua-Jackson Aquifer. See Deeds and others (2010) for assumptions and limitations of the groundwater availability model.

- This groundwater availability model includes five layers which represent the outcrop section for the Yegua-Jackson Aquifer and younger overlying units (Layer 1), the upper portion of the Jackson Group (Layer 2), the lower portion of the Jackson Group (Layer 3), the upper portion of the Yegua Group (Layer 4), and the lower portion of the Yegua Group (Layer 5).

- An overall water budget for the District was determined for the Yegua-Jackson Aquifer (Layer 1 through Layer 5 collectively for the portions of the model that represent the Yegua-Jackson Aquifer).

- The model was run with MODFLOW-2000 (Harbaugh and others, 2000).

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 aquifers located within the district and averaged over the duration of the calibration

and verification portion of the model runs in the district, as shown in Tables 1 through 4.

- 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. "Inflow" to an aquifer from an overlying or underlying aquifer will always equal the "Outflow" from the other aquifer.

The information needed for the District's management plan is summarized in Tables 1 through 4. 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 THE YEGUA-JACKSON AQUIFER THAT IS NEEDED FOR THE MID-EAST TEXAS 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 groundwater resources within the district	Yegua-Jackson Aquifer	31,137
Estimated annual volume of water that discharges from the aquifer to springs and any surface water bodies, including lakes, streams, and rivers	Yegua-Jackson Aquifer	46,448
Estimated annual volume of flow into the district within each aquifer in the district	Yegua-Jackson Aquifer	16,334
Estimated annual volume of flow out of the district within each aquifer in the district	Yegua-Jackson Aquifer	11,401
Estimated net annual volume of flow between each aquifer in the district	Yegua-Jackson Aquifer	0[1]

[1] The model assumptions include no groundwater flow between the Yegua-Jackson Aquifer and underlying stratigraphic units.

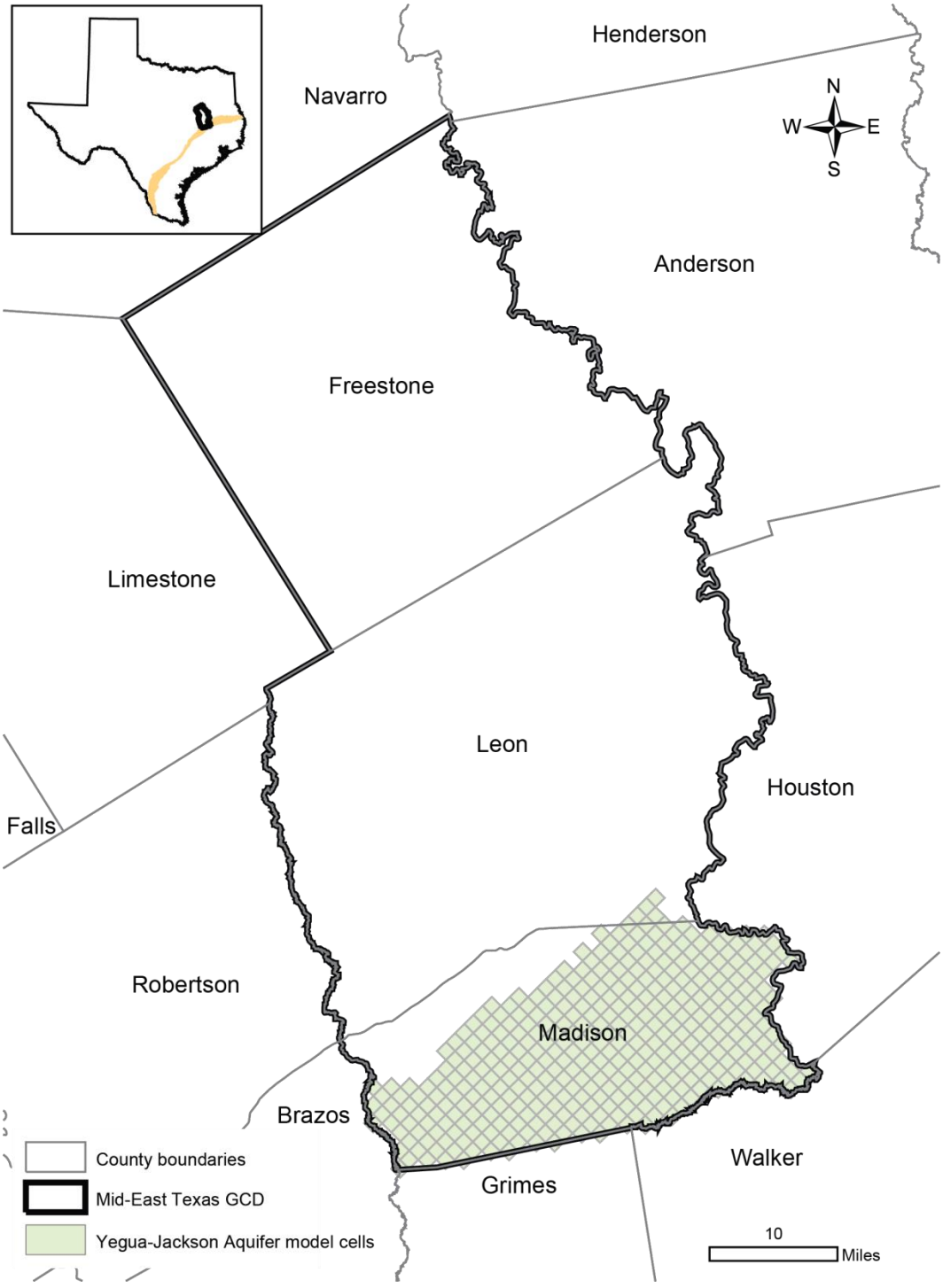

FIGURE 1: AREA OF THE GROUNDWATER AVAILABILITY MODEL FOR THE YEGUA-JACKSON AQUIFER FROM WHICH THE INFORMATION IN TABLE 1 WAS EXTRACTED. ONLY THE CELLS REPRESENTING THE YEGUA-JACKSON AQUIFER WITHIN THE DISTRICT BOUNDARIES ARE SHOWN.

TABLE 2: SUMMARIZED INFORMATION FOR THE SPARTA AQUIFER THAT IS NEEDED FOR THE MID-EAST TEXAS 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 groundwater resources within the district	Sparta Aquifer	15,100
Estimated annual volume of water that discharges from the aquifer to springs and any surface water bodies, including lakes, streams, and rivers	Sparta Aquifer	3,702
Estimated annual volume of flow into the district within each aquifer in the district	Sparta Aquifer	1,135
Estimated annual volume of flow out of the district within each aquifer in the district	Sparta Aquifer	914
Estimated net annual volume of flow between each aquifer in the district	From the Sparta Aquifer to overlying stratigraphic Unit	445
	From the Sparta Aquifer to the Weches Confining Unit	1,121
	From the Sparta Aquifer to down-dip parts of the Sparta Formation	86

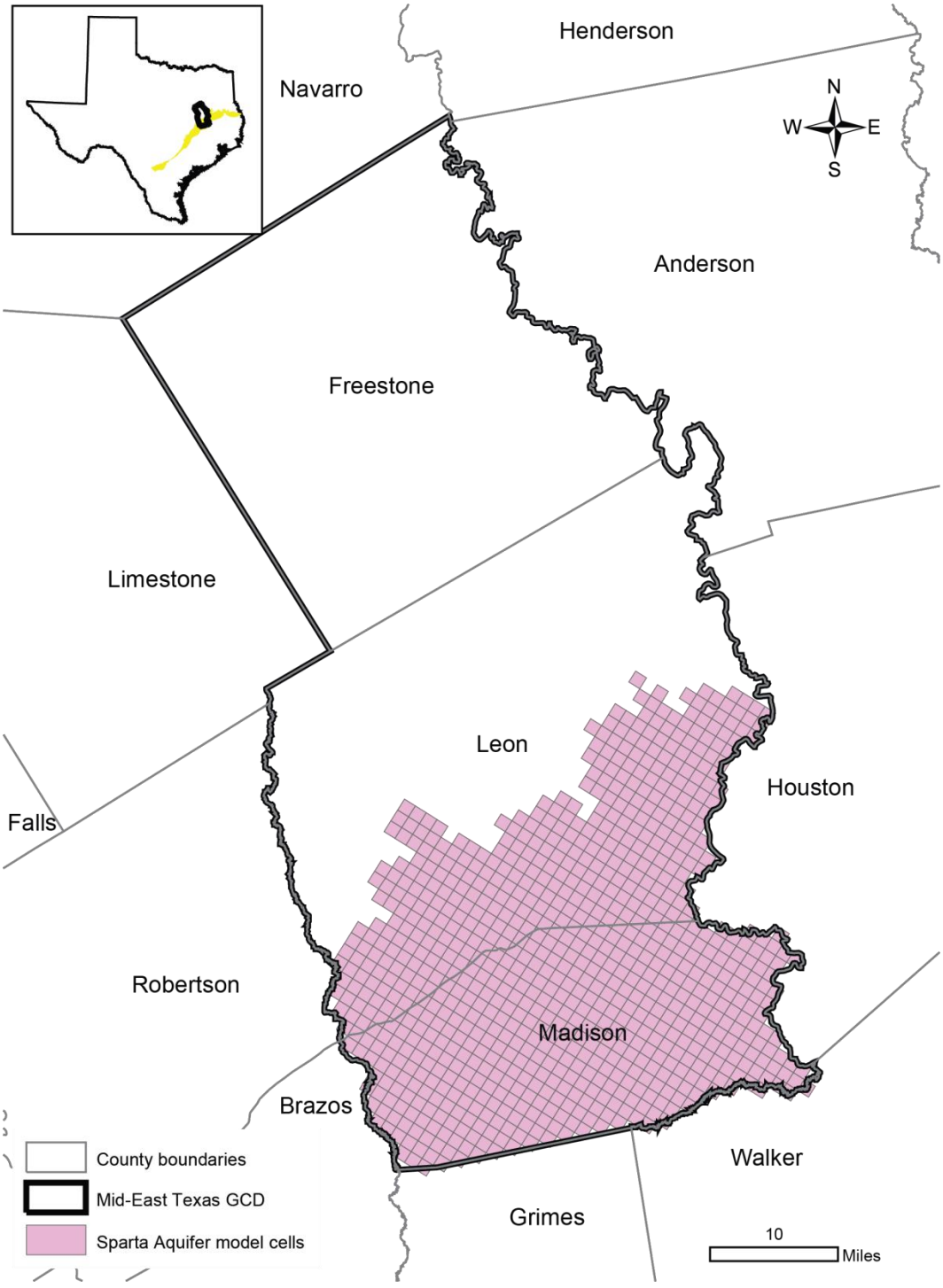

FIGURE 2: AREA OF THE GROUNDWATER AVAILABILITY MODEL FOR THE SPARTA AQUIFER FROM WHICH THE INFORMATION IN TABLE 2 WAS EXTRACTED. ONLY THE CELLS REPRESENTING THE SPARTA AQUIFER WITHIN THE DISTRICT BOUNDARIES ARE SHOWN.

TABLE 3: SUMMARIZED INFORMATION FOR THE QUEEN CITY AQUIFER THAT IS NEEDED FOR THE MID-EAST TEXAS 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 groundwater resources within the district	Queen City Aquifer	26,645
Estimated annual volume of water that discharges from the aquifer to springs and any surface water bodies, including lakes, streams, and rivers	Queen City Aquifer	16,399
Estimated annual volume of flow into the district within each aquifer in the district	Queen City Aquifer	2,000
Estimated annual volume of flow out of the district within each aquifer in the district	Queen City Aquifer	2,294
Estimated net annual volume of flow between each aquifer in the district	To the Queen City Aquifer from the Weches Confining Unit	2,126
	To the Queen City Aquifer from the Reklaw Confining Unit	150
	From the Queen City Aquifer to down-dip parts of the Queen City Formation	130

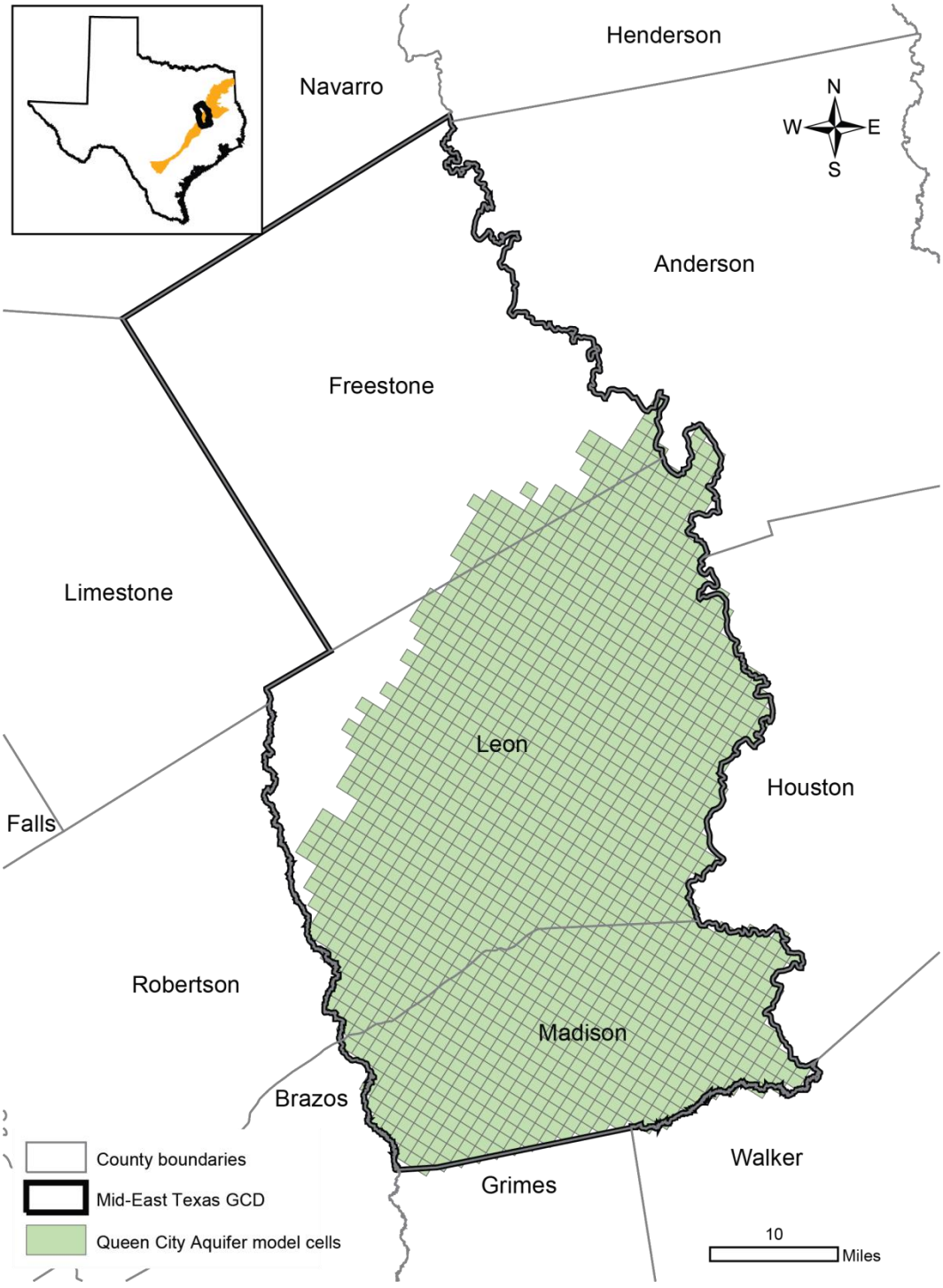

FIGURE 3: AREA OF THE GROUNDWATER AVAILABILITY MODEL FOR THE QUEEN CITY AQUIFER FROM WHICH THE INFORMATION IN TABLE 3 WAS EXTRACTED. ONLY THE CELLS REPRESENTING THE QUEEN CITY AQUIFER WITHIN THE DISTRICT BOUNDARIES ARE SHOWN.

TABLE 4: SUMMARIZED INFORMATION FOR THE CARRIZO-WILCOX AQUIFER THAT IS NEEDED FOR THE MID-EAST TEXAS 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 groundwater resources within the district	Carrizo-Wilcox Aquifer	48,603
Estimated annual volume of water that discharges from the aquifer to springs and any surface water bodies, including lakes, streams, and rivers	Carrizo-Wilcox Aquifer	35,855
Estimated annual volume of flow into the district within each aquifer in the district	Carrizo-Wilcox Aquifer	10,474
Estimated annual volume of flow out of the district within each aquifer in the district	Carrizo-Wilcox Aquifer	21,365
Estimated net annual volume of flow between each aquifer in the district	To the Carrizo-Wilcox Aquifer from the Reklaw Confining Unit	29
	To the Carrizo-Wilcox Aquifer from down-dip stratigraphic units	4,184

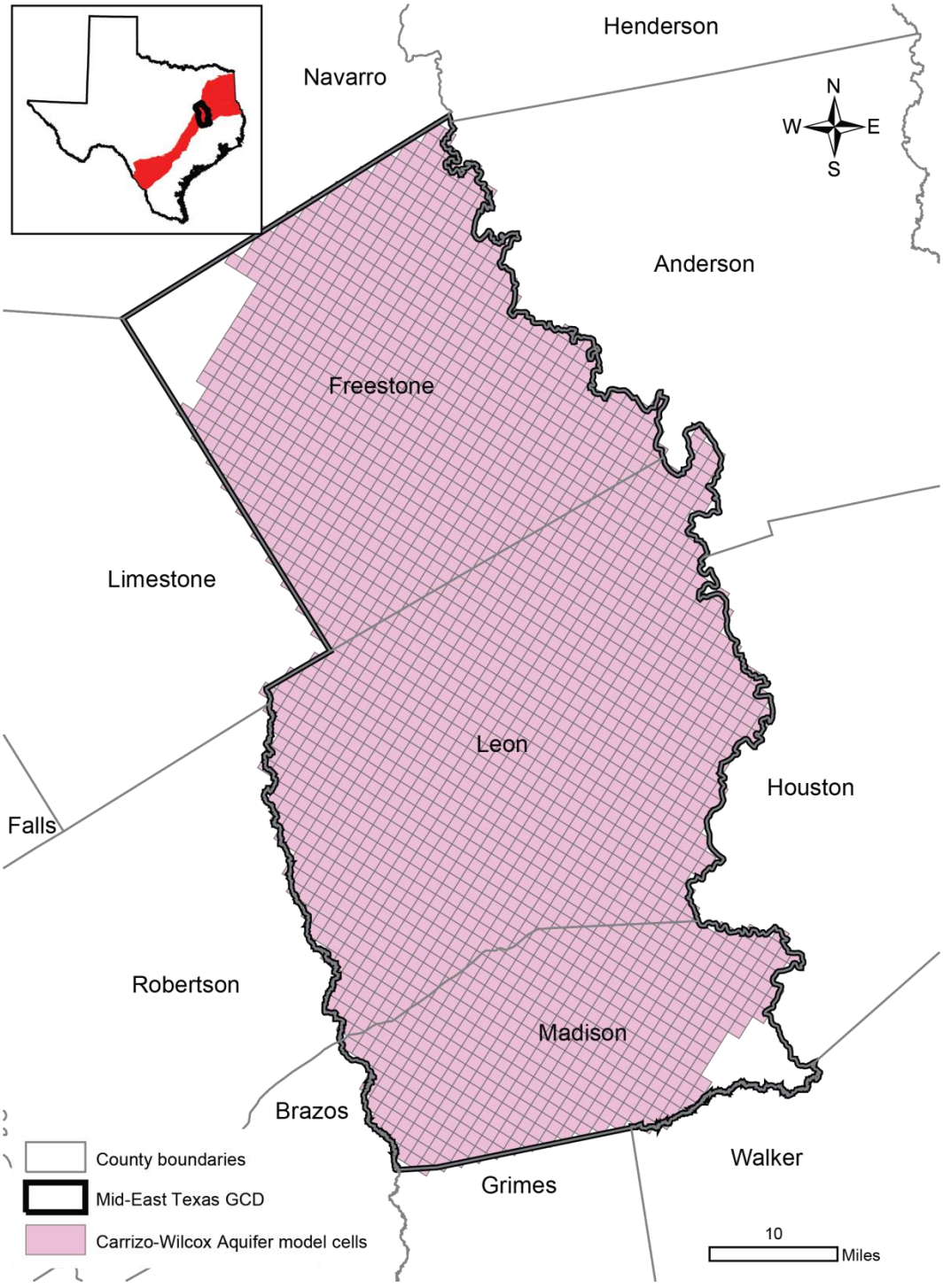

FIGURE 4: AREA OF THE GROUNDWATER AVAILABILITY MODEL FOR THE CARRIZO-WILCOX AQUIFER FROM WHICH THE INFORMATION IN TABLE 4 WAS EXTRACTED. ONLY THE CELLS REPRESENTING THE CARRIZO-WILCOX AQUIFER WITHIN THE DISTRICT BOUNDARIES ARE SHOWN.

LIMITATIONS

The groundwater model(s) used in completing this analysis is the best available scientific tool that can be used to meet the stated objective(s). 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:

Aschenbach, E., 2009, GAM Run 08-77: Texas Water Development Board, GAM Run 08-77 Report, 6 p., http://www.twdb.texas.gov/groundwater/docs/GAMruns/GR08-77.pdf.

Deeds, N. E., Yan, T., Singh, A., Jones, T. L., Kelley, V. A., Knox, P. R., Young, S. C., 2010, Groundwater availability model for the Yegua-Jackson Aquifer: Final report prepared for the Texas Water Development Board by INTERA, Inc., 582 p., http://www.twdb.texas.gov/groundwater/models/gam/ygjk/ygjk.asp.

Dutton, A. R., Harden, B., Nicot, J. P., and O'Rourke, D., 2003, Groundwater availability model for the central part of the Carrizo-Wilcox Aquifer in Texas: Contract report to the Texas Water Development Board, 295 p., http://www.twdb.texas.gov/groundwater/models/gam/czwx_c/czwx_c.asp.

Harbaugh, A. W., 2009, ZONEBUDGET Version 3.01, A computer program for computing subregional water budgets for MODFLOW ground-water flow models, U.S. Geological Survey Groundwater Software.

Harbaugh, A. W., and McDonald, M. G., 1996, User's documentation for MODFLOW-96, an update to the U.S. Geological Survey modular finite-difference groundwater-water flow model: U.S. Geological Survey Open-File Report 96-485, 56 p.

Harbaugh, A. W., Banta, E. R., Hill, M. C., and McDonald, M. G., 2000, MODFLOW-2000, The U.S. Geological Survey modular ground-water model-User guide to modularization concepts and the ground-water flow process: U.S. Geological Survey, Open-File Report 00-92.

Kelley, V. A., Deeds, N. E., Fryar, D. G., and Nicot, J. P., 2004, Groundwater availability models for the Queen City and Sparta aquifers: Contract report to the Texas Water Development Board, 867 p., http://www.twdb.texas.gov/groundwater/models/gam/qcsp/qcsp.asp.

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.

Appendix C

Resolution Adopting the Management Plan

MID-EAST TEXAS GROUNDWATER CONSERVATION DISTRICT
RESOLUTION 2014-01

RESOLUTION OF THE BOARD OF DIRECTORS OF THE MID-EAST TEXAS GROUNDWATER CONSERVATION DISTRICT ADOPTING A DISTRICT MANAGEMENT PLAN

THE STATE OF TEXAS §
§
COUNTY OF LEON §

WHEREAS, Mid-East Texas Groundwater Conservation District (District) is a duly created and existing groundwater district created and operating under State Statutes and Chapter 36 of the Texas Water Code, as amended;

WHEREAS, the Management Plan of the District attached hereto as Attachment A, has been developed for the purpose of conserving, preserving, protecting, and recharging the aquifers in the District, and this action is taken under the District's statutory authority to prevent waste and protect rights of owners of interest in groundwater;

WHEREAS, after notice and hearing the Board of Directors (Board) of the District revised and readopted a Management Plan on June 24, 2014; and

WHEREAS, the Management Plan meets the requirements of Texas Water Code § 36.1071 and § 36.1072 and 31 TAC §§ 356.5 and 356.6.

NOW THEREFORE, BE IT RESOLVED AND ORDERED BY THE BOARD OF DIRECTORS OF MID-EAST TEXAS GROUNDWATER CONSERVATION DISTRICT THAT:

1. The facts and recitations found in the preamble of this Resolution are hereby found and declared to be true and correct, and are incorporated by reference herein and expressly made a part hereof, as if copied verbatim.

2. The Board of Directors of the District hereby adopts the attached Management Plan as the Management Plan for the District, subject to those amendments necessary based on comments received from the public at the public hearing of Board meeting, recommendations from the District Board, staff, or legal counsel, or to incorporate technical information received from the Texas Water Development Board (TWDB) and/or District consultants.

3. The General Manager of the District is hereby authorized to take all steps necessary to implement this resolution and submit the Management Plan to TWDB for its approval.

4. The General Manager of the District is further authorized to take any and all action necessary to coordinate with the TWDB as may be required in furtherance of TWDB's approval pursuant to the provisions of Section 36.1072 of the Texas Water Code.

PASSED AND APPROVED this the 24th day of June, 2014.

Mike Speer, President, Board of Directors

ATTEST:

William Parten, Secretary, Board of Directors

Appendix D

Evidence that the Management Plan was Adopted after Notice and Hearing

MID-EAST TEXAS GROUNDWATER CONSERVATION DISTRICT

FILED FOR RECORD
At 9:45, o'clock a M
JUN 19 2014
LINDA JARVIS
Clerk County Court, Freestone County, Texas
BY Crystal Rossiter

Public Hearing/Board Meeting
Tuesday, June 24, 2014 at 6:00 PM
Centerville City Hall
325 E. St Mary's St.
Centerville, Texas

AGENDA

The subjects to be discussed or considered, or upon which any formal actions may be taken, are as listed below. Items may or may not be taken in the same order as shown on the meeting notice.

1. Call to Order – Public Hearing on proposed revisions to District Management Plan.
2. Public Comments on Agenda Item (1)*.
3. Adjourn Public Hearing. Regular meeting to be called to order after adjournment of Public Hearing.
4. Review and Action on Minutes of April 22, 2014 Board Meeting.
5. Public Comments. *
6. Presentation by Consultant on Desired Future Conditions, groundwater resources of the District, and the joint planning process.
7. Consider and possible action to approve Resolution 2014-01 Revising and Readopting the District Management Plan.
8. Consideration and action on Fiscal Year 2012-2013 Financial Audit.
9. Consideration and action on the following permit applications filed with the District:
   a. MD America Energy Water Well Operating Permit application for an existing water well known as "Brinkmann FP" located on Harris Tap Lane south of North Zulch in Madison County for production of groundwater for hydraulic fracturing. Annual volume requested is 429.64 acre feet.
   b. MD America Energy Water Well Operating Permit application for an existing water well known as "Brinkmann Frac Pond" located off of FM 1372 southwest of North Zulch in Madison County for production of groundwater for hydraulic fracturing. Annual volume requested is 429.64 acre feet.
   c. MD America Energy Water Well Operating Permit application for new water well known as "Brinkmann Frac Pond #2" located off of FM 1372 southwest of North Zulch in Madison County for production of groundwater for hydraulic fracturing. Annual volume requested is 429.64 acre feet.
10. Manager's Report of District activity since April 22, 2014 and upcoming events:
    a. Investment Report of District Funds.
    b. Region H and Region C Water Planning Group meetings.
    c. Attended TDLR water well driller's training session at Pineywoods GCD on May 9.
    d. TAGD Quarterly Meeting and PFIA Training in Austin – May 27-28.
    e. Water Conservation presentation for Madison Co. 7th graders at Ag Day – May 30.
    f. GMA 12 Joint Planning meeting in Milano – June 6.
    g. Upcoming Events: GMA 12 Public meeting, Milano – June 27; Region H WPG meeting, Conroe – August 6; Region C WPG meeting, Grand Prairie – August 18; TAGD 3rd Annual Groundwater Summit, San Marcos on August 26-28.
11. Bills received and current financial status.
12. Set date, time and location of next meeting.
13. Adjourn.

Signed this 19th day of June, 2014

David M. Bailey, General Manager

The Mid-East Texas Groundwater Conservation District is committed to compliance with the Americans with Disabilities Act (ADA). Reasonable accommodations and equal opportunity for effective communications will be provided upon request. Please contact the District office at 936-348-3212 at least 24 hours in advance if accommodation is needed.

During the meeting, the Board reserves the right to go into closed session for any of the following purposes: real estate, consultation with an attorney, or personnel matters under V.T.C.A., Government Code Sections 551.072, 551.071, and 551.074, respectively, or for any item on the above agenda for which a closed session is permitted by law.

*Public comments will be limited to three (3) minutes from each individual desiring to speak. Board members are prohibited by law from discussing matters presented under this item, except for placement on a future agenda.

MID-EAST TEXAS GROUNDWATER CONSERVATION DISTRICT

FILED
1:20P
JUN 19 2014
CHRISTIE WAKEFIELD
CLERK COUNTY COURT
BY
LEON COUNTY, TEXAS

Public Hearing/Board Meeting
Tuesday, June 24, 2014 at 6:00 PM
Centerville City Hall
325 E. St Mary's St.
Centerville, Texas

AGENDA

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11. Bills received and current financial status.
12. Set date, time and location of next meeting.
13. Adjourn.

Signed this 19th day of June, 2014

David M. Bailey, General Manager

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*Public comments will be limited to three (3) minutes from each individual desiring to speak. Board members are prohibited by law from discussing matters presented under this item, except for placement on a future agenda.

MID-EAST TEXAS GROUNDWATER CONSERVATION DISTRICT

Public Hearing/Board Meeting
Tuesday, June 24, 2014 at 6:00 PM
Centerville City Hall
325 E. St Mary's St.
Centerville, Texas

COPY
Original Filed
At 2:30 o'clock P M.

JUN 19 2014

Charolotte Barrett, Madison County Clerk
By _____ Deputy
Copies NOT Compared

AGENDA

The subjects to be discussed or considered, or upon which any formal actions may be taken, are as listed below. Items may or may not be taken in the same order as shown on the meeting notice.

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11. Bills received and current financial status.
12. Set date, time and location of next meeting.
13. Adjourn.

Signed this 19th day of June, 2014

David M. Bailey, General Manager

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Appendix E

Evidence that the District Coordinated Development of the Management Plan with Surface Water Entities

The attached email was delivered to the following entities in order to coordinate development of the Management Plan with Surface Water Entities. The email address identifies the entity for which delivery was made on July 1, 2014:

Email address:	**Surface Water Entity:**
jparks@ntmwd.com	*Mr. Jim Parks, Chairman* *Region C Water Planning Group*
jhouston@sjra.net	*Mr. Mark Evans, Chairman* *Region H Water Planning Group*
mark.olson@trwd.com	*Mr. Mark Olson* *Tarrant Regional Water District*
wardk@trinityra.org	*Mr. Kevin Ward* *Trinity River Authority*
pford@brazos.org	*Mr. Phil Ford* *Brazos River Authority*

Subject: Mid-East Texas GCD Management Plan

From: David Bailey (david_metgcd@att.net)

To: jparks@ntmwd.com; jhouston@sjra.net; mark.olson@trwd.com; wardk@trinityra.org; pford@brazos.org;

Cc: Stephen.Allen@twdb.texas.gov;

Date: Tuesday, July 1, 2014 1:24 PM

Dear Sirs,

Attached please find a copy of the Mid-East Texas Groundwater Conservation District's Management Plan, as adopted at a District Board of Directors Meeting/Public Hearing held on June 24, 2014. This copy is being provided for your files. The Mid-East Texas GCD is required to provide this document to "Political subdivisions as defined by Texas Water Code, Chapter 15, and identified from Texas Commission of Environmental Quality records which are granted authority to store, divert, or supply surface water either directly or by contract under Texas Water Code, Chapter 11, for use within the boundaries of a district."

Thank you and very truly yours,

David M. Bailey
General Manager
Mid-East Texas Groundwater Conservation District
P O Box 477
101 W Main, Suite 115
Madisonville, TX 77864
Office: 936 348-3212
Cell: 936-348-1454
Fax: 936 348-3512