

SOAH DOCKET NO. 952-19-0705

APPLICATION OF LOWER § BEFORE THE STATE OFFICE
COLORADO RIVER AUTHORITY §
FOR OPERATING AND TRANSPORT § OF
PERMITS FOR EIGHT WELLS IN §
BASTROP COUNTY, TEXAS § ADMINISTRATIVE HEARINGS

GM EXHIBIT 1

DIRECT TESTIMONY OF JAMES TOTTEN

on behalf of

THE GENERAL MANAGER OF
LOST PINES GROUNDWATER CONSERVATION DISTRICT

SUBMITTED ON JULY 26, 2019

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GLOSSARY OF ACRONYMS AND DEFINED TERMS

<u>Acronym/Defined Term</u>	<u>Meaning</u>
Administratively Complete	“Administratively Complete” means: (1) that all information requested by the District has been fully and accurately provided; and (2) that all applicable fees have been paid, as defined by District Rule Section 1.
DFC	Desired Future Condition, as defined by Texas Water Code section 36.108(d)
Donnelly Report	The District hydrogeologist’s report dated April 6, 2018
Draft Permit	The General Manager’s draft operating and transport permit for the LCRA Applications dated August 20, 2018
End User	“End User” means the person or entity that makes beneficial use of the water withdrawn from a well, including, but not limited to, an agricultural user, industrial user, mining user, municipal user, or Retail Public Water Utility. End user does not include the retail customers of a retail public water utility, as defined by District Rule Section 1.
GAM	Groundwater Availability Model approved by the Texas Water Development Board
Old GAM	2004 Central Queen City-Sparta GAM
New GAM	2018 Central Carrizo-Wilcox GAM
GMA	Groundwater Management Area
LCRA	Lower Colorado River Authority
LCRA Applications	LCRA’s applications for 8 operating and transport permits for 8 proposed wells in Bastrop County, Texas submitted to LPGCD during February 2018

Acronym/Defined Term

Meaning

LPGCD or District

Lost Pines Groundwater Conservation
District

TWDB

Texas Water Development Board

LIST OF EXHIBITS

<u>Exhibit</u>	<u>Description</u>
GM EXHIBIT 1	Direct Testimony of James Totten
GM EXHIBIT 2	James Totten Resume
GM EXHIBIT 3	Administratively Complete Letter and Draft Permits
GM EXHIBIT 4	Andrew Donnelly's April 6, 2018 Report
GM EXHIBIT 5	Operating Permit issued to Forestar (USA) Real Estate Group, Inc. on July 18, 2013
GM EXHIBIT 6	Operating Permit issued to End Op (now Recharge Water, LP) on September 21, 2016
GM EXHIBIT 7	July 26, 2019 Revised Draft Permit
GM EXHIBIT 8	End Op and Aqua Water Supply Corporation Settlement Agreement
GM EXHIBIT 9	District's Rules re-adopted April 20, 2016
GM EXHIBIT 10	District's Management Plan re-adopted September 20, 2017

1 **I. WITNESS INTRODUCTION AND QUALIFICATIONS**

2 **Q. Please state your name and business address.**

3 A. My name is James (Jim) Totten, and my business address is 908 NE Loop 230,
4 Smithville, Texas 78957.

5 **Q. On whose behalf are you testifying in this proceeding?**

6 A. I am filing testimony on behalf of the Lost Pines Groundwater Conservation District
7 (District).

8 **Q. By whom are you employed and in what position?**

 A. I am the General Manager of the District.

9 **Q. How long have you been the Lost Pines General Manager?**

 A. I've been the General Manager since January 2015, and prior to that I was the Assistant
10 General Manager of the District for over two years.

11 **Q. What are your responsibilities as the District's General Manager?**

12 A. I carry out the day-to-day operations of the District. I also see to it that the District Rules,
13 Management Plan and orders of the Board of Directors are carried out, at the direction of
14 the Board. I am also responsible for developing and recommending a budget for the
15 District, and then implementing that budget. I also regularly participate in the regional
16 and groundwater management area water planning process. That process involves, and I
17 have developed experience in, assessing current and future water demand, including
18 demand for groundwater resources. My duties also involve conducting reviews of each
19 application filed with the District for an Operating Permit or a Transport Permit to
20 determine if the application is Administratively Complete.

1 **Q. Please describe your educational background and professional affiliations.**

2 A. I received a Bachelor of Science in Microbiology and a Master of Science in
3 Biochemistry from Texas A&M University. I also completed almost 4 years of doctoral
4 studies in Water Management and Hydrological Sciences at Texas A&M University.

5 Through the District I am a member of the Texas Alliance of Groundwater
6 Districts and the Texas Water Conservation Association.

7 **Q. Please describe your educational and professional experience.**

8 A. I have almost 7 years of experience working for the District, and prior to that I spent
9 almost 4 years studying hydrogeology and water management. In graduate school, I
10 worked as a graduate research assistant in the area of water demand and consumption.
11 After graduate school, I worked as the District's Assistant General Manager. In that role,
12 I worked with Joe Cooper, the previous District General Manager, reviewing permit
13 applications. I also assisted with regional water planning at the Groundwater
14 Management Area (GMA) and Regional Water Planning Groups. In 2015, I became the
15 District's General Manager. My responsibilities focus on handling the day-to-day
16 operations of the District, as directed by the Board of Directors. My work spans a broad
17 base of science, policy and field work in support of the District's management plan and
18 goals set by the Board.

19 **Q. Do you participate in continuing education as the General Manager of the District?**

20 A. Yes.

21 **Q. What types of continuing education do you commonly participate in?**

22 A. I have participated in and presented at conferences and other meetings on issues related to
23 groundwater resources. I also regularly review technical papers and reports.

1 **Q. Please describe your experience with groundwater resources in the Carrizo-Wilcox**
2 **Aquifers.**

3 A. During my time at the District, I have managed the resources in the Carrizo-Wilcox
4 Aquifers. This includes development of water budget information for the management
5 plan and assisting with the development of desired future conditions. I have also
6 thoroughly evaluated the Simsboro Formation as part of my work as Assistant General
7 Manager and General Manager, and assisted with the development of an aquifer
8 monitoring plan. I am also part of a team of designees from the other groundwater
9 conservation districts in Groundwater Management Area 12 (GMA 12). That team works
10 on the DFCs for the formations in the Central Carrizo Wilcox Aquifers.

11 **Q. Is GM EXHIBIT 2 a true and correct copy of your resume?**

12 A. Yes.

13 **[DISTRICT GM OFFERS GM EXHIBIT 2]**

14 **II. SUMMARY OF TESTIMONY**

15 **Q. Please summarize your testimony.**

16 A. I provide testimony regarding the District's operating and transport permit review
17 process, generally, and how that process was applied to the Lower Colorado River
18 Authority's (LCRA) Applications. I also testify on the statutory factors that the District
19 Board considers when reviewing an application for an operating or transport permit and I
20 highlight key technical and regulatory issues with those factors. In the middle of my
21 testimony I respond to LCRA's testimony, namely LCRA's suggestions to revise the
22 Draft Permit. I have accepted some of the non-substantive changes and one substantive
23 change presented by the LCRA. I base the acceptance of any change on consistency with

1 District precedent. Then near the end of my testimony I respond to issues raised by the
2 Protestants' witnesses.

3 Dr. William R. Hutchison has also filed testimony on behalf of the District. His
4 testimony addresses the technical components that apply to groundwater management.
5 Dr. Hutchison's testimony covers the reliability of the model used to evaluate impacts to
6 groundwater systems, impacts to overlying and underlying formations from groundwater
7 production, impacts to surface water, subsidence, LCRA's requested phased approach,
8 the effect on existing water resources and permit holders, and responses to LCRA
9 witnesses and the Protestants' witnesses. Dr. Hutchison has also prepared a report at my
10 direction evaluating impacts to water resources on a district-wide basis from the proposed
11 production.

12 **Q. What information have you reviewed and relied upon for your testimony.**

13 A. I have relied upon and reviewed the following information:

- 14 • My experience as General Manager of the District;
- 15 • My education and studies in Microbiology, Biochemistry and Water Management and
16 Hydrological Sciences;
- 17 • LCRA applications;
- 18 • The Administrative Record filed in this proceeding;
- 19 • Written pre-filed testimonies submitted by the LCRA and Protestants in this
20 proceeding and exhibits attached to those testimonies;
- 21 • Documents produced by the District in discovery in this proceeding; and
- 22 • The District's Rules and Management Plan, and Texas Water Code, Chapter 36.

1 **III. DISTRICT PERMIT APPLICATION PROCESS**

2 **Q. Does the District require a permit or registration to operate a well in the District?**

3 A. Yes. District Rule 3.2 requires the owner of a proposed well that is not classified as an
4 exempt well to obtain an Operating Permit from the District before drilling the well.
5 Exempt wells must still be registered with the District.

6 **Q. Does the District require a permit to transfer water outside District boundaries?**

7 A. Yes. District Rule 6.1 provides that no person may transfer water outside the District
8 boundaries for use outside the District boundaries without first obtaining a Transport
9 Permit from the District unless that person or entity is exempt, such as if the person is
10 serving water within an area covered by a Certificate of Convenience and Necessity that
11 includes area within and outside of the District.

12 **Q. What are your responsibilities with regard to applications for Operating Permits
13 and Transport Permits?**

14 A. District Rule 15.1 requires the General Manager to conduct a review of each application
15 for an Operating Permit and a Transport Permit to determine if the application is
16 Administratively Complete. The Rules define “Administratively Complete” to mean: (1)
17 that all information requested by the District has been fully and accurately provided; and
18 (2) that all applicable fees have been paid.

19 Rule 15.1 also requires the General Manager to notify the applicant in writing that
20 the application has been found to be Administratively Complete. The written notice must
21 contain a summary of the General Manager’s recommendation on the Application and
22 may include a draft permit.

1 Within 60 days of the date on which the General Manager declares an application
2 to be Administratively Complete, the General Manager must set the application on the
3 agenda for a public hearing before the District Board. The General Manager must also
4 prepare a notice of the hearing on the application, and must mail the notice to the
5 applicant and post it in several public places listed in the Rules.

6 **Q. Please describe your processing of LCRA's applications for Operating Permits and**
7 **Transport Permits.**

8 A. I reviewed the 8 applications for Operating and Transport Permits submitted by the
9 LCRA, and determined that they were Administratively Complete.

10 On August 20, 2018, I sent a letter to LCRA informing LCRA that its applications
11 were Administratively Complete. Attached to the letter was the General Manager's Draft
12 Operating Permit and Draft Transport Permit (the "Draft Permit"). Also attached was a
13 notice for a hearing on the applications to be held on September 26, 2018 in Bastrop,
14 Texas. A true and correct copy of this letter and the Draft Permit can be found at GM
15 EXHIBIT 3.

16 Prior to the Administratively Complete date, I asked the District's hydrogeologist
17 to create a model and develop a report on the impacts of LCRA's proposed production on
18 groundwater. Andrew Donnelly submitted that report to me on April 6, 2018. After
19 reviewing that report, I prepared the Draft Permit in accordance with District Rules, the
20 Texas Water Code, and the Management Plan. In preparing the Draft Permit, I also
21 considered the terms and conditions in other similarly sized permits as well as what was
22 requested in LCRA's applications.

1 I provided an advance copy of the Draft Permit to LCRA's Staff and counsel for
2 review on May 23, 2018. LCRA and the District met on June 5, 2018 to discuss the
3 advance copy. The District received LCRA's comments on the advance copy and agreed
4 to consider LCRA's comments for any revisions to the draft permit. LCRA provided
5 another set of comments to the District's counsel on the Draft Permit after August 20,
6 2018. Those comments from LCRA were generally non-substantive and were not
7 included in a Draft Permit before the matter was taken to the Board at the public hearing.

8 The District posted notice for the public hearing on August 27, 2018.

9 I requested a contested case hearing on the applications on September 21, 2018.

10 The public hearing was held on September 26, 2018.

11 **[DISTRICT GM OFFERS GM EXHIBIT 3]**

12 **Q. You testified earlier that you compared LCRA applications to other similarly sized**
13 **permits. What kinds of permits do you consider to be similarly sized to those**
14 **requested by LCRA?**

15 A. Permits that authorize production of more than 20,000 acre feet of water per year.

16 **Q. Can you summarize your recommendation on the LCRA applications?**

17 A. I recommended that the Board grant the LCRA applications for Operating and Transport
18 Permits under the terms and conditions set out in the General Manager's Draft Permit.
19 The Draft Permit proposes to authorize LCRA to withdraw an aggregate of 25,000 acre-
20 feet per year from the Simsboro Aquifer from 8 wells, at an instantaneous withdrawal
21 rate of 3,000 gallons per minute per well, for public water supply use in LCRA's service
22 area, subject to the following summarized special conditions requiring that: (1) LCRA
23 enter into a Monitoring Well Agreement; (2) the authorized annual withdrawal amount

1 and the authorized maximum rate of withdrawal be aggregated for the proposed LCRA
2 wells; (3) the authorized annual withdrawal amount and the authorized maximum rate of
3 withdrawal be staged; (4-7) LCRA comply with a formula and method for determining
4 whether production will exceed the District's DFCs; (8) LCRA provide written contracts
5 with End Users to the District; (9) LCRA submit drought contingency and water
6 conservation plans for certain End Users; (10) a variance be issued to LCRA for time
7 limits for the completion of permitted wells or well operation; (11) LCRA be subject to
8 any future production limits adopted by the District; (12) LCRA pay Production Fees;
9 (13) completion of wells be within 100 feet of the location identified in the Applications;
10 (14) LCRA conduct 36-hour pump tests; (15) the permit be subject to the General
11 Manager's final approval of well design specifications; (16) a procedure be established
12 for challenging an application based on a well-spacing violation; and (17) water
13 withdrawn and transported under the permit be put to beneficial use at all times and
14 neither transported pursuant to a bed and banks permit nor discharged to any surface
15 water. The majority of the 17 special conditions were intended to address requests for
16 variances from the District's rules that LCRA had included in its applications.

17 **Q. You testified that LCRA requested variances from the District's rules. What were**
18 **those requests?**

19 LCRA sought 4 variances from District Rules. Those were: (1) a variance from the
20 District's well-spacing requirement due to uncertainty with the proposed well locations;
21 (2) a variance from the District's production fee payments to allow payments to be due
22 according to the phase of production; (3) a variance from the time limits for completing
23 and operating a well; and (4) a variance to allow LCRA to amend its permit when it

1 confirmed the locations of its wells. LCRA also sought a waiver from the requirement to
2 submit the results of a 36-hour pump test as part of their application.

3 **Q. Are those variances similar to those that have been granted by the District for**
4 **similar permits?**

5 A. Some of them are. The City of Bastrop asked for a waiver from the 36-hour pump test
6 requirement after the test well collapsed during the pump test. As a result of the
7 contested case on its application, the City of Bastrop also requested a variance from
8 spacing requirements in the event that previously unregistered wells were found to be
9 completed in the Simsboro formation. LCRA's remaining requests are neither typical
10 requests nor similar to any that the District has granted for similarly sized permits.

11 **Q. Which variance requests did the General Manager incorporate into the Draft**
12 **Permits?**

13 A. I incorporated the request for a variance from the 36-hour pump test requirement and in
14 doing so included a special condition that continues to be protective of pumping from the
15 aquifer. I also incorporated a condition that allowed payment of the production fees
16 based on the current phase of production. This is not a variance as the rules do not speak
17 to a timeline for payment of the fees. The Draft Permit has the same provision as other
18 permit holders, for example, Recharge's Operating Permit.

19 **Q. Which variance requests did you not incorporate into the Draft Permit?**

20 A. I did not incorporate the two requested variances from spacing and well location
21 requirements.

1 **Q. Why did you request a contested case hearing on the LCRA applications?**

2 A. I recommended that the Board grant the applications for the Operating and Transport
3 Permits only under the terms and conditions of the Draft Permit. There were several
4 requests for variances from the District Rules that I did not recommend.

5 **Q. Did you provide the Board with any information in support of your**
6 **recommendation on the LCRA applications before the public hearing?**

7 A. Yes. I presented the Board with the General Manager's Draft Permit, and a memorandum
8 to the Board dated April 6, 2018 from the District's hydrogeologist Andrew Donnelly
9 (Donnelly Report). A true and correct copy of the Donnelly Report can be found at GM
10 EXHIBIT 4.

11 **[DISTRICT GM OFFERS GM EXHIBIT 4]**

12 **Q. What is the purpose of the General Manager's recommendation?**

13 A. The General Manager's recommendation in the Draft Permit has a number of purposes.
14 First, I inform the Board that the application is Administratively Complete and ready for
15 consideration. Second, I address the various statutory factors to be considered, including,
16 among others, beneficial use and impact on existing users. Finally, the Draft Permit
17 addresses various concerns such as LCRA's request to transport water to its service area
18 using the Colorado River. Special Condition No. 1 of the proposed Transport Permit
19 prohibits such a transport.

20 **Q. Under the District Rules, is your recommendation binding on the Board?**

21 A. No. My recommendation is not binding, and the Board may adopt different approaches in
22 its consideration of whether an application meets the standards set by the Water Code and
23 District Rules.

1 **IV. FACTORS TO BE CONSIDERED**

2 **Q. What are the factors that the Board must consider in making a decision on an**
3 **Operating Permit application?**

4 A. Under the Texas Water Code and District Rule 5.2.D., the Board shall consider:

5 (1) whether the application conforms to the requirements prescribed by
6 Chapter 36 of the Texas Water Code and the District Rules;

7 (2) whether the proposed use of water unreasonably affects existing
8 groundwater and surface water resources or existing permit holders;

9 (3) whether the proposed use of water is dedicated to a beneficial use;

10 (4) whether the proposed use of water is consistent with the District
11 Management Plan;

12 (5) whether the applicant has agreed to avoid waste and achieve water
13 conservation;

14 (6) whether the applicant has agreed to use reasonable diligence to protect
15 groundwater quality;

16 (7) whether the applicant will follow well plugging guidelines at the time of
17 well closure;

18 (8) whether granting the application is consistent with the District's duty to
19 manage total groundwater production on a long-term basis to achieve an applicable DFC,
20 considering:

21 (a) the MAG determined by the TWDB executive administrator;

1 (b) the TWDB executive administrator's estimate of the current and
2 projected amount of groundwater produced under exemptions granted by District Rules
3 and Texas Water Code § 36.117;

4 (c) the amount of groundwater authorized under permits previously
5 issued by the District;

6 (d) a reasonable estimate of the amount of groundwater that is actually
7 produced under permits issued by the District;

8 (e) yearly precipitation and production patterns;

9 (9) whether the conditions and limitations in the Operating Permit prevent
10 Waste, achieve water conservation, minimize as far as practicable the drawdown of the
11 water table or the reduction of artesian pressure, or lessen interference between wells; and

12 (10) whether the applicant has a history of non-compliance with District Rules
13 and Chapter 36 of the Texas Water Code, including any record of enforcement actions
14 against the applicant for violation of District Rules or Chapter 36.

15 **Q. What are the factors that the Board must consider in making a decision on a**
16 **Transport Permit?**

17 A. Under the Texas Water Code and District Rule 6.3.B., the Board must consider:

18 (1) the availability of water in the District and in the proposed receiving area
19 during the period for which the water supply is requested;

20 (2) the projected effect of the proposed transfer on aquifer conditions,
21 depletion, subsidence, or effects on existing permit holders or other groundwater users
22 within the District; and

23 (3) the approved regional water plan and the District Management Plan.

1 **A. Completeness of Application**

2 **Q. What did you consider when assessing whether the application conforms to the**
3 **requirements of Chapter 36 of the Texas Water Code and the District Rules?**

4 A. As part of determining whether the applications were Administratively Complete, I
5 determined that LCRA had provided the information required by the District Rules and
6 the Texas Water Code, but the applications were not submitted on the correct District
7 form. Consistent with District Rule 15.1.B.1, I notified LCRA and asked LCRA to
8 resubmit the applications using the most current Form-100. LCRA resubmitted the
9 applications on the correct form on February 21, 2018.

10 **Q. Did LCRA have complete applications after the amended forms were submitted?**

11 A. Yes.

12 **B. Beneficial Use**

13 **Q. What did you review in assessing whether the proposed use of water is dedicated to**
14 **beneficial use?**

15 A. In the Application, LCRA proposes to use the water in LCRA's service area. This area
16 includes a 35-county area. In assessing the beneficial use in those counties I reviewed the
17 2017 State Water Plan and the 2016 Regional Water Plans covering the area of LCRA's
18 service area for growth projections and projected water shortages. The regional water
19 plans showed supply shortages and demand in LCRA's broad service area to justify the
20 production requested. A review of the state water plans is an accepted method for
21 reviewing whether there is a need for water and that the water will be put to beneficial
22 use.

1 **Q. What did you recommend to the Board based on this review?**

2 A. I recommended that the Operating Permit include a special condition that requires the
3 permittee to submit one or more binding contracts to supply the 25,000 acre-feet per year
4 for the permitted uses to the District. The Draft Permit allows LCRA to proceed to Phases
5 2 and 3 of their proposed production if LCRA provides contracts showing firm
6 commitments to provide water. This special condition is intended to ensure that water is
7 actually dedicated to a beneficial use during the term of the Operating Permits. The exact
8 language proposed is in Special Conditions Nos. (3)(b) and (3)(c) in the Draft Operating
9 Permit.

10 I also limited the Transport Permit by restricting use of the bed and banks of a
11 river to transport water. There was no plan in the requested permit to prevent waste
12 during the transport of water to the farthest areas in LCRA's service area. Such a
13 transport using the river could cause significant loss of water via evaporation or by
14 carriage losses.

15 **Q. Has the District Board previously approved a special condition requiring binding**
16 **contracts?**

17 A. Yes. On May 15, 2013, the Board issued to Forestar USA (Forestar) ten Operating
18 Permits that include similar provisions. A true and correct copy of one of those permits is
19 found at GM EXHIBIT 5. Also on September 21, 2016, the Board issued 14 operating
20 permits with similar provisions to End Op (now Recharge). A true and correct copy of
21 one of those permits is found at GM EXHIBIT 6.

22 **[DISTRICT GM OFFERS GM EXHIBITS 5 and 6]**

1 **Q. Has LCRA submitted any “binding contracts” for review under the proposed**
2 **special condition?**

3 A. Although LCRA claims that it has commitments for the anticipated production, LCRA
4 has submitted only a list of contracts. The time has not passed yet for them to submit the
5 contracts under the Draft Permit.

6 **Q. Has the LCRA previously stated that it seeks to change the place of water use?**

7 A. Yes. In a November 29, 2018, letter from LCRA’s General Manager Phil Wilson to me,
8 LCRA claimed that it would limit its request “during the hearing” to Bastrop, Lee, and
9 Travis Counties. LCRA also requested to amend its application to restrict water use to
10 LCRA’s service area in these three counties in John Hofmann’s Prefiled Direct
11 Testimony filed on May 31, 2019, at pg. 21.

12 **Q. How does LCRA’s request to change its Applications impact the pending**
13 **applications?**

14 A. Without an amended and sworn application submitted in accordance with the District’s
15 rules, it does not impact LCRA’s pending applications.

16 **C. Consistency with District Management Plan**

17 **Q. What did you consider in assessing whether LCRA’s proposed use of water is**
18 **consistent with the District Management Plan?**

19 A. I reviewed the Management Plan. I concluded that, with the permit conditions proposed
20 in the Draft Permit, the proposed use of water is consistent with the District’s long-term
21 plan to manage groundwater to meet demands on a sustainable basis. According to the
22 Management Plan this means reasonable long-term management of groundwater
23 resources so that those resources can continue to be used by future generations.

1 **D. Water Conservation**

2 **Q. What did you consider in assessing whether LCRA has agreed to avoid waste and**
3 **achieve water conservation?**

4 A. In its applications, LCRA has generally agreed to avoid waste and conserve water. It has
5 also submitted its proposed drought contingency plan. However, LCRA has not identified
6 its End Users, so I have not seen any other relevant water conservation plans or drought
7 contingency plans.

8 **Q. Have you identified any concerns with LCRA's water conservation efforts in its**
9 **service area?**

10 A. Yes. Based on its list of wholesale customers, and my review of the Region K Water
11 Plan, some of LCRA's wholesale customers appear to use an extremely high volume of
12 water. The regional water plans look at the gallons per capita of daily (GPCD) water use.
13 The GPCD represents the average number of gallons of water used per person per day
14 and these values help form municipal water demand projections. I made the following
15 table based on data in the TWDB's 2016 Regional K Water Plan. It contains the GPCD
16 for some of LCRA's wholesale customers.

Water User Group	Estimated 2020 GPCD	Estimated 2070 GPCD
West Travis County PUA	384	381
Travis County MUD #4	749	746
Horseshoe Bay	559	553

17
18 These figures are high. LCRA has claimed that it seeks to serve these utilities.
19 Without seeing the wholesale customers' water conservation measures, there are

1 significant concerns regarding the water conservation measures taken, or not taken, by
2 LCRA's wholesale customers.

3 **Q. What did you recommend to the Board based on this review and your concerns?**

4 A. I recommended that the Operating Permits contain a special condition requiring that
5 LCRA provide the District with LCRA's End Users' water conservation plan and drought
6 contingency plan, which must comply with the relevant provisions of the Texas Water
7 Code and rules of the Texas Commission on Environmental Quality.

8 **Q. Has the District's Board previously approved a special condition of this kind?**

9 A. Yes. The permits issued to Recharge and Forestar attached as GM EXHIBITS 5 and 6
10 contain a condition like this.

11 **E. Water Quality**

12 **Q. What did you consider in assessing whether LCRA has agreed to use reasonable**
13 **diligence to protect groundwater quality?**

14 A. As part of the Applications, LCRA agreed to use reasonable diligence to protect
15 groundwater quality.

16 In addition, a standard permit provision in the General Manager's Draft Operating
17 Permit reinforces that commitment, providing: "This permit is granted in accordance with
18 the District Rules, and acceptance of this Permit constitutes an acknowledgement and
19 agreement that permittee will comply with the terms, conditions, and limitations set forth
20 in this permit, the District Rules, and the District Management Plan."

21 The District Rules contain a number of provisions relating to water quality: for
22 example, District Rule 10.2 (Well Construction), District Rules Section 12 (Prohibition
23 Against Waste and Pollution), and District Rule 13.5 (Closing or Capping of Wells).

1 **F. Long-Term Management to Achieve Desired Future Condition**

2 **Q. What did you consider in determining whether granting the applications for**
3 **Operating Permits is consistent with the District's duty to manage total**
4 **groundwater production on a long-term basis to achieve an applicable Desired**
5 **Future Condition?**

6 A. I reviewed the Desired Future Conditions (DFCs) for the Simsboro Aquifer within the
7 District. The DFCs for Bastrop and Lee Counties were developed in the Groundwater
8 Management Area 12 joint planning process required by Texas Water Code § 36.108.
9 The joint planning group includes the Lost Pines Groundwater Conservation District, the
10 Brazos Valley Groundwater Conservation District, the Fayette County Groundwater
11 Conservation District, the Mid-East Texas Groundwater Conservation District, and the
12 Post Oak Savannah Groundwater Conservation District. The DFC adopted for the
13 Simsboro aquifer in the District is district-wide average aquifer drawdown of 240 feet in
14 2070. The DFC is the same in Bastrop in Lee Counties.

15 **Q. Did anyone challenge the Simsboro Aquifer DFC for the District that was adopted**
16 **as part of the 2016 Groundwater Management Area 12 joint planning process?**

17 A. No.

18 **Q. What else did you consider when assessing whether granting the applications is**
19 **consistent with the District's duty to manage groundwater production on a long-**
20 **term basis to achieve the applicable DFC?**

21 A. I also considered the availability of monitoring data. The District already has monitoring
22 wells in the various aquifers in the District, including seven wells in the Simsboro
23 Aquifer, and it intends to expand its monitoring network. The District's well monitoring

1 network will allow the District to determine whether and how it is achieving compliance
2 with its DFC going forward.

3 I also considered that, if granted, the Permits would be reviewed for renewal in 5
4 years, under District rules, and that appropriate modifications or revisions could be made
5 at that time, if necessary, pursuant to District rules.

6 I also considered the TWDB's Modeled Available Groundwater (MAG), which is
7 one of the statutory considerations under the Water Code.

8 **Q. Did you consider any other information in assessing whether granting the**
9 **applications is consistent with the District's duty to manage groundwater**
10 **production on a long-term basis to achieve an applicable DFC?**

11 A. I also considered the results of two different runs of the 2004 version of the Central
12 Queen City-Sparta Groundwater Availability Model (GAM) prepared by the District's
13 hydrologist. There was a new GAM published in 2018 after the District received the
14 LCRA applications. Dr. Hutchison will address the differences in the old 2004 GAM and
15 the new 2018 GAM in his pre-filed direct testimony. The assumptions in those GAM
16 runs and the results of the runs that I reviewed for the LCRA Applications are discussed
17 in the Donnelly Report attached as EXHIBIT 3.

18 **Q. What did you recommend to the Board based on this review?**

19 A. I recommended that the Board grant Operating Permits for the 25,000 acre-feet per year,
20 but with a special condition that the permit is granted subject to any future production
21 limits adopted by the District under its rules.

22 I also addressed the 3-phased production that LCRA requested in its Applications.
23 That request included a phasing up to an aggregate withdrawal of 25,000 acre-feet per

1 year. The District uses a formula to ensure this type of phased request is protective of the
2 DFC. This formula has been included in the LCRA Draft Permit to ensure that LCRA's
3 production at all phases is protective of the DFC. This formula is included as Special
4 Condition No. 4 of the Draft Permit.

5 The purpose of the formula in the LCRA Draft Permit and the existing Forestar
6 and Recharge permits is to project current aquifer conditions into the future based on how
7 the aquifer has responded to real world pumping. The formula looks at average response
8 in terms of change in hydraulic head as a function of known pumping from non-exempt
9 wells and estimated pumping from exempt wells. This average annual rate of change can
10 be used to project hydraulic heads into the future to determine whether current pumping
11 is likely to achieve the DFCs. If the current production rates are unlikely to achieve the
12 DFCs then the District can consider allowing non-exempt permit holders a higher tier of
13 production.

14 **Q. Has the District Board previously approved a special condition regarding future**
15 **production limits?**

16 A. Yes. All recent permits issued by the District contain a provision that the permit can be
17 subject to any future production limits imposed by the District.

18 **G. Effect on Existing Water Resources and Permit Holders**

19 **Q. What did you consider in assessing whether the proposed use of water unreasonably**
20 **affects existing groundwater and surface water resources or existing permit**
21 **holders?**

22 A. I considered the results of the same two GAM runs, as discussed in the Donnelly Report.

1 **Q. What did you recommend to the Board based on this review?**

2 A. Based on the Draft Permit, I believe that the five-year terms of the permit and the
3 language included in Special Condition No. (11) regarding future production limits would
4 allow the Board to reduce pumping for all users if existing groundwater and surface water
5 resources or existing permit holders are unreasonably impacted by LCRA's groundwater
6 withdrawals.

7 **Q. Are there other reasonable approaches that the District could take to meet its duty**
8 **to manage groundwater production on a long-term basis to achieve the applicable**
9 **DFC and to prevent unreasonable impacts on groundwater and surface water**
10 **resources and existing permit holders?**

11 A. Yes. The Draft Permit for the requested amount, if issued, would be but subject to future
12 reductions of the authorized amount to achieve the DFC and protect existing users.
13 Another equally reasonable approach would be to limit the authorized amount in the
14 permit based on the best available information on the impacts of pumping on the DFC
15 and existing users in the future. The phased production and calculations supporting the
16 increase to the next phase of production allow the District to manage production
17 compared to the DFC while also attempting to avoid the need for future curtailments that
18 could disadvantage permitholders District-wide. Today, the GAM is the best available
19 tool for predicting future drawdowns in the Simsboro Aquifer.

20 **Q. Are your familiar with the GAM runs conducted by Dr. Hutchison on behalf of the**
21 **District and discussed in a report attached to his pre-filed direct testimony?**

22 A. Yes.

1 **Q. Were the results of all of these GAM runs available to you when you completed the**
2 **Draft Permit?**

3 A. They were not.

4 **Q. Do the results of those GAM runs provide information that you or the Board could**
5 **reasonably consider in evaluating LCRA's applications for Operating Permits?**

6 A. Yes, along with the Donnelly Report, those GAM runs and their results are helpful in
7 evaluating the magnitude of the projected impacts of LCRA's withdrawals using different
8 assumptions regarding the amount that LCRA will produce from the proposed wells and
9 the amounts that other water users will produce from the Simsboro Aquifer in the future.

10 **Q. Please describe any other District tools used to manage groundwater resources and**
11 **the impacts from permitted production on existing water resources and permit**
12 **holders.**

13 A. The Modeled Available Groundwater (MAG) provides the District with an estimate for
14 the amount of annual production needed, on average, to achieve the DFC. By comparing
15 reported production with the MAG and the current state of groundwater in a formation,
16 the District can better determine how the aquifer responds to pumping in the short and
17 medium terms. This information can be used by the District to make modifications to
18 existing permits, if needed.

19 **H. Compliance History**

20 **Q. In assessing LCRA's applications for Operating Permits, did you consider whether**
21 **LCRA has a history of non-compliance with District Rules?**

22 A. Yes. LCRA does not have a history of non-compliance with District Rules.

I. Permit Conditions and Limitations

Q. In assessing LCRA's applications for Draft Permit, did you consider whether the conditions and limitations in the Draft Permit prevent Waste, achieve water conservation, minimize as far as practicable the drawdown of the water table or the reduction of artesian pressure, or lessen interference between wells?

A. Yes, and it is my opinion that the conditions in the Draft Permit that I prepared are appropriate and adequate to address these concerns.

J. Transport Permit Factors

Q. Did you also review the factors that the Board must consider in making a decision on LCRA's applications for Transport Permits?

A. Yes. As part of my review of the Operating Permit factors relating to beneficial use, long-term management to achieve applicable DFCs, and effect on existing water resources and permit holders, I reviewed information relevant to the first factor that the Board must consider in making a decision on a Transport Permit: the availability of water in the District and in the proposed receiving area during the period for which the water supply is requested. As part of my review of the Operating Permit factors relating to long-term management to achieve applicable DFCs and their effect on existing water resources and permit holders, I also reviewed information relevant to the second factor that the Board must consider in making a decision on a Transport Permit: the projected effect of the proposed transfer on aquifer conditions, depletion, subsidence, or effects on existing permit holders or other groundwater users within the District. Finally, as part of my review of the Operating Permit factors relating to beneficial use and consistency with the District Management Plan, I reviewed information on the third factor: the approved

1 regional water plan and the District Management Plan. My conclusions and
2 recommendations on those issues are discussed in the earlier part of my testimony.

3 **V. REBUTTAL TO LCRA**
4

5 **Q. What are you addressing in this section of your testimony?**

6 A. I address certain issues raised by LCRA witnesses John B. Hofmann, Van Kelley and
7 Steve Young in their Prefiled Direct Testimonies.

8 **Q. Have you reviewed the direct testimony of John B. Hofmann filed in this proceeding**
9 **on the behalf of LCRA?**

10 A. Yes.

11 **Q. Does Mr. Hofmann's testimony on behalf of LCRA propose changes to the General**
12 **Manager's Draft Permit?**

13 A. Yes. I will address each change suggested by Mr. Hofmann here by tracking the page and
14 line numbers in his testimony, and when needed, the corresponding permit condition
15 number in LCRA Exhibit 8-A.

16 **Q. Do you recommend acceptance of his changes?**

17 A. I recommend acceptance of some, but not all, of his non-substantive changes and one
18 substantive change.

19 **Q. You testified earlier that LCRA received an advance copy of the Draft Permit.**
20 **Were LCRA's comments on that draft as substantive as the suggestions made in**
21 **LCRA's May 31, 2019 testimony?**

22 A. No. LCRA provided mostly non-substantive comments on the Draft Permit from its
23 counsel to District counsel. These comments included changes to Draft Permit to clarify
24 issues that the LCRA was uncertain about.

1 **Q. Did LCRA's comments on that draft include the requested changes its witnesses**
2 **propose in their pre-filed testimony?**

3 A. Only a few of the comments raised by the witnesses in testimony were included in the
4 LCRA comments on the Draft Permit. LCRA added a host of requested changes in its
5 pre-filed witness testimony after the District had given it over 3 months to address any
6 concerns with the Draft Permit before I deemed the applications were Administratively
7 Complete.

8 **Q. Have you considered the proposed changes that Mr. Hofmann identifies as "non-**
9 **substantive changes" found on pages 19-20?**

10 A. Yes. I have considered them and incorporated most of the changes requested on page 19,
11 line 10 to page 20, line 17 into a Revised Draft Permit dated July 26, 2019. A true and
12 correct copy of the Revised Draft Permit reflecting the changes incorporated can be
13 found at GM EXHIBIT 7.

14 **[DISTRICT GM OFFERS GM EXHIBIT 7]**

15 **Q. Are there any proposed changes that Mr. Hofmann identifies as "non-substantive**
16 **changes" that you are rejecting?**

17 A. Yes. I am rejecting the following non-substantive change identified as (f) on page 24 of
18 Mr. Hofmann's testimony. The General Manager can administratively correct typos so
19 this change is not necessary at this time.

20 **Q. Have you considered the proposed changes that Mr. Hofmann identifies as**
21 **"substantive changes" found on pages 21-25?**

22 A. Yes. I have considered them, and I will address each request separately by page and line
23 number.

- 1 a) Place of water use (page 25 line 5): LCRA requested to change its place of water use in
2 its applications without submitting a revised application. LCRA proposes to reduce the
3 service area to three counties – Bastrop, Lee, and Travis Counties. It is not the District’s
4 practice to amend an application while litigation on the application is pending in a
5 contested case. However, the District would administratively accept and review a
6 modified application reflecting this change on the approved District forms. If the
7 amendment submission is consistent with the request in Hofmann’s testimony, then there
8 should be no need for any additional notice and public hearing on the applications. I
9 have not included this request in the Revised Draft Permit.
- 10 b) Type of water use (page 21 line 14): I have not included this request in the Revised Draft
11 Permit. I have already incorporated the beneficial uses as provided by statute and rule.
- 12 c) Special Conditions 3(c)(ii) & 3(d)(i) (page 22 line 7): I have considered the changes
13 requested on page 22, lines 7 to 15. Consistent with District precedent, I have
14 incorporated those changes into a Revised Draft Permit dated July 26, 2019.
- 15 d) Special Conditions 3(b), 3(c)(iv), 3(d)(iii), and 8 (page 22 line 20): The General
16 Manager requires contract commitments to ensure that water is used beneficially and to
17 allow the District to use that information to aid with groundwater management. The
18 District has required those contract commitments from other permit holders. LCRA does
19 not provide a reasonable basis for special treatment that differs from that given to other
20 permit holders. State law and the District’s rules provide no basis for treating a river
21 authority or any governmental agency differently with respect to District permitting and
22 enforcement. Proof of contract commitments is needed to evaluate whether LCRA is, in

1 fact, putting the water to a beneficial use. I have not included this request in the Revised
2 Draft Permit.

3 e) Special Conditions 1, 3(a), 3(c)(iv), 3(d)(iii), and 4(p) (page 23 line 14): I have
4 considered the changes requested on page 23, lines 18 to 22. In recognition that LCRA's
5 Board may not meet as frequently as needed to meet the 90-day deadline regarding the
6 monitoring well agreement in the Draft Permit, I incorporated modifications into a
7 Revised Draft Permit dated July 26, 2019.

8 f) Special Conditions 7 and 16 (page 24 line 21): I have considered the changes requested
9 on page 24, line 21 to page 25, line 2. LCRA claims that these provisions are duplicative
10 of the District's rules. Duplication in the rules and permit does not make either less
11 enforceable. I have seen that it draws attention to the rules and assists the permit holder
12 and regulator with permit compliance. I did not accept this request.

13 **Q. Did Mr. Hofmann propose any changes to the Draft Transport Permit?**

14 A. Yes.

15 **Q. What did he propose to change in the Draft Transport Permit?**

16 A. LCRA proposes to remove the Special Condition 1 prohibiting LCRA from transporting
17 groundwater via the bed and banks of a river or discharging groundwater to any surface
18 water in light of Mr. Hofmann's proposal to reduce the service area. I have not included
19 this request in the Revised Draft Permit as this Special Condition 1 is an important
20 limitation on any use LCRA might want to make of the water in the future.

21 **Q. Does Mr. Kelley's testimony on behalf of LCRA propose to change the General
22 Manager's formula?**

23 A. Yes.

1 A. I address certain issues raised by the Protestants in their Pre filed Direct Testimony.
2 Some issues overlap and were raised by multiple protestants. For the same or similar
3 issue, the General Manager's testimony responds to all Protestants.

4 A. **Aqua Water Supply Corporation**

5 Q. **Have you reviewed the direct testimony of Dave McMurry filed in this proceeding**
6 **on behalf of Aqua Water Supply Corporation?**

7 A. Yes.

8 Q. **How do you respond to Mr. McMurry's contention on page 6 of his testimony that**
9 **issuing the LRCA permits ties up a large volume of water on paper and creates**
10 **uncertainty to existing users regarding groundwater availability?**

11 A. Permits provide a maximum amount of annual groundwater production. Most permit
12 holders typically use on average one third of that. The Board can and should take into
13 consideration the actual use, maximum impacts to the aquifer, and effects on existing
14 users when granting or denying permits.

15 Q. **Are you familiar with the Recharge mitigation fund described in Mr. McMurry's**
16 **testimony on page 8?**

17 A. Yes.

18 Q. **What is your response to Mr. McMurry's contention on page 7 of his testimony that**
19 **LCRA's production could adversely impact Aqua's cost recovery from the**
20 **Recharge mitigation fund?**

21 A. The District was not directly involved in the Recharge/End Op mitigation fund creation.
22 That fund was created through a separate negotiation between End Op and Aqua. While

1 the terms of the fund were included in the final End Op permit, the District is not
2 required to consider the fund or potential impacts on it in future permitting decisions.

3 **Q. What is your position on a mitigation fund created for LCRA's proposed permit**
4 **and implemented to mitigate impacts from LCRA's production to wells in Bastrop**
5 **and Lee Counties?**

6 A. I would not be opposed to this.

7 **Q. Have you reviewed the direct testimony of David Fleming, P.E. filed in this**
8 **proceeding on behalf of Aqua Water Supply Corporation?**

9 A. Yes.

10 **Q. How do you respond to Mr. Fleming's recommendation on page 9 of his testimony**
11 **that LCRA's production be lowered to 8,000 acre feet per year, cumulative from all**
12 **wells?**

13 A. The proposed reduction amounts to limiting the LCRA permit to the first tier of
14 production. If production of the proposed 8,000 acre-feet per year showed adverse
15 impacts to the aquifer or existing users then the District would be within its authority to
16 stop LCRA from increasing its production to the second tier. But imposing that reduction
17 at the outset, after review of the statutory criteria, unnecessarily limits the permit.

18 **Q. How do you respond to Mr. Fleming's contention starting on page 12 of his**
19 **testimony that the LCRA has not adequately demonstrated a need for groundwater**
20 **for the three counties that LCRA has claimed it seeks to serve?**

21 A. LCRA has not formally amended its applications to narrow the place of use to Lee,
22 Bastrop, and Travis Counties. Under its current applications, LCRA has provided the
23 appropriate explanation to serve its 35-county service area. LCRA has not demonstrated

1 the need to serve only 3 counties and why the same annual production amount is needed
2 for 3 versus 35 counties.

3 **B. Brown Landowners**

4 **Q. Have you reviewed the direct testimony of Brown Landowners 1 to 29 filed in this**
5 **proceeding?**

6 A. Yes.

7 **Q. How do you respond to the Brown Landowners stating that they do not think the**
8 **LCRA Applications are Administratively Complete?**

9 A. Some landowners testified that the LCRA Applications were not Administratively
10 Complete because (1) LCRA did not have a “need” for the permits, (2) the applications
11 contradict LCRA testimony and LCRA changed the place of use without formally
12 changing their applications with the District, (3) the LCRA does not meet the
13 requirements of a transport permit, and (4) the LCRA’s plan for conjunctive use and
14 stated plan in the applications to transport groundwater via a river violates their
15 declaration to avoid waste. Many of these concerns can be addressed by explaining the
16 purpose of the General Manager’s finding that an application is Administratively
17 Complete. Under the District’s Rules, “Administratively Complete” means: (1) that all
18 information requested by the District has been fully and accurately provided; and (2) that
19 all applicable fees have been paid. Those requirements have been satisfied.

20 In light of the District’s definition of “Administratively Complete,” I will address
21 the Brown Landowners concerns summarized above from the permitting and regulatory
22 perspective.

1 **Q. How does the General Manager address “need” in an administrative review?**

2 A. (1) Regarding the “need” for the groundwater, the General Manager is required to collect
3 information that is useful or necessary to address the factors that the Board will consider
4 in making a decision on “need.” The LCRA Applications contain sufficient information
5 for the Board to make this decision. I drafted Special Conditions in the Draft Permit that
6 address what might be considered inadequate need. Those conditions require binding
7 contracts. I recommended issuance of the permits subject to the conditions included in
8 the Draft Permit, and not solely based on the requests in LCRA’s Applications. The
9 Board makes the final decision on need.

10 **Q. How do you respond to the claim that the applications are incomplete because of**
11 **statements made after the Administratively Complete date?**

12 A. (2) I agree that the Applications contradict LCRA testimony and LCRA statements made
13 after the Applications were deemed Administratively Complete. The Applications were
14 deemed Administratively Complete on August 20, 2018, and I issued Draft Permits
15 allowing a place of water use as the LCRA Water Service Area. Then, on November 29,
16 2018, LCRA’s General Manager Phil Wilson wrote me a letter stating that it would limit
17 its request “during the hearing” to Bastrop, Lee, and Travis Counties. See LCRA Exhibit
18 No. 4. LCRA’s pre-filed direct testimony of John Hofmann states that LCRA “seeks to
19 use groundwater within its water service areas in Bastrop, Lee, and Travis Counties.”
20 See page 11. Mr. Hofmann’s testimony further describes the November 29 letter on page
21 15 without any additional description of the place of use and need for use in these
22 counties. Neither the November 29 letter nor Mr. Hofmann’s testimony amend the place
23 of water use in the Applications with the District. They show an intent to limit the water

1 use, but that intent is not a representation that can be incorporated in the District permits
2 or the Applications. Pursuant to Standard Permit provision no. 7 in the Draft Permit, and
3 mostly all other District permits, the application is incorporated into the permit by
4 reference and the permit is granted contingent upon the accuracy of information in the
5 application. The statements made after the Administratively Complete letter was sent do
6 not change the Application and the Application that is being processed by the District is
7 the one that was filed on February 1, 2018, and amended on February 21, 2018. If LCRA
8 wants the Board to consider any amendments to the Applications, the amendments must
9 be made in writing and notarized as the February 21 amendment was done. The need for
10 water in the requested counties must also be fully explained, the exact locations for use
11 must be mapped, and a declaration must be made that water will not be transported via
12 the bed and banks of any water course, in addition to declaring that the applicant will
13 avoid waste. So long as the amendments do not increase production and do not qualify
14 for notice under District Rules, I will recommend to the Board that the amendments are
15 not subject to additional public notice and hearing process.

16 **Q. What are the District's qualifications for an applicant to be eligible for a Transport**
17 **Permit?**

18 A. (3) The District follows the requirements of Chapter 36 for considerations for granting a
19 Transport Permit. Some of the Brown Landowners claim that LCRA is not eligible to
20 apply for a Transport Permit because of conditions in contracts between LCRA and its
21 customers. The District is not bound by those contracts in review and approval of
22 transport permits. I reviewed the three statutory factors for granting a transport permit.
23 Those factors do not include a review of LCRA contracts or its contract rules. Based on

1 my review of the statutory factors, I determined that LCRA is an eligible applicant for a
2 transport permit and recommended permit provisions that address the three statutory
3 factors in the Draft Permit.

4 **Q. Please explain why you included a permit provision in the Draft Transport Permit**
5 **restricting the transport of water via the bed and banks of any surface water course.**

6 A. (4) LCRA has agreed to prevent waste of the groundwater resource and to only use the
7 water for a beneficial purpose. Putting the water into a watercourse constitutes waste
8 according to state law and the District's rules. Further, groundwater can be lost to
9 evaporation and carriage losses from transport in open water. Such a loss would be
10 avoided if LCRA constructed infrastructure to transport the water to its destination in its
11 Service Area.

12 **Q. Do you recommend a reduction in annual groundwater production or the number**
13 **of proposed LCRA wells as contemplated in the Brown Landowner testimony?**

14 A. No.

15 **Q. Why not?**

16 A. The District is charged with balancing the private property rights of all landowners,
17 including LCRA, with conservation and preservation of groundwater. The District
18 accomplishes this balance by managing groundwater according to state law, the District's
19 Rules and the District's Management Plan. I did not find adverse impacts to the aquifer
20 at the applied-for levels or the applied-for number of wells, nor adverse impacts to
21 existing permitholders, so reductions are not recommended.

22 **Q. What is your position on requiring that a mitigation fund be available for all**
23 **registered or permitted users in the District?**

1 A. The District does not have statutory authority to require the creation of a mitigation fund
2 as part of issuance of a new permit. If a mitigation fund is created as part of an
3 agreement between parties, however, I would not oppose that solution.

4 **Q. How do you respond to the notion that the Applications at full production would**
5 **violate the DFCs and are therefore not protective of the aquifer?**

6 A. DFCs are a management tool. Whether or not the production will violate the DFCs can
7 only be determined by real pumping. The results of modeling efforts are reflective of the
8 assumptions built into the pumping scenarios used for the model. Most District modeling
9 assumes that full production by all permit holders will occur over a very short time line
10 and will exhibit little, if any, any significant variations once full production is achieved.
11 This results in model runs that depict the greatest amount of possible draw from
12 permitted production but not necessarily a realistic amount of drawdown. Additionally,
13 all model runs are done with the assumption that pumping is carried out without any
14 management on the part of the District. As such, strategies such as curtailment of
15 production are not reflected in the District's modeling results.

16 **Q. How do you respond to the notion that the Applications at full production would**
17 **violate the Modeled Available Groundwater (MAG) and are therefore not protective**
18 **of the aquifer?**

19 A. MAGs are also a management tool. At the District level the MAG provides a guideline
20 for the amount of production needed to achieve the DFC. If the MAG was taken as a
21 hard cap to permitting, it would be almost impossible for any district to achieve the DFC
22 because permit holders do not produce their full permit values in most years.

1 **Q. Please describe the “remedies” requested by various Brown Landowners that are**
2 **not within the District’s jurisdiction.**

3 A. Many of the requested remedies are not within the District’s authority to require. This
4 list is not exhaustive, but the following remedies sought by Brown Landowners are not
5 within the District’s powers for relief.

- 6 • Requiring LCRA to run waterlines to cattle pastures.
- 7 • Requiring LCRA to compensate landowners for loss of property value.
- 8 • Requiring LCRA to pay landowners’ increase in property taxes after a loss of an
9 agricultural exemption.
- 10 • Denying the applications because LCRA’s use of the Griffith League Ranch may not
11 be consistent with testamentary wishes.
- 12 • Denying the applications or imposing permit conditions on the basis of increased
13 traffic, predatory wildlife populations, dust and particulates, or noise.

14 **Q. If the permit is issued, why would the General Manager agree to push the**
15 **negotiation of the Monitoring Well Agreement until after permit issuance?**

16 A. As shown in the General Manager’s Revised Draft Permit dated July 26, 2019, I agreed
17 to negotiate the terms of the Monitoring Well Agreement if the Board approves the
18 Applications. The locations and number of wells for the proposed Monitoring Well
19 Agreement should be based on monitoring need and science. Given that the parameters
20 of the production could change a result of this contested case, or if modifications to the
21 Applications are made by the Board, it would be premature to plan monitoring that best
22 protects the aquifer before the issuance of final and approved permits.

1 **C. City of Elgin**

2 **Q. Have you reviewed the direct testimony of Beau Perry, P.E. filed in this proceeding**
3 **on behalf of the City of Elgin?**

4 A. Yes.

5 **Q. How to you respond to the contention that section 36.113(d)(2)'s requirement that**
6 **the District to review impacts to existing permit holders is more relevant to the**
7 **District's decision to grant or deny an application than any other factor?**

8 A. The District reviews all criteria under the statute. The statute does not indicate that
9 different weight should be given to particular criteria. Elgin has focused on the
10 requirement to consider effects on existing permit holders, but that same factor suggests
11 that the District should also look at effects on existing groundwater and surface water
12 resources. The District looks at both. And the District gives each factor the appropriate
13 weight under the particular circumstances presented in each application.

14 **Q. Is future demand in an area an appropriate basis for denying or reducing**
15 **production limits?**

16 A. The District has not looked at future demand to curtail a production permit. However,
17 demand and need for the water are considerations when evaluating whether to grant a
18 transport permit.

19 **Q. How do you respond to the contention that Elgin will have stranded facilities or**
20 **lost costs if LCRA's permits are issued?**

21 A. Chapter 36 of the Water Code does not speak to whether or not a well with reduced
22 capacity is stranded. It further does not restrict the Board from taking action if the Board

1 has weighed all the factors for granting or denying a permit and decides to impose more
2 restrictive permit conditions to address the potential losses.

3 **D. Environmental Stewardship**

4 **Q. Have you reviewed the direct testimony of Joseph Trungale filed in this proceeding?**

5 A. Yes.

6 **Q. What is your opinion on his assertion that increased groundwater pumping will**
7 **adversely impact existing surface water rights holders?**

8 A. The District is not charged with managing or regulating surface water rights holders.

9 **E. Hernandez**

10 **Q. Have you reviewed the direct testimony of Elvis Hernandez filed in this proceeding**
11 **on behalf of himself and his wife Roxanne Hernandez?**

12 A. Yes.

13 **Q. Have you used TWDB's subsidence tool referred to on page 3 of Mr. Hernandez'**
14 **testimony?**

15 A. Yes.

16 **Q. What does the tool show for the likelihood of subsidence in the District?**

17 A. The tool and report show that subsidence will likely be limited and insignificant.

18 **Q. Are you familiar with the *Final Report: Identification of the Vulnerability of Major***
19 ***and Minor Aquifers to Texas Subsidence?***

20 A. Yes.

1 **Q. When did you first become aware that this report was published?**

2 A. On or about November 6, 2018. The District was asked to share data for inclusion with
3 this report prior to that date, but before that date, I was not aware that the work on this
4 report was done or that it was published.

5 **Q. Were you obligated to inform the Board about the existence of the Report?**

6 A. No.

7 **Q. Did you inform the Board? If so, how?**

8 A. Yes. I invited LRE Water to make a presentation to the Board summarizing its findings
9 on subsidence, especially as applied to the District.

10 **Q. On what basis or scale does the District implement or adopt DFCs?**

11 A. The District implements or adopts DFCs on a District-wide scale. No special attention is
12 given to any particular landowner when adopting them.

13 **Q. How does the District keep track of the entire permitted amount of production in
14 the District?**

15 A. The District compiles reported monthly production from non-exempt permit holders on
16 an aggregate, per-permit holder basis, and also collects production on a per-well basis
17 where that data is relevant.

18 **F. Recharge Water, LP**

19 **Q. Have you reviewed the direct testimony of Joel G. Katz filed in this proceeding on
20 behalf of Recharge Water, LP?**

21 A. Yes.

22 **Q. Have you reviewed the direct testimony of Michael Thornhill filed in this
23 proceeding on behalf of Recharge Water, LP?**

1 A. Yes.

2 **Q. How does the District develop the content and requirements for monitoring well**
3 **agreements?**

4 A. The monitoring well agreements all follow a similar general format that can be adapted
5 based on the science and data needed at the time.

6 **Q. Are the Monitoring Well Agreement terms reviewed on a regular basis by the**
7 **District?**

8 A. Yes.

9 **Q. When are the terms reviewed?**

10 A. The Monitoring Well Agreements are incorporated into the permit. When a permit is
11 up for renewal, the terms of the agreement are also subject to review.

12 **Q. How does the Draft Permit address LCRA's payment of production fees?**

13 A. Recharge suggests that LCRA will not pay for permitted annual production until actual
14 production occurs. Special Condition No. 12 addresses this issue: "Permit fees charged
15 to Permittee under this Permit shall be based upon the amounts authorized to be produced
16 under this Permit at the time that Production Fees are due." This draft provision does not
17 allow LCRA to postpone payment of fees until groundwater is actually produced. The
18 General Manager has not accepted any proposed change from LCRA that would allow
19 LCRA to postpone production payments.

20 **Q. Why does the District include a requirement in the permits for binding contracts?**

21 A. The requirement for binding contracts is intended to address the issue of beneficial use
22 under the parameters that the District is required to consider for a permit.

1 **Q. What is your response to the suggestion that the District has adopted a “Bastrop-**
2 **last” policy (as described by Mr. Katz at page 11 of his testimony) that limits permit**
3 **holders to pumping in Bastrop County until pumping has occurred in Lee County**
4 **or other sources of water have been exhausted first?**

5 A. The District has not adopted such a policy. Special Condition No. 14 in the Recharge
6 permit does require that wells in Lee County be completed and operated before wells in
7 Bastrop are completed and operated. This provision is the product of the settlement
8 between Aqua Water Supply Corporation and Recharge. Settlement term 2.9 in the
9 Aqua/Recharge settlement agreement limits the total production in Bastrop County
10 associated with Recharge’s permits to 20,000 acre-feet or 35% of total production. These
11 terms were agreed to by the representatives of End Op at the time the permit was granted.
12 They in no way reflect District policy.

13 **Q. What is your response to the suggestion that the District has eliminated a cap on**
14 **LCRA’s Bastrop County Production that appears in Recharge’s permits?**

15 A. The cap referred to in Recharge’s permit was a result of a settlement between Aqua and
16 Recharge. In paragraph 2.9 of the Settlement Agreement, Recharge agreed to be subject
17 to a cap of 35% on the annual withdrawal allocation authorized by Recharge’s permit.
18 The District is not discriminating against Recharge -- the permit holder set that cap itself
19 in an effort to resolve issues in a contested case. A true and correct copy of this
20 settlement agreement is attached as GM EXHIBIT 8.

21 **[DISTRICT GM OFFERS GM EXHIBIT 8]**

1 **Q. How is the District's policy to process each application on a non-discriminatory**
2 **basis impacted by the terms negotiated in settlement agreements to which the**
3 **District is not a party?**

4 A. The District strives to treat all permit holders equally when issuing permits and applying
5 state law and the District rules. The District has no role in the terms agreed to between
6 parties in an attempt to dissolve a contested case other than to ensure those terms do not
7 conflict with state law requirements or District Rules. The District was not a signatory to
8 Recharge's and Aqua's Settlement Agreement. Any requirements for a mitigation fund
9 to address costs for impacts for production were agreed to between the parties, and it is
10 not appropriate to apply the same terms to LCRA without LCRA's participation in a
11 bargained for exchange. Mitigation terms are not required to be in the Draft Permit in
12 order to comply with the District's policy against discrimination.

13 **VII. CONCLUSION**

14 **Q. Are there any additional documents that you would like to include with your**
15 **testimony?**

16 A. Yes.

17 **Q. What are those documents?**

18 A. I am adding the District Rules as last amended and re-adopted on April 20, 2016, and the
19 District Management Plan as last amended and re-adopted on September 20, 2017. A
20 true and correct copy of the District's Rules can be found at GM EXHIBIT 9. A true and
21 correct copy of the District Management Plan can be found at GM EXHIBIT 10.

22 **[DISTRICT GM OFFERS GM EXHIBITS 9 and 10]**

23 **Q. Are GM EXHIBITS 1 - 10 accurate representations of what they purport to be?**

1 A. Yes.

2 **Q. Does this conclude your prefiled testimony?**

3 A. Yes, but I reserve the right to amend this testimony as necessary.

4

AFFIDAVIT

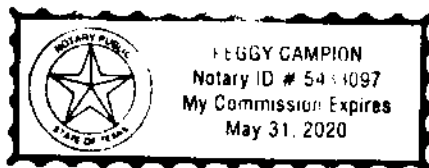
STATE OF TEXAS

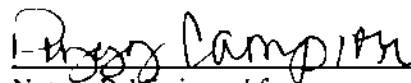
COUNTY OF BASTROP

I am the witness identified in the preceding testimony. I have read the testimony and the accompanying attachments and am familiar with their contents. Based upon my personal knowledge, the facts stated in the testimony are true and correct. In addition, in my judgment and based upon my professional experience, the opinions and conclusions stated in the testimony are true, valid and accurate.


James Totten

SUBSCRIBED TO AND SWORN before me on this 26th day of July 2019.




Notary Public in and for
The State of Texas

CERTIFICATE OF SERVICE

I hereby certify by my signature below that on the 26th day of July, 2019, a true and correct copy of the above and foregoing document was forwarded via SOAH E-Filing, email or First Class Mail to the parties on the attached Service List.

/s/ Natasha J. Martin
Natasha J. Martin

SOAH DOCKET NO. 952-19-0705
SERVICE LIST
APPLICATION OF LCRA FOR OPERATING AND TRANSPORT PERMITS FOR
EIGHT WELLS IN BASTROP COUNTY, TEXAS

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GM EXHIBIT 2

James Michael Totten
204 Wilkes St. • Smithville TX, 78957
jim.totten@gmail.com • 979.575.4999

Education:

B.S. Microbiology, 2000 Texas A&M University, College Station, TX
M.S. Biochemistry, 2007 Texas A&M University, College Station, TX
Doctoral Studies in Water Management and Hydrological Sciences, 2008-2012
Texas A&M University, College Station, TX 2008-2012 (incomplete)

Experience:

General Manager: January 2015 – Present

Lost Pines Groundwater Conservation District, Smithville, TX

Responsibilities: I am tasked with overseeing the day to day operations of the District, supervision of District staff, consultants and operations. Working with permit applicants in developing their applications for Drilling, Operating and Transport permits from the District. Consulting with District attorneys and hydrogeologist in reviewing permit applications and preparing applications for presentation to the District Board of Directors. In addition to office based duties I also act as the District's primary interface for water well drillers and landowners who are seeking assistance with groundwater related issues. Conduct annual groundwater level measurements throughout the District in conjunction with our consulting hydrogeologist to ensure compliance with state water management laws and District policies. Serving on the boards of the Groundwater Management Area 12 and the Region K regional water planning group. Groundwater Management Area 12 is charged with developing groundwater availability for a 8 full counties and 6 sub county regions in central Texas. The Region K regional water planning group is charged with developing 50 year water plans to meet the of residents in the Lower Colorado River Basin of Texas.

Assistant General Manager: November 2012 – December 2014

Lost Pines Groundwater Conservation District, Smithville, TX

Responsibilities: I worked under the previous General Manager for two years learning District operations and procedures. I was responsible for preparing monthly reports to the District Board of Directors on staff actions. I worked closely with the General Manager in processing and presenting permit application to the Board of Directors.

Research Positions:

Graduate Research Assistant: Fall 2009 – May 2012

Texas A&M University, College Station, TX

Research Project: Efficacy of treatment based interventions in reducing water consumption among high use residential accounts.

Graduate Research Assistant: Fall 2004 – Spring 2007

Texas A&M University, College Station, TX

Research Project: Mechanisms of organelle homeostasis in *Saccharomyces cerevisiae*

GM EXHIBIT 3



Lost Pines Groundwater Conservation District
908 NE Loop 230
Post Office Box 1027
Smithville, TX 78957
Tax ID Number 74-2955722

512-360-5088
FAX: 512-360-5448
Email: lpgcd@lostpineswater.org
Web Site: www.lostpineswater.org

James Totten, General Manager

August 20, 2018

Karen Bondy
Senior Vice President, Water Resources
Lower Colorado River Authority
P.O. Box 220
Austin, Texas 78767-0220

Re: Application of LCRA for Eight Operating and Transport Permits in Bastrop County, Texas (Well Nos. 58-55-5-0032; 58-55-5-0033; 58-55-4-0016; 58-55-4-0017; 58-55-4-0018; 58-55-4-0019; 58-55-4-0020; and 58-55-4-0021)

Dear Ms. Bondy:

The District staff has reviewed the Lower Colorado River Authority (LCRA) Applications for Operating and Transport Permits for eight (8) wells located in Bastrop County, Texas (Well Nos. 58-55-5-0032 (Well No. 1); 58-55-5-0033 (Well No. 2); 58-55-4-0016 (Well No. 3); 58-55-4-0017 (Well No. 4); 58-55-4-0018 (Well No. 5); 58-55-4-0019 (Well No. 6); 58-55-4-0020 (Well No. 7); and 58-55-4-0021 (Well No. 8)) to be located at approximately eight (8) miles northeast of the City of Bastrop, and approximately 2.3 miles southwest of Highway 290 (30°12'8"N, 97°12'26"W for Well No. 1). I hereby give notice under District Rule 15.1.B(2) that the Applications have been declared Administratively Complete for purposes of further processing.

The District Board of Directors will consider the Applications at a special meeting on September 26, 2018. Please let me know if you have any problems with that date.

The public hearing for these Applications will also be held on the same date and the District will issue notice of the hearing in accordance with the applicable rules and law. Please be advised that I intend to request a contested case hearing on the Applications, as such, the Board may not take action on the Applications at the special meeting if the Applications are contested.

I have prepared the attached draft Operating and Transport Permit to reflect the requested operations. Please review this draft Operating and Transport Permit and let me know if it is accurate.

Board of Directors

Michael Talbot President, Billy Sherrill Vice-President, Doug Prinz Secretary-Treasurer
Herbert Cook, David Fleming, Larry Schatte, Clifton Seidel, Michael Simmang, Sheril Smith, Carl Steinbach



Lost Pines Groundwater Conservation District
908 NE Loop 230
Post Office Box 1027
Smithville, TX 78957
Tax ID Number 74-2955722

512-360-5088
FAX: 512-360-5448
Email: lpgcd@lostpineswater.org
Web Site: www.lostpineswater.org

James Totten, General Manager

Thank you for your attention to this matter, and please do not hesitate to contact me if you have any questions.

Sincerely,

Jim Totten, General Manager

Encl.

cc: Natasha J. Martin, Attorney for the District

Board of Directors

Michael Talbot President, Billy Sherrill Vice-President, Doug Prinz Secretary-Treasurer
Herbert Cook, David Fleming, Larry Schatte, Clifton Seidel, Michael Simmang, Sheril Smith, Carl Steinbach

DRAFT PERMIT FOR CONSIDERATION

**LOST PINES GROUNDWATER CONSERVATION DISTRICT
OPERATING PERMIT**

District Well Number: 58-55-5-0032

Permit Approved: _____

Permittee:

Lower Colorado River Authority
P.O. Box 220
Austin, Texas 78767-0220

Location of Well: Approximately eight (8) miles northeast of the City of Bastrop in Bastrop County (30.202285/-97.207107), Well No. 1

Permittee is authorized to operate Well No. 58-55-5-0032 within the Lost Pines Groundwater Conservation District under the following conditions:

Authorized annual withdrawal: See Special Conditions

Maximum rate of withdrawal: See Special Conditions

Aquifer unit: Simsboro

Type of water use: Municipal, Industrial, Recreational, Irrigation, and Agricultural

Place of water use: LCRA Water Service Area

Standard Permit Provisions:

This Operating Permit is granted subject to the District Rules, the orders of the Board, the District Management Plan, and Chapter 36 of the Texas Water Code. In addition to any well-specific permit provisions and special conditions included in this Operating Permit, this Operating Permit includes the following provisions:

(1) This permit is granted in accordance with District Rules, and acceptance of this permit constitutes an acknowledgement and agreement that Permittee will comply with the terms, conditions, and limitations set forth in this permit, the District rules, the orders of the Board, and the District Management Plan.

(2) Water withdrawn under the permit must be put to beneficial use at all times, and operation of the permitted well in a wasteful manner is prohibited.

DRAFT PERMIT FOR CONSIDERATION

(3) Water produced from the well must be measured using a water measuring device or method approved by the District that is within plus or minus 10% of accuracy.

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

(5) Permittee will use reasonable diligence to protect groundwater quality.

(6) Permittee will follow well plugging guidelines at the time of well closure.

(7) The application pursuant to which this permit has been issued is incorporated in this permit by reference, and this permit is granted on the basis of and contingent upon the accuracy of the information provided in that application. A finding that false or inaccurate information has been provided is grounds for revocation of the permit.

(8) Violation of the permit's terms, conditions, requirements, or special provisions, including pumping amounts in excess of authorized withdrawals, may subject the permittee to enforcement action under District Rules.

(9) Whenever the special conditions in the permit are inconsistent with other provisions of the permit or the District Rules, the special condition will prevail.

Special Conditions:

This Operating Permit is granted subject to the following special conditions:

(1) Within ninety (90) days of the issuance of the Permit, Permittee shall enter into the Monitoring Well System Construction and Maintenance Agreement approved by the District Board (the "Monitoring Well Agreement"). Permittee shall construct, operate, and maintain the New Monitoring Wells and the Existing Monitoring Well, as defined in the Monitoring Well Agreement, in accordance with the terms and provisions of the Monitoring Well Agreement. Any violation of the terms of the Monitoring Well Agreement shall constitute a violation of this Permit.

(2) The authorized annual withdrawal amount and the authorized maximum rate of withdrawal under this permit are hereby aggregated with the authorized annual withdrawal amount and the authorized maximum rate of withdrawal for the following designated wells: Well No. 58-55-5-0033 (Well No. 2); Well No. 58-55-4-0016 (Well No. 3); Well No. 58-55-4-0017 (Well No. 4); Well No. 58-55-4-0018 (Well No. 5); Well No. 58-55-4-0019 (Well No. 6); Well No. 58-55-4-0020 (Well No. 7); and Well No. 58-55-4-0021 (Well No. 8). Well No. 58-55-5-0032 and the designated wells are collectively referred to as the "Aggregated Wells."

DRAFT PERMIT FOR CONSIDERATION

(3) Subject to the other terms of this Permit, Permittee is authorized to withdraw an aggregated annual withdrawal amount of up to 25,000 acre-feet per year from the Aggregated Wells with a maximum rate of withdrawal of 18,000 gallons per minute for the Aggregated Wells as follows:

(a) Phase I. Permittee may not withdraw water from any Aggregated Well until the date that Permittee conveys the Existing Monitoring Well, the New Monitoring Wells and the Monitoring Well Equipment to the District in accordance with the terms and provisions of the Monitoring Well Agreement (the "Phase II Date").

(b) Phase II. If Permittee has a binding contract to provide water to one or more End Users in one or more authorized places of use, then beginning on the Phase II Date, Permittee may withdraw an aggregated annual withdrawal amount from Well Nos. 7 and 8 equal to the lesser of: (i) the amount of water per year that Permittee has a binding contract to provide; or (ii) 8,000 acre-feet of water per year from the Aggregated Wells (the "Phase II Withdrawal Amount"). A maximum rate of withdrawal of 6,000 gallons per minute for Well Nos. 7 and 8 shall apply in this phase (the "Phase II Maximum Rate of Withdrawal"). "End User" shall be defined, consistent with the District Rules as the person or entity that makes beneficial use of the water withdrawn from a well, including, but not limited to, an agricultural user, industrial user, mining user, municipal user, or Retail Public Water Utility. End User does not include the retail customers of a retail public utility. For any agricultural commitments, LCRA shall be the End User.

(c) Phase III. Permittee may request that the aggregated annual withdrawal amount be increased to an amount not to exceed 15,000 acre-feet of water per year from Well Nos. 5, 6, 7 and 8 (the "Phase III Withdrawal Amount"), with a maximum rate of withdrawal of 10,000 gallons per minute for Well Nos. 5, 6, 7 and 8 (the "Phase III Maximum Rate of Withdrawal"), and the General Manager shall grant that request, if and when Permittee submits information to the District demonstrating that:

- (i) At least three years have passed since the issuance of the Permit;
- (ii) Permittee has withdrawn an aggregate amount of at least 8,000 acre-feet per year from a combination of one or more of the Aggregated Wells for two (2) consecutive twelve calendar month periods;
- (iii) the Estimated DFC Year Water Level, as defined in the Monitoring Well Agreement, is less than the Desired Future Condition for the Simsboro Aquifer in effect when the Permittee submits the information to the General Manager; and
- (iv) Permittee has a binding contract to provide the Phase III Withdrawal Amount that Permittee has requested to one or more End Users in one or more authorized places of use.

DRAFT PERMIT FOR CONSIDERATION

(d) Phase IV. Permittee may request that the aggregated annual withdrawal amount be increased to an amount not to exceed 25,000 acre-feet per year from Well Nos. 1, 2, 3, 4, 5, 6, 7 and 8 (the "Phase IV Withdrawal Amount"), with a maximum rate of withdrawal of 18,000 gallons per minute for Well Nos. 1, 2, 3, 4, 5, 6, 7 and 8 (the "Phase IV Maximum Rate of Withdrawal"), and the General Manager shall grant that request, if and when Permittee submits information to the District demonstrating that:

(i) Permittee has withdrawn an aggregate amount of at least 15,000 acre-feet per year from a combination of one or more of the Aggregated Wells for three (3) consecutive twelve calendar months periods;

(ii) the Estimated DFC Year Water Level, as defined in the Monitoring Well Agreement, is less than the Desired Future Condition for the Simsboro Aquifer in effect when the Permittee submits the information to the General Manager; and

(iii) Permittee has a binding contract to provide the Phase IV Withdrawal Amount that Permittee has requested to one or more End Users in one or more authorized places of use.

(4) For purposes of this Operating Permit, each of the following terms has the following meanings:

(a) "Monitoring Well System" means the monitoring wells used to calculate the Estimated DFC Year Water Level, as defined in this Special Condition (4), and shall consist of the New Monitoring Wells, as defined in the Monitoring Well Agreement. Monitoring Well System may consist of any current or future District monitoring wells or third-party wells used for Desired Future Condition compliance district-wide, county-wide or for any applicable existing or future District management zone.

(b) "Annual Static Water Level" means the measured water level in each Monitoring Well in the Monitoring System that best represents the static water level in that Monitoring Well at the end of a calendar year. All water levels shall be determined using scientifically appropriate methodologies.

(c) "Average Annual Static Water Level" means the average of Annual Static Water Levels in all Monitoring Wells, as follows:

Average Annual Static Water Level = Sum of Annual Water Levels in Monitoring Wells / Number of Monitoring Wells

(d) "Annual Drawdown" in each Monitoring Well means subtracting the Annual Static Water Level for the Monitoring Well at the end of the calendar year from the Annual Static Water Level for that Monitoring Well at the end of the previous calendar year, as follows:

DRAFT PERMIT FOR CONSIDERATION

Annual Drawdown = Annual Static Water Level for the Monitoring Well at the end of the previous calendar year - Annual Static Water Level for the Monitoring Well at the end of a current calendar year

(e) "Average Annual Drawdown" means the average of the Annual Drawdowns for all wells in the Monitoring Well System for which Annual Drawdowns were able to be calculated for that calendar year.

(f) "Rate of Change" means the Average Annual Drawdown during a calendar year divided by the Total Production in that calendar year, as follows:

Rate of Change = Average Annual Drawdown during one calendar year / Total Production from that calendar year

(g) "Total Production" means the actual reported withdrawals from the Simsboro Aquifer from permitted wells within the District in a calendar year plus the Estimated Simsboro Exempt Well Production for the same calendar year.

(h) "Estimated Simsboro Exempt Well Production" means 1,143.21 acre-feet per year in 2015, 1,143.21 acre-feet plus 15.14 acre-feet per year for each year after 2015, and 1,976.06 acre-feet per year in 2070. The General Manager may update the Estimated Simsboro Exempt Well Production if additional data allows for a more accurate accounting of exempt use estimates.

(i) "Average Rate of Change" means the average of the Rates of Change for each calendar year beginning in 2011 and ending the calendar year before Permittee submits the documentation described in Special Conditions (3)(c) or (d) of the Operating Permits, as follows:

Average Rate of Change = Sum of Rate of Change for past years beginning in 2011 / Number of past years

(j) "Estimated DFC Year Water Level" means the projected water level for the year identified in the then-current Desired Future Condition statement for the Simsboro Aquifer, calculated by subtracting the Estimated Future Drawdown from the Annual Static Water Level for the calendar year before Permittee submits the documentation described in Special Conditions (3)(c) or (d) of the Operating Permits, as follows:

Estimated DFC Year Water Level = Average Measured Water Level in prior year - Estimated Future Drawdown

DRAFT PERMIT FOR CONSIDERATION

The Estimated DFC Year Water Level applies to the Permittee and the terms of this Permit. It does not apply to the District's determination of Desired Future Condition compliance district-wide, county-wide or for any applicable existing or future District management zone.

(k) "Estimated Future Drawdown" means the sum of the Estimated Annual Drawdowns for each year beginning in the year in which Permittee submits the documentation described in Special Conditions 3(c) or (d) of the Operating Permit and ending in year identified in the then-current Desired Future Condition for the Simsboro Aquifer.

(l) "Estimated Annual Drawdown" means the Average Rate of Change times the Estimated Existing Well Production plus the Current Phase Withdrawal and the Next Phase Withdrawal for a calendar year, as follows:

Estimated Annual Drawdown = (Estimated Existing Well Production + Current Phase Withdrawal + Next Phase Withdrawal) x (Average Rate of Change)

(m) "Estimated Existing Well Production" is based on the Texas Water Development Board's Modeled Available Groundwater for the District and means:

- (i) 8,508 acre-feet per year from January 1, 2010 to December 31, 2019;
- (ii) 14,253 acre-feet per year from January 1, 2020 to December 31, 2029;
- (iii) 15,673 acre-feet per year from January 1, 2030 to December 31, 2039;
- (iv) 16,311 acre-feet per year from January 1, 2040 to December 31, 2049;
- (v) 17,334 acre-feet per year from January 1, 2050 to December 31, 2059;
- (vi) 16,279 acre-feet per year from January 1, 2060 to December 31, 2069.

(n) "Current Phase Authorized Withdrawal" means the amount of groundwater authorized to be withdrawn in the current phase under the Operating Permit.

(o) "Next Phase Authorized Withdrawal" means the additional amount that Permittee has requested it be authorized to withdraw in the next phase under the Operating Permit.

(5) The General Manager may approve a weighted average methodology for calculating the Average Water Level or Average Rate of Change if the new methodology is supported by data gathered by the Monitoring Well System.

(6) If Permittee submits information that Permittee claims demonstrates that the conditions for increasing groundwater withdrawal to the Phase III Withdrawal Amount or the

DRAFT PERMIT FOR CONSIDERATION

Phase IV Withdrawal Amount have been met, then, within 60 days of receipt of the information, the General Manager will notify Permittee, in writing, if the General Manager has determined that the required conditions have been met or if the General Manager disputes that the desired conditions have been met. If the General Manager disputes that the required conditions have been met, the General Manager shall supply the information and analysis supporting his determination with his written notice. If the General Manager and the Permittee are unable to agree within 60 days of receipt of the information provided by the General Manager disputing that the required conditions have been met, then the General Manager and Permittee will mutually agree upon a registered professional engineer or a certified groundwater professional with expertise in hydrology, hydraulics and hydrogeology to mediate the dispute. If the General Manager and Permittee are unable to resolve the dispute through mediation, Permittee may request a contested case hearing as provided in the District Rules and the Texas Water Code to resolve the dispute. Permittee and the General Manager shall be the sole parties to the contested case hearing.

(7) If the Permittee files an application to renew the Permit, then the General Manager and Permittee shall evaluate the methodology for determining the Estimated DFC Year Water Level described in Special Conditions (3) and (4) based on data collected prior to the date of the application to renew and jointly propose revisions to the Permit based on that data. If the General Manager and the Permittee are unable to agree to joint proposed revisions within sixty (60) days of the date that the application to renew is filed, then the General Manager and Permittee will mutually agree upon a registered professional engineer or a certified groundwater professional with expertise in hydrology, hydraulics and hydrogeology to mediate the dispute. If the General Manager and Permittee are unable to resolve the dispute through mediation, then the General Manager may propose revisions to the Permit as provided in District Rules.

(8) Beginning no later than the fifth (5th) anniversary of the date of the Phase II Date, Permittee shall have a binding contract or contracts to provide water to one or more End Users in one or more authorized places of use. If Permittee does not have any binding contracts before the fifth (5th) anniversary of the Phase II Date, the permit expires on the 5th anniversary of the Phase II Date.

(9) Before providing water withdrawn from the Aggregated Wells to any End User, Permittee shall submit to the District: (a) each End User's water conservation plan and drought contingency plan, if the Texas Water Code or Texas Commission on Environmental Quality rules require the End User to prepare a water conservation plan and drought contingency plan; or (b) if the Texas Water Code or Texas Commission on Environmental Quality rules do not require the End User to prepare a water conservation plan and drought contingency plan, a certification from the End User that the End User agrees to avoid waste and achieve water conservation. Any End User water conservation plans and drought contingency plans that are submitted must comply with the relevant provisions of the Texas Water Code and rules of the Texas Commission on Environmental Quality or successor agency.

DRAFT PERMIT FOR CONSIDERATION

(10) This Permit is not subject to the District's rules on time limits for the completion of a permitted well or the operation of a permitted well.

(11) This permit is issued subject to any future production limits adopted by the District under the District Rules.

(12) Production Fees charged to Permittee under this Permit shall be based upon amounts authorized to be produced under this Permit at the time that Production Fees are due.

(13) Permittee is subject to the District Rules that require that all wells be completed within 100 feet of the location identified on the application pursuant to which this permit has been issued; provided that the well location complies with the applicable well spacing requirements under the District Rule 8.2.B.

(14) Prior to operation of any of the Aggregated Wells, Permittee shall complete a 36-hour pump test that complies with District Rule 5.1.B(5) and report the results of the test to the District.

(a) Permittee shall produce groundwater from the well at an instantaneous rate of withdrawal at the Maximum Rate of Withdrawal for each phase in Special Condition No. 3 during the 36-hour pump test for each well.

(b) Permittee shall provide the District with not less than 75 days' prior notice of the date the 36-hour pump test will begin.

(c) Permittee shall pay all costs of the 36-hour pump test.

(d) Within ninety (90) days of the completion of the 36-hour pump test, Permittee shall provide the data gathered at any of the Aggregated Wells tested during the pump test to the General Manager.

(e) The General Manager will review the results of the 36-hour pump test to determine if the permitted maximum rate of withdrawal results in any adverse impacts to groundwater or the Simsboro Aquifer. If the pump test results indicate aquifer parameters that result in unanticipated impacts on water levels in nearby wells that are materially different than the model predictions, then the General Manager may reduce the authorized maximum rate of withdrawal under this permit. The General Manager will mail notice of his decision to reduce the maximum rate of withdrawal or not to reduce the maximum rate of withdrawal to Permittee no later than the 90th day after receipt of the information described in subsection (d).

(f) Permittee may appeal the General Manager's decision under subsection (e) to the Board under the District Rules.

DRAFT PERMIT FOR CONSIDERATION

(15) This permit is issued subject to the General Manager's final approval of the total depth of the well, the depth of the screened interval, and the pump size of the completed well. Prior to operation of the well, Permittee must provide the General Manager with the design specifications, including the total depth of the well, the depth of the screened interval, and the pump size, for the completed well within thirty (30) days of completion of the well. The General Manager may administratively approve the design specifications so long as the specifications are in accordance with those provided in the permit application without notice or a hearing if the design amendments do not trigger notice or a hearing under District Rules 7.2 or 7.3.

(16) If the District gives written notice to Permittee that the District has received an application for an Operating Permit for a well whose location would violate District spacing requirements because of that well's distance from the Permitted Well, the Permittee shall have an opportunity to request a contested case hearing on that application in accordance with the District Rules. If the Permittee does not object to the location of the proposed well, Permittee must provide the District with a signed and notarized waiver stating that Permittee does not object to the location of the proposed well within thirty (30) days of the date of such notice. If no contested case hearing request or waiver is received, the District may take action to authorize an application for an Operating Permit for a well whose location would violate District spacing requirements because of that well's distance from the Permitted Well.

Term:

(1) This Operating Permit shall be effective for a period of five (5) years from the date the permit is approved, unless terminated, amended, renewed, or revoked as provided in the District Rules.

Acceptance of this permit by the Permittee constitutes acknowledgment and agreement to comply with all of the terms, provisions, conditions, and restrictions stated in the permit and the rules of the Lost Pines Groundwater Conservation District.

ISSUED:

President, Lost Pines Groundwater
Conservation District Board of Directors

Date: _____

DRAFT PERMIT FOR CONSIDERATION

**LOST PINES GROUNDWATER CONSERVATION DISTRICT
TRANSPORT PERMIT**

District Well Number: 58-55-5-0032

Permit Approved: _____

Permittee:

Lower Colorado River Authority
P.O. Box 220
Austin, Texas 78767-0220

Location of Well: Approximately eight (8) miles northeast of the City of Bastrop in Bastrop County (30.202285/-97.207107), Well No. 1

Permittee is authorized to transfer water produced from Well No. 58-55-5-0032 outside the boundaries of the Lost Pines Groundwater Conservation District under the following conditions:

Maximum annual transfer amount: An aggregated annual amount of not more than 25,000 acre-feet per year from Well No. 58-55-5-0032 (Well No. 1); Well No. 58-55-5-0033 (Well No. 2); Well No. 58-55-4-0016 (Well No. 3); Well No. 58-55-4-0017 (Well No. 4); Well No. 58-55-4-0018 (Well No. 5); Well No. 58-55-4-0019 (Well No. 6); Well No. 58-55-4-0020 (Well No. 7); and Well No. 58-55-4-0021 (Well No. 8), subject to the terms and conditions of the Operating Permits for those wells.

Type of water use: Municipal, Industrial, Recreational, Irrigation, and Agricultural

Place of water use: LCRA Water Service Area

Standard Permit provisions:

This Transport Permit is granted subject to the District Rules, the orders of the Board, the District Management Plan, and Chapter 36 of the Texas Water Code. In addition to any well-specific permit provisions and special conditions included in this Transport Permit, this Transport Permit includes the following provision:

- (1) Water withdrawn and transported under the permit must be put to beneficial use at all times, and operation of the permitted well in a wasteful manner is prohibited.

Special Permit provisions:

DRAFT PERMIT FOR CONSIDERATION

(1) Water withdrawn and transported under the permit must be put to beneficial use at all times, and may not be transported pursuant to a bed and banks permit nor discharged to any surface water, as defined by Section 11.021 of the Texas Water Code, as amended (e.g., a stream, river, or lake).

Term:

(1) The term of this Transport Permit shall be three (3) years if construction of a conveyance system has not been initiated prior to the issuance of the permit.

(2) The term of this Transport Permit shall be thirty (30) years if construction of a conveyance system has been initiated prior to the issuance of the permit.

(3) A three-year term under subsection (1) shall automatically be extended to a 30-year term under subsection (2) if construction of a conveyance system is begun before the expiration of the initial three-year term.

Acceptance of this permit by the Permittee constitutes acknowledgment and agreement to comply with all of the terms, provisions, conditions, and restrictions stated in the permit and the rules of the Lost Pines Groundwater Conservation District.

ISSUED:

President, Lost Pines Groundwater District
Board of Directors

Date: _____

MONITORING WELL SYSTEM CONSTRUCTION AND MAINTENANCE AGREEMENT

THIS MONITORING WELL SYSTEM CONSTRUCTION AND MAINTENANCE AGREEMENT (the "Agreement") is entered into as of the ____ day of _____, 2018 (the "Effective Date"), by and between the LOST PINES GROUNDWATER CONSERVATION DISTRICT, a groundwater conservation district organized pursuant to the provisions of Article XVI, Section 59 of the Texas Constitution (the "District"), and LOWER COLORADO RIVER AUTHORITY, a conservation and reclamation district of the State of Texas ("LCRA"). The District and LCRA are sometimes collectively referred to as the "Parties."

RECITALS

A. The District has issued Operating Permits to LCRA for the following eight groundwater wells located in Bastrop County, Texas: Well No. 58-55-5-0032 (Well No. 1), Well No. 58-55-5-0033 (Well No. 2); Well No. 58-55-4-0016 (Well No. 3); Well No. 58-55-4-0017 (Well No. 4); Well No. 58-55-4-0018 (Well No. 5); Well No. 58-55-4-0019 (Well No. 6); Well No. 58-55-4-0020 (Well No. 7); and Well No. 58-55-4-0021 (Well No. 8) (the "Aggregated Wells").

B. The Operating Permits require the construction, operation and maintenance of new monitoring wells designed to measure drawdown in the Simsboro aquifer.

C. The District and LCRA desire to enter into this Agreement regarding the construction, operation and maintenance of the new monitoring wells.

AGREEMENT

NOW THEREFORE, for and in consideration of the mutual promises, covenants, obligations and benefits of this Agreement and the District's issuance of the Operating Permits for the Aggregated Wells, the District and LCRA agree as follows:

ARTICLE I CONSTRUCTION OF NEW MONITORING WELLS

Section 1. The Project. The "Project" shall consist of six (6) new groundwater monitoring wells drilled at locations that are available and approved by the District General Manager (the "New Monitoring Wells"), together with equipment for monitoring the groundwater levels in those wells that is compatible with the District's existing monitoring well system equipment (the "Monitoring Equipment"), and all easements as are necessary for the operation and maintenance of and access to the New Monitoring Wells and Monitoring Equipment (the "Monitoring Well Authorizations"). The General Manager may substitute surface water monitoring sites for any of the six (6) groundwater monitoring wells. Surface water monitoring sites shall only be added to the Monitoring Well System if the District provides written notice to LCRA of the addition of a surface water monitoring site to the Monitoring Well System and LCRA does not object to the inclusion of that surface water monitoring site in the

Monitoring Well System within 30 days of the date of the notice. If LCRA timely objects to the inclusion of a surface water monitoring site in the Monitoring Well System, then the General Manager may propose the inclusion of a surface water monitoring site to the Board of Directors for action.

Section 2. Monitoring Well System. Monitoring Well System has the meaning set out in the Operating Permits.

Section 3. Design of the Project. The plans and specifications for the Project shall be prepared by consultants selected by LCRA and approved by the District. LCRA shall pay all costs and expenses associated with the design of the Project. The design shall comply with all applicable state and federal requirements. LCRA will submit the plans and specifications to the District General Manager for approval before it begins construction of the Project. The District General Manager agrees to review the plans and specifications and either approve them or provide written comments specifically identifying required changes within thirty (30) days of submittal. If the District General Manager fails to either approve the plans and specifications or provide written comments specifically identifying required changes within thirty (30) days of submittal, the plans and specifications will be deemed approved. If the District General Manager provides written comments to LCRA, LCRA will amend the plans and specifications to address the written comments and resubmit the plans and specifications to the District for approval. LCRA shall obtain approval of the plans and specifications by all other governmental agencies with jurisdiction. LCRA shall not begin construction of the Project until the District and all other agencies with jurisdiction have approved the plans and specifications.

Section 4. Completion of Project.

(a) The Project shall be completed by a contractor or contractors selected by LCRA and approved by the District.

(b) No changes to the approved plans and specifications for the Project may be made without the approval of the District General Manager.

(c) The Project shall be constructed in a good and workmanlike manner and all material used in such construction shall be new, free from defects and fit for their intended purpose.

(d) LCRA shall provide notice to the District General Manager at least five (5) days in advance of the drilling of any New Monitoring Well or the installation of the Monitoring Equipment at a New Monitoring Well. The notice shall include the location of the New Monitoring Well to be drilled or equipped.

(e) The District may inspect the construction or installation at any reasonable time.

(f) Upon completion of construction of a New Monitoring Well and installation of the Monitoring Equipment, LCRA shall provide the District General Manager with applicable acceptance letters and a certificate of completion from LCRA's consultants and contractors

certifying that the New Monitoring Well and the Monitoring Equipment have been completed in accordance with the plans and specifications approved by the District.

Section 5. Cost of Project to be Funded by LCRA. LCRA will pay all costs of the Project, including without limitation: all reasonable costs of design, engineering, materials, labor, construction, and inspection arising in connection with the Project; all payments arising under any contracts entered into for the construction of the Project; and all reasonable costs incurred in connection with obtaining governmental approvals, certificates, or permits required for the Project (collectively, the "Project Costs"). The District shall have no responsibility for Project Costs.

Section 6. Acceptance and Conveyance. Within sixty (60) days of the District's receipt of the applicable acceptance letters and a certificate of completion, and provided that LCRA has fully complied with all requirements and obligations set forth in this Agreement and the Operating Permits, (i) the District General Manager shall accept the Project and (ii) LCRA shall convey all New Monitoring Wells, Monitoring Equipment, and Monitoring Well Authorizations to the District free and clear of any liens or encumbrances except such that may be agreed to by the District, by such instruments and documents required by the District. At any time during term of this Agreement, upon the request of the District, LCRA will take reasonable steps to assist the District in maintaining access to the New Monitoring Wells and Monitoring Equipment.

Section 7. Use of Existing Wells. LCRA may use an existing well as a New Monitoring Well under this Agreement subject to the General Manager's approval. Any existing well used as a New Monitoring Well must comply with the requirements of Sections 4, 5 and 6 of this Article I.

ARTICLE II

OPERATION AND MAINTENANCE OF NEW MONITORING WELLS

Section 1. Monitoring Equipment. The District shall be responsible for operating, maintaining, repairing and replacing the Monitoring Equipment, at the District's sole cost. The District shall maintain the Monitoring Equipment in good condition and working order and in accordance with all applicable regulatory requirements and accepted operating practices. All data obtained shall be available to the District and LCRA, and LCRA shall have access to all Monitoring Wells and Monitoring Equipment upon reasonable notice to the District.

Section 2. Wells. LCRA shall be responsible for repairing and replacing any part of the New Monitoring Wells except the Monitoring Equipment, at LCRA's sole cost. If repairs or replacement of any part of the New Monitoring Wells except the Monitoring Equipment are reasonably necessary or convenient for the continuous and adequate performance of the wells, the District shall provide notice to LCRA and LCRA shall make such repairs or replacement as soon as reasonably practical. In the event that LCRA fails to adequately make such repairs or replacements, the District shall have the right, but not the obligation, to perform such repairs and replacements as are reasonably required to effect the continuous and adequate performance of the wells.

Section 3. Inaccurate Data. Data collected from a New Monitoring Well during a period in which the New Monitoring Well is not providing accurate water level data for that well shall not be used for any purpose under this Agreement or the Operating Permits. If the General Manager determines that any monitoring well is providing inaccurate data, the General Manager shall notify LCRA, in writing, of the data that the General Manager has determined is inaccurate. LCRA shall have 30 days to object to the exclusion of the data identified. If the Parties are unable to agree on the use of the data within 60 days of the date of the General Manager's notice to LCRA, then the General Manager and LCRA will mutually agree upon a registered professional engineer or a certified groundwater professional with expertise in hydrology, hydraulics and hydrogeology to mediate the dispute.

ARTICLE IV INDEMNITY

Section 1. LCRA AGREES TO INDEMNIFY THE DISTRICT, ITS SUCCESSORS AND ASSIGNS, AND HOLD IT FREE AND HARMLESS FROM AND AGAINST ANY AND ALL LIENS, CLAIMS, DEBTS, CHARGES, DAMAGES, LOSS, PENALTIES, AND EXPENSES, LIQUIDATED OR UNLIQUIDATED, EXECUTED OR EXECUTORY, ORAL OR WRITTEN, EXPRESS OR IMPLIED, ACTUAL OR CONTINGENT, WHETHER OR NOT HEREBY EXPRESSLY LISTED OR DESCRIBED, BUT WHICH MAY BE ASSERTED NEVERTHELESS AGAINST THE DISTRICT, ITS SUCCESSORS OR ASSIGNS ARISING OUT OF OR RELATED TO THE DESIGN, CONSTRUCTION AND INSTALLATION OF ANY NEW MONITORING WELL, AND/OR ARISING OUT OF OR RELATED TO ANY REPAIR OR REPLACEMENT OF ANY NEW MONITORING WELLS PERFORMED BY LCRA, BUT EXCLUDING (i) THE MONITORING EQUIPMENT AND/OR (ii) CLAIMS ARISING OUT OF THE NEGLIGENT AND/OR INTENTIONAL ACTS OF THE DISTRICT, ITS SUCCESSORS, OR ASSIGNS OUTSIDE OF THE DIRECT CONTROL OF LCRA.

ARTICLE V REMEDIES

Section 1. Default by Either Party. In the event of default by either Party, the other Party must give to the defaulting Party written notice of such default specifying the failure or default relied upon. If the defaulting Party fails to fully cure the default specified in such notice within thirty (30) days after receipt of such notice, the nondefaulting Party shall be entitled: (a) to a proper writ issued by a court of competent jurisdiction compelling and requiring the defaulting party to observe and perform the covenants, obligations and conditions described in this Agreement; or (b) to pursue all other legal or equitable remedies. The nondefaulting Party may employ attorneys to pursue its legal rights and if it prevails before any court or agency of competent jurisdiction, the defaulting party shall be obligated to pay all expenses incurred by the nondefaulting Party, including reasonable attorneys' fees.

Section 2. Default by LCRA. A default by LCRA that is not cured within thirty (30) days after LCRA receives written notice of the default is a violation of the Operating Permits.

ARTICLE VI MISCELLANEOUS

Section 1. Modification. This Agreement represents the entire Agreement between the Parties relating to construction and conveyance of the Project and supersedes all prior oral and written agreements. This Agreement shall be subject to change or modification only with the mutual written consent of Developer and the District.

Section 2. Assignability. LCRA may not assign this Agreement except in conjunction with the transfer of ownership of the Operating Permits.

Section 3. Monitoring Well System Data. LCRA shall have the right to review all data obtained by the District from the monitoring well system owned or operated by the District and may request, at its expense, copies of all documents, data and information obtained by the District in the operation of the District's entire monitoring well system.

Section 4. Captions. The captions appearing at the first of each numbered section or paragraph in this Agreement shall never be considered or given any effect in construing this Agreement.

Section 5. Applicable Law. This Agreement shall be governed by, and construed in accordance with the laws of the State of Texas.

Section 6. Parties at Interest. This Agreement shall be for the sole and exclusive benefit of the parties hereto and shall never be construed to confer any benefit to any third party.

Section 7. Waiver. Each Party may specifically, but only in writing, waive any breach of this Agreement by the other party, but no such waiver shall be deemed to constitute a waiver of similar or other breaches by such other Party.

Section 8. Notices. All notices from LCRA to the District shall be in writing and mailed by Certified Mail, Return Receipt Requested, addressed to:

Lost Pines Groundwater Conservation District
Attn: General Manager
P.O. Box 1027
Smithville, Texas 78957

All notices from the District to LCRA shall be in writing and mailed by Certified Mail, Return Receipt Requested, addressed to:

Lower Colorado River Authority
P.O. Box 220
Austin, Texas 78767-0220

Either Party may change its address by giving written notice of such change to the other Party.

Section 9. Term. Except as otherwise provided herein, this Agreement shall be in force and effect from the Effective Date until the earlier of the expiration or revocation of all of the Operating Permits.

Section 10. Authority for Execution. The District certifies, represents, and warrants that the execution of this Agreement is duly authorized and adopted in conformity with its statutory authority and bylaws. LCRA hereby certifies, represents, and warrants that the execution of this Agreement is duly authorized and adopted in conformity with its statutory authority and bylaws.

Section 11. Multiple Originals. This Agreement shall be executed in a number of counterparts, each of which shall for all purposes, be deemed to be an original, and all such counterparts shall together constitute and be one and the same instrument.

IN WITNESS WHEREOF, LCRA has caused its authorized representatives to execute this instrument; and the President of the District has executed this instrument on behalf of said District pursuant to an Order passed and approved by the Board of Directors of said District.

{SIGNATURE PAGES FOLLOW}

**LOST PINES GROUNDWATER
CONSERVATION DISTRICT**

By: _____
Michael H. Talbot, President

Date: _____

STATE OF TEXAS §
 §
COUNTY OF BASTROP §

This instrument was acknowledged before me on the ____ day of _____, 2018,
by MICHAEL H. TALBOT, as President of the LOST PINES GROUNDWATER
CONSERVATION DISTRICT, on behalf of said District.

NOTARY PUBLIC, State of Texas

(SEAL)

LOWER COLORADO RIVER AUTHORITY

By: _____

Printed Name: _____

Title: _____

Date: _____

STATE OF TEXAS §

§

COUNTY OF TRAVIS §

 This instrument was acknowledged before me on the _____ day of _____, 2018,
by _____, as _____ of LOWER COLORADO RIVER
AUTHORITY, on behalf of said river authority.

NOTARY PUBLIC, State of Texas

(SEAL)



GM EXHIBIT 4

Daniel B. Stephens & Associates, Inc.

Memorandum

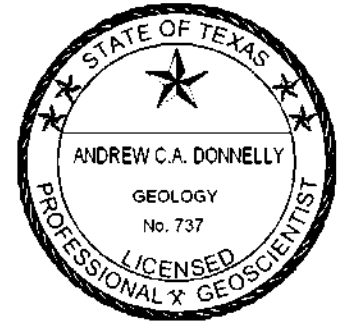
To: Jim Totten, General Manager
Lost Pines Groundwater Conservation District

From: Andrew Donnelly

Copy: Natasha Martin

Date: April 6, 2018

Subject: Review of LCRA Permit Application Packet



DBS&A has reviewed the operating permit application packet submitted by LCRA for eight wells to be completed in the Simsboro Aquifer in Bastrop County. The wells would be located on the Griffith League Ranch property, located between Lake Bastrop and the town of Paige, as shown in Figure 1 below.

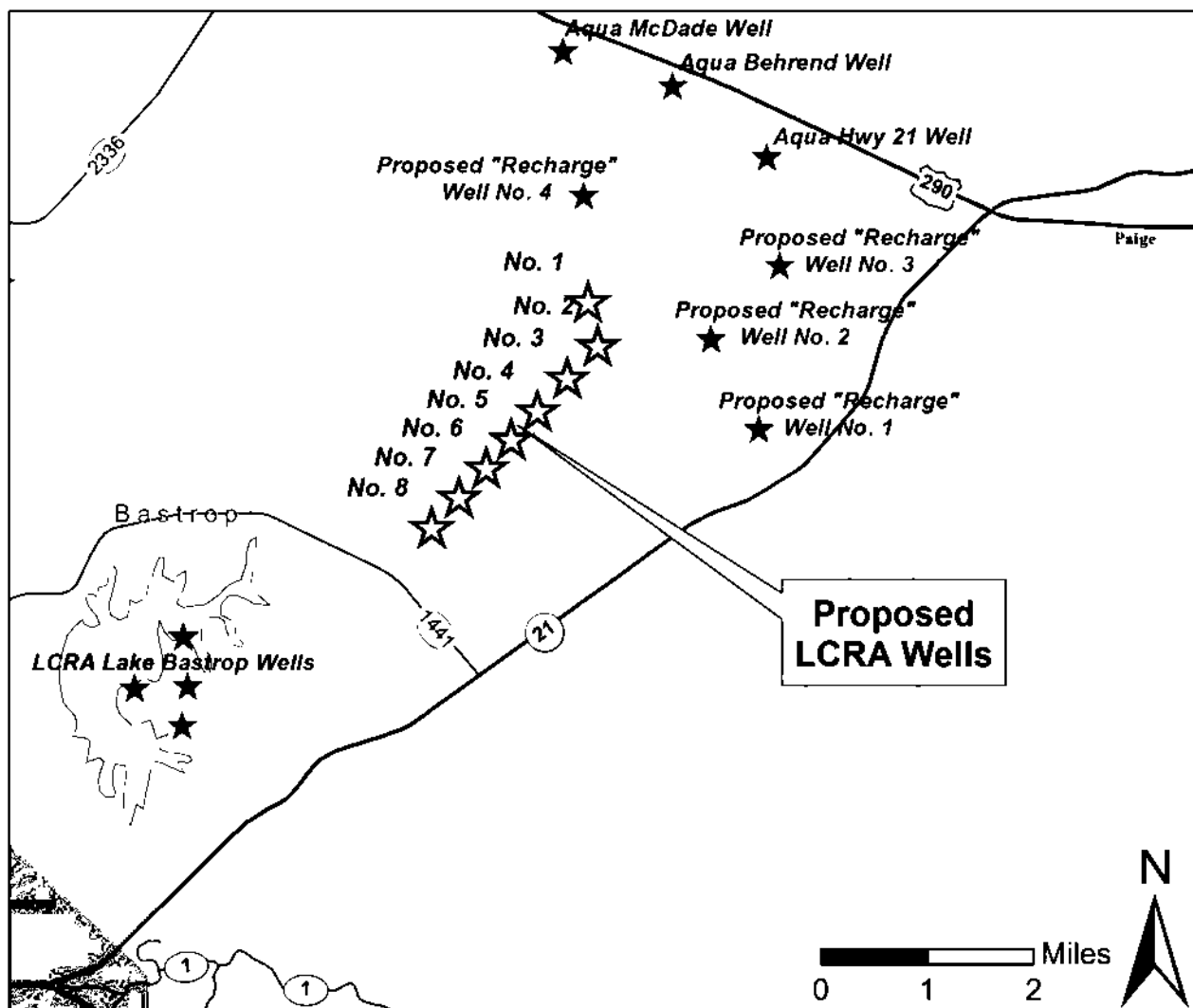




Figure 1. Location of proposed LCRA wells.

The proposed LCRA wells are located near several existing Simsboro Aquifer wells and near several proposed Simsboro Aquifer well locations in the pending Recharge Texas, LP (formerly End Op, LP) permit application. The LCRA wells are:

- as close as 5,200 feet south of the proposed "Recharge" Well No. 4 location
- as close as 5,600 feet west of the proposed "Recharge" Well No. 2 location
- as close as 11,000 feet south/southwest of three Aqua wells (McDade, Behrend, and Highway 21), and
- as close as 13,000 feet from four existing LCRA wells in their Lake Bastrop well field.

The proposed pumpage is to occur in three phases. Phase I consists of 8,000 ac-ft/yr of pumping from wells 7 and 8. Phase II consists of 15,000 ac-ft/yr of pumping from wells 5 through 8. Phase III consists of 25,000 ac-ft/yr of pumping from all eight wells. For the purposes of modeling, it was assumed that Phases I and II would each last for three years, and that Phase I would begin in 2020.

The Central Queen City-Sparta Groundwater Availability Model (GAM) was run with the proposed pumpage added in the model cells in which the proposed wells are located. A map of project-specific drawdown estimated using the GAM is shown in Figure 2, and a close-up map of the project-specific drawdowns using the GAM is shown in Figure 3. The model run results indicate that at the end of 40 years of pumping (in 2060), the project-specific drawdown (drawdown due to the proposed LCRA wells only) is as follows:

- approximately 225 to 250 feet at the three Aqua well locations (McDade, Behrend, and Highway 21).
- approximately 250 to 275 feet at the proposed "Recharge" (End Op) well locations.
- approximately 160 to 180 feet at the existing LCRA wells near Lake Bastrop.

These drawdown estimates are an approximation obtained using the regional-scale GAM, which may not account for local hydrogeologic conditions. However, it is reasonable to conclude that the pumpage from the proposed LCRA wells will result in approximately 200 or more feet of drawdown at nearby permitted wells and the proposed permitted well locations by the year 2060. This model run was completed in the same manner as previous model runs conducted to evaluate permit evaluations requested by the Board, so that a direct comparison to previous model runs can be made.

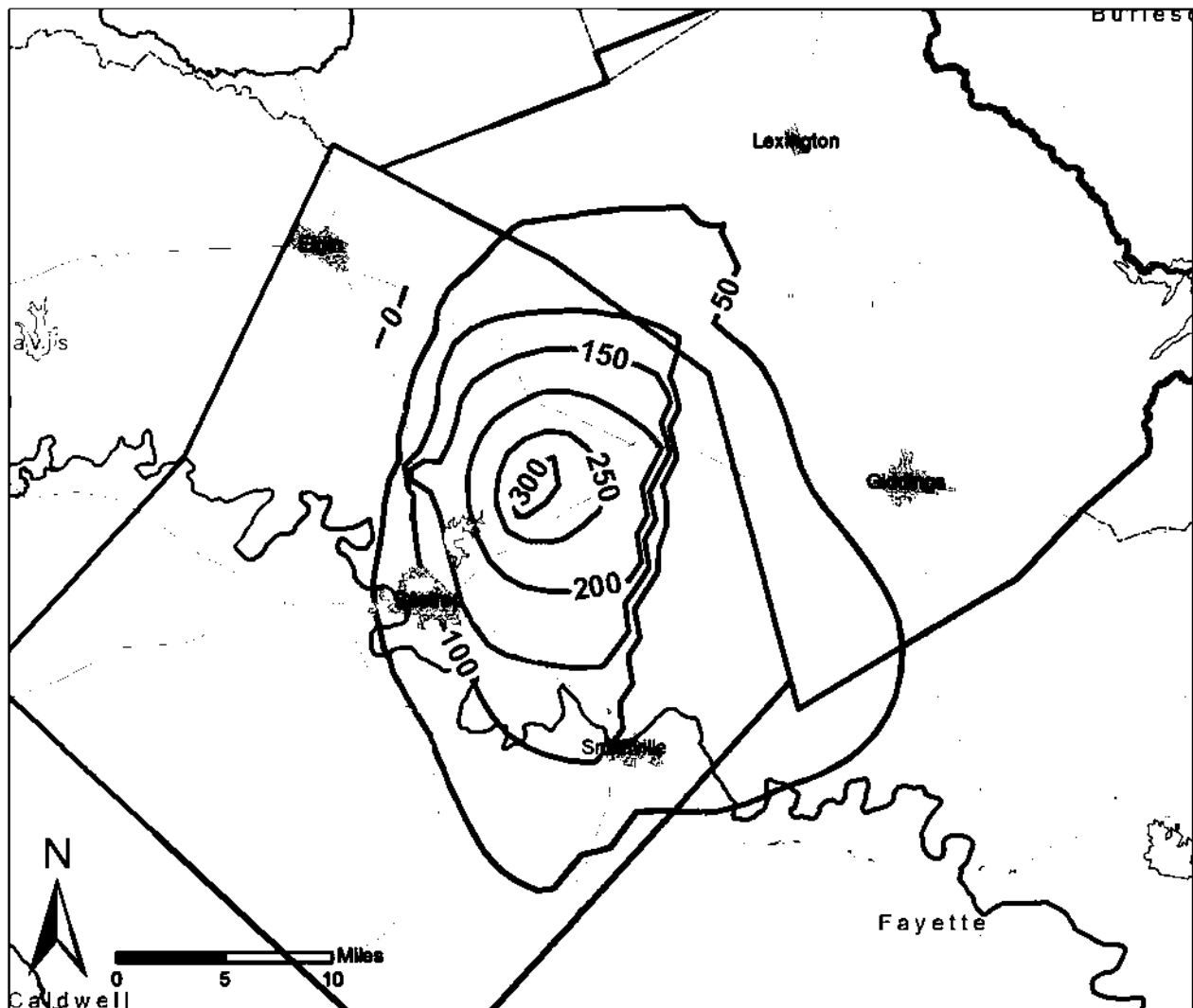


Figure 2. Project-specific 50-year drawdown (in feet) in the Simsboro Aquifer attributable to the proposed LCRA pumpage estimated using the GAM.

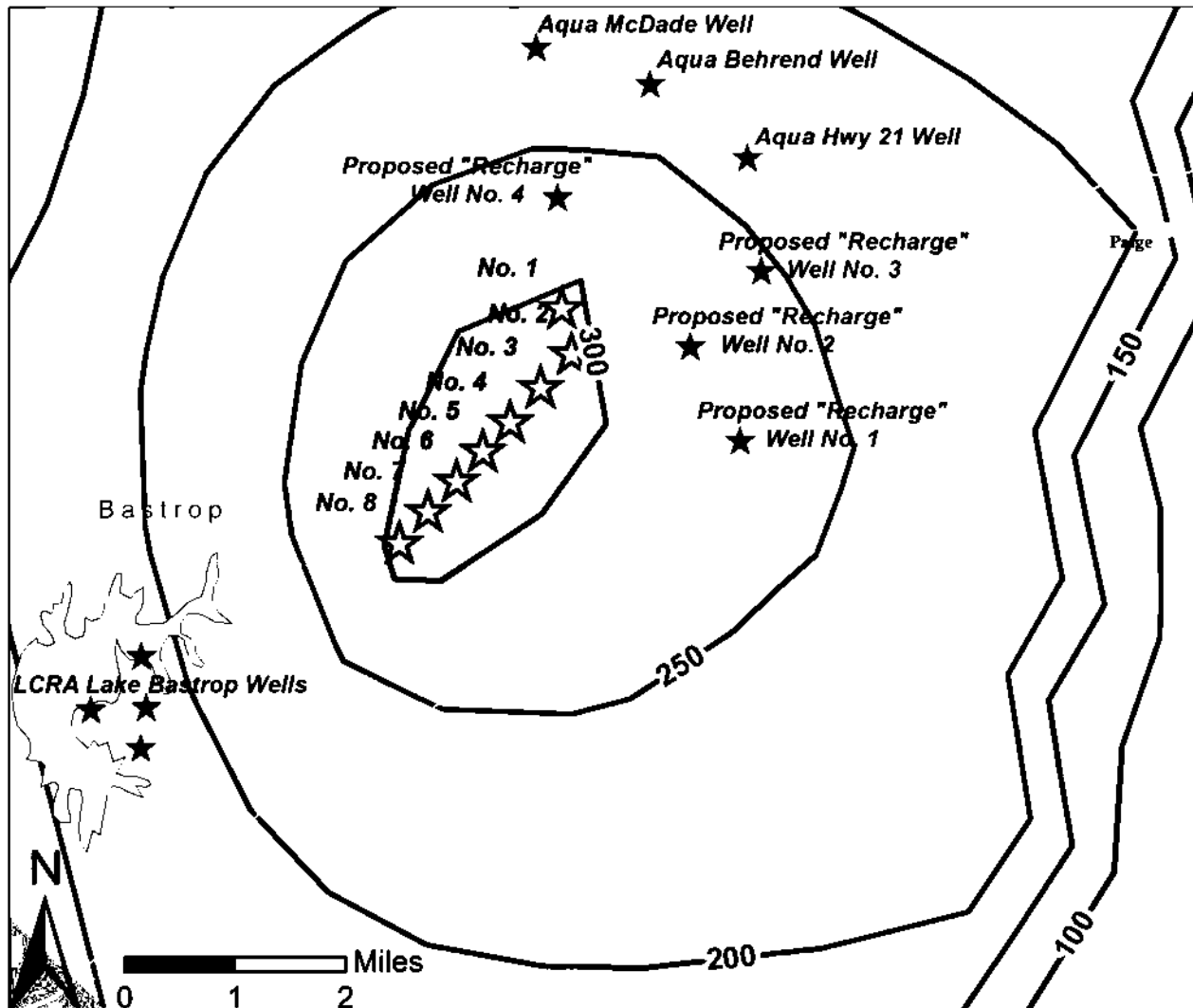


Figure 3. Close up of project-specific 50-year drawdown (in feet) in the Simsboro Aquifer attributable to the proposed LCRA pumpage estimated using the GAM.



Required Application Items

All items required in an operating permit application are present in the application.

Permit Review Items 2 and 8

(2) Whether the proposed use of water unreasonably affects existing groundwater and surface water resources or existing permit holders

The production of 25,000 ac-ft/yr by eight LCRA wells in Bastrop County will impact Simsboro Aquifer water levels in the District. Estimated drawdowns are summarized in Table 1. As indicated in the table, the drawdown estimated to occur due to the proposed project is approximately 60 feet when averaged across the District. A map of project-specific drawdowns estimated using the GAM is shown in Figure 2, and a detailed map of the project-specific drawdowns using the GAM is shown in Figure 3. Although the GAM estimates that the proposed LCRA project pumpage results in over 200 feet of drawdown after full production through 2060 in some nearby wells or proposed well locations, these nearby wells have static water levels that are approximately 550 to 600 feet above the top of the Simsboro Aquifer in the LCRA Lake Bastrop well field, and approximately 900 to 1000 feet above the top of the Simsboro in the three Aqua wells. Therefore, although the proposed LCRA project pumpage will cause water levels in these adjacent wells to decline significantly, this decline may not unreasonably impact these wells or other users in the District.

Table 1. Projected drawdown in 2060 from pumpage included in the LCRA well application

Pumpage	Drawdown (feet)		
	Bastrop County	Lee County	Lost Pines District
LCRA pumpage only	80	37	60
LCRA pumpage + anticipated production from existing LPGCD pumpage and other permits	246	399	318

A quantitative evaluation of the impact of the proposed pumpage on surface water resources within the District is difficult to make. The only quantitative tool available for such a calculation is the GAM, which is not well suited to accurately evaluate impacts to surface water within the District attributable to this application. However, because the majority of the flow in the Colorado River is controlled by the release of water from the Highland Lakes, the impacts from the proposed pumping on flow in the Colorado River is probably small.



(8) Whether granting the application is consistent with the District's duty to manage total groundwater production on a long-term basis to achieve the applicable Desired Future Condition

The average estimated drawdown due to production from these wells is approximately 60 feet when averaged across the entire District. The production from the proposed wells combined with existing sources of groundwater production, including recently approved permits in the District, and groundwater production outside of the District (as modeled in the final Groundwater Management Area 12 GAM run) is estimated to cause 318 feet of drawdown in the Simsboro Aquifer across the District, which is greater than the desired future condition (DFC) for the Simsboro Aquifer in the District of 240 feet.

The Modeled Available Groundwater (MAG) for the Simsboro Aquifer in the District is 32,246 ac-ft/yr in 2020 and 30,843 ac-ft/yr in 2060. The total permitted pumpage in the Simsboro Aquifer is currently 89,021 ac-ft/yr. However, the estimated recent production under these permits has been approximately 13,000 to 17,000 ac-ft/yr. The proposed production of 25,000 ac-ft/yr in this application is greater than difference between the MAG and what is currently being produced under existing permits.

The District's duty to manage total groundwater production on a long-term basis to achieve the DFC will be based on a monitoring network that will be developed for each aquifer for which a DFC has been established. The District's intended approach is to diligently monitor the drawdown within the Simsboro Aquifer across the entire District and manage (i.e., reduce) groundwater production when and if information from the monitoring network indicates that the DFC may be exceeded. If water levels in the Simsboro Aquifer monitoring network indicate the potential for the DFC to be exceeded, then the District's approach is to cut back production for all permitted users. This approach is consistent with the requirement that the DFC be achieved.

Summary

The LCRA application is for eight Simsboro Aquifer wells in Bastrop County for a total of 25,000 ac-ft/yr. The application includes all of the technical items required by the District.

A model run was done to simulate the impact of the proposed pumpage on the aquifer using the same assumptions applied in previous permit evaluations requested by the District Board. The simulated impact of the proposed pumping is approximately 60 feet of drawdown in the Simsboro Aquifer averaged across the District. The total drawdown in the Simsboro Aquifer including the proposed LCRA production is 318 feet across the District, which is greater than the DFC for the Simsboro Aquifer.

GM EXHIBIT 5

**LOST PINES GROUNDWATER CONSERVATION DISTRICT
OPERATING PERMIT**

District Well Number: 5933122

Permit Approved: December 21, 2015

Permittee:

Forestar (USA) Real Estate Group, Inc.
6300 Bee Caves Rd., Bldg. 2, Suite 500
Austin, Texas 78746-5149

Location of Well: approximately 4.5 miles northeast of the City of Lexington and 1.5 miles east of US Highway 77 off County Road 411 in Lee County (W096°58'6" N30°28'22"), Well #1

Permittee is authorized to operate Well No. 5933122 within the Lost Pines Groundwater Conservation District under the following conditions:

Authorized annual withdrawal: See Special conditions

Maximum rate of withdrawal: 3,500 gallons per minute

Aquifer unit: Simsboro

Type of water use: Municipal

Place of water use: Bastrop, Hays, Lee, Travis and Williamson Counties

Standard Permit provisions:

This Operating Permit is granted subject to the District Rules, the orders of the Board, the District Management Plan, and Chapter 36 of the Texas Water Code. In addition to any well-specific permit provisions and special conditions included in this Operating Permit, this Operating Permit includes the following provisions:

(1) This Permit is granted in accordance with District Rules, and acceptance of this Permit constitutes an acknowledgement and agreement that Permittee will comply with the terms, conditions, and limitations set forth in this Permit, the District rules, the orders of the Board, and the District Management Plan.

(2) Water withdrawn under the Permit must be put to beneficial use at all times, and operation of Well No. 5933122 (the "Permitted Well") in a wasteful manner is prohibited.

(3) Water produced from the Permitted Well must be measured using a water measuring device or method approved by the District that is within plus or minus 10% of accuracy.

(4) The Permitted Well site must be accessible to District representatives for inspection, and Permittee agrees to cooperate fully in any reasonable inspection of the Permitted Well and Permitted Well site by District representatives.

(5) Permittee will use reasonable diligence to protect groundwater quality

(6) Permittee will follow well plugging guidelines at the time of well closure.

(7) The application pursuant to which this Permit has been issued is incorporated in this Permit by reference, and this Permit is granted on the basis of and contingent upon the accuracy of the information provided in that application. A finding that false or inaccurate information has been provided is grounds for revocation of the Permit.

(8) Violation of the Permit's terms, conditions, requirements, or special provisions, including pumping amounts in excess of authorized withdrawals, may subject the Permittee to enforcement action under District Rules.

(9) Whenever the special conditions in the Permit are inconsistent with other provisions of the Permit or the District Rules, the special conditions will prevail.

Special conditions:

This Operating Permit is granted subject to the following special conditions:

(1) Within ninety (90) days of the issuance of the Permit, Permittee shall enter into the Monitoring Well System Construction and Maintenance Agreement approved by the District Board (the "Monitoring Well Agreement"). Permittee shall construct, operate, and maintain the New Monitoring Wells and the Existing Monitoring Well, as defined in the Monitoring Well Agreement, in accordance with the terms and provisions of the Monitoring Well Agreement. Any violation of the terms of the Monitoring Well Agreement shall constitute a violation of this Permit.

(2) The authorized annual withdrawal amount under this Permit is hereby aggregated with the authorized annual withdrawal amount for the following designated wells: Well No. 5933409 (Well #2); Well No. 5933410 (Well #3); Well No. 5933411 (Well #4); Well No. 5933412 (Well #5); Well No. 5933217 (Well #6); Well No. 5933123 (Well #7); Well No. 5933413 (Well #8); Well No. 5933504 (Well #9); and Well No. 5933505 (Well #10). Well No. 5933122 and the designated wells are collectively referred to as the "Aggregated Wells".

(3) Subject to the other terms of this Permit, Permittee is authorized to withdraw an aggregated annual withdrawal amount of up to 28,500 acre-feet per year from the Aggregated Wells as follows:

(a) Phase I. Permittee may not withdraw water from any Aggregated Well until the date that Permittee conveys the New Monitoring Wells and Monitoring Well Equipment to the District in accordance with the terms and provisions of the Monitoring Well Agreement (the "Phase II Date").

(b) Phase II. If Permittee has a binding contract to provide at least 12,000 acre-feet of water per year to one or more End Users in one or more authorized places of use, then beginning on the Phase II Date, Permittee may withdraw an aggregated annual withdrawal amount of not more than 12,000 acre-feet of water per year from the Aggregated Wells.

(c) Phase III. Permittee may withdraw an aggregated annual withdrawal amount of not more than 20,000 acre-feet of water per year from the Aggregated Wells if and when Permittee submits information to the District demonstrating that:

- (i) At least five years have passed since the issuance of the Permit;
- (ii) Permittee has withdrawn an aggregate amount of at least 6,000 acre-feet per year from a combination of one or more of the Aggregated Wells for three (3) consecutive twelve calendar month periods;
- (iii) the Estimated DFC Year Water Level, as defined in Special Condition (4), is less than the Desired Future Condition for the Simsboro Aquifer in effect when the Permittee submits the information to the General Manager; and

(iv) Permittee has a binding contract to provide at least 20,000 acre-feet of water per year to one or more End Users in one or more authorized places of use.

(d) Phase IV. Permittee may withdraw an aggregated annual withdrawal amount of not more than 28,500 acre-feet of water per year from the Aggregated Wells if and when Permittee submits information to the District demonstrating that:

- (i) Permittee has withdrawn an aggregate amount of at least 15,000 acre-feet per year from a combination of one or more of the Aggregated Wells for three (3) consecutive twelve calendar months periods;

(ii) the Estimated DFC Year Water Level, as defined in Special Condition (4), is less than the Desired Future Condition for the Simsboro Aquifer in effect when the Permittee submits the information to the General Manager; and

(iii) Permittee has a binding contract to provide at least 28,500 acre-feet of water per year to one or more End Users in one or more authorized places of use.

{4} For purposes of this Operating Permit, each of the following terms has the following meanings:

(a) "Monitoring Well System" means the monitoring wells used to calculate the Estimated DFC Year Water Level, as defined in this Special Condition (4), and shall consist of the following: (i) the New Monitoring Wells, as defined in the Monitoring Well Agreement, (ii) other existing wells currently monitored by the District, and (iii) other third-party wells that the District may obtain authorization to monitor and include in the System ("Other Monitoring Wells"). Other Monitoring Wells shall only be added to the Monitoring Well System if the District provides written notice to Permittee of the addition of an Other Monitoring Well to the Monitoring Well System and Permittee does not object to the inclusion of that Other Monitoring Well in the Monitoring Well System within 30 days of the date of the notice. If Permittee timely objects to the inclusion of an Other Monitoring Well in the Monitoring Well System, then the General Manager and Permittee will mutually agree upon a registered professional engineer or a certified groundwater professional with expertise in hydrology, hydraulics and hydrogeology to mediate the dispute. If the General Manager and Permittee are unable to resolve the dispute through mediation, then the General Manager may propose the inclusion of the Other Monitoring Well to the Board of Directors for action.

(b) "Annual Water Level" means the measured or interpolated water level in each Monitoring Well in the Monitoring System that best represents the static water level in that Monitoring Well at the end of a calendar year. All water levels shall be determined using scientifically appropriate methodologies.

(c) "Average Water Level" means the average of Annual Water Levels in all Monitoring Wells, as follows:

$$\frac{\text{Sum of Annual Water Levels in Monitoring Wells}}{\text{Number of Monitoring Wells}} = \text{Average Measured Water Level}$$

(d) "Annual Drawdown" means the change in the Average Measured Water Level between January 1 of a calendar year and January 1 of the previous calendar year, calculated as follows:

Average Water Level – prior year Annual Water Level = Annual Drawdown

(e) "Rate of Change" means the Annual Drawdown on January 1 of a calendar year divided by the Total Production in the previous calendar year/

(f) "Total Production" means the actual reported withdrawals from the Simsboro Aquifer from permitted wells within the District in a calendar year plus the Estimated Simsboro Exempt Well Production for the same calendar year.

(g) "Estimated Exempt Well Production" means 1,143.21 acre-feet per year in 2015, 1,143.21 acre-feet plus 15.14 acre-feet per year for each year after 2015, and 1,976.06 acre-feet per year in 2070.

(h) "Average Rate of Change" means the average of the Rates of Change for each calendar year beginning in 2011 and ending the calendar year before Permittee submits the documentation described in Special Conditions (3)(c) or (d) of the Operating Permits, as follows:

Sum of Rate of Change for past years beginning in 2011 = Average Rate of Change
Number of past years

(i) "Estimated DFC Year Water Level" means the projected water level for the year identified in the then-current Desired Future Condition for the Simsboro Aquifer, calculated by subtracting the Estimated Future Drawdown from the Average Water Level for the calendar year before Permittee submits the documentation described in Special Conditions (3)(c) or (d) of the Operating Permits, as follows:

Average Water Level in prior year - Estimated Future Drawdown =
Estimated DFC Year Water Level

(j) "Estimated Future Drawdown" means the sum of the Estimated Annual Drawdowns for each year beginning in the year in which Permittee submits the documentation described in Special Conditions 3(c) or (d) of the Operating Permit and ending in year identified in the then-current Desired Future Condition for the Simsboro Aquifer.

(k) "Estimated Annual Drawdown" means the Average Rate of Change times the Estimated Existing Well Production plus the Current Phase Withdrawal and the Next Phase Withdrawal for a calendar year, as follows:

Estimated Existing Well Production + Current Phase Withdrawal + Next Phase Withdrawal
x Average Rate of Change = Estimated Annual Drawdown

- (l) "Estimated Existing Well Production" means:
- (i) 20,298 acre-feet per year from January 1, 2010 to December 31, 2019;
 - (ii) 28,184 acre-feet per year from January 1, 2020 to December 31, 2029;
 - (iii) 31,240 acre-feet per year from January 1, 2030 to December 31, 2039;
 - (iv) 34,295 acre-feet per year from January 1, 2040 to December 31, 2049;
 - (v) 37,361 acre-feet per year in from January 1, 2050 to December 31, 2059;
 - (vi) 40,406 acre-feet per year from January 1, 2060 to December 31, 2069.

(m) "Current Phase Authorized Withdrawal" means the amount of groundwater authorized to be withdrawn in the current phase under the Operating Permit.

(n) "Next Phase Authorized Withdrawal" means the additional amount that would be authorized to be withdrawn in the next phase under the Operating Permit.

(5) The General Manager may approve a weighted average methodology for calculating the Average Water Level or Average Rate of Change if the new methodology is supported by data gathered by the Monitoring Well System.

(6) If Permittee submits information that Permittee claims demonstrates that the conditions for increasing groundwater withdrawal to Phase II or Phase III amounts have been met, then, within 60 days of receipt of the information, the General Manager will notify Permittee, in writing, if the General Manager has determined that the required conditions have been met or if the General Manager disputes that the desired conditions have been met. If the General Manager disputes that the required conditions have been met, the General Manager shall supply the information data and analysis supporting his determination with his written notice. If the General Manager and the Permittee are unable to agree within 60 days of receipt of the information provided by the General Manager disputing that the required conditions have been met, then the General Manager and Permittee will mutually agree upon a registered professional engineer or a certified groundwater professional with expertise in hydrology, hydraulics and hydrogeology to mediate the dispute. If the General Manager and Permittee are unable to resolve the dispute through mediation, Permittee may request a contested case hearing as provided in the District Rules and the Texas Water Code to resolve the dispute. Permittee and the General Manager shall be the sole parties to the contested case hearing.

(7) If the Permittee files an application to renew the Permit, then the General Manager and Permittee shall evaluate the methodology for determining the Estimated DFC Year Water Level described in Special Conditions (3), (4) and (5) based on data collected prior to the date of the application to renew, and jointly propose revisions to the Permit based on that data. If the General Manager and the Permittee are unable to agree to joint proposed revisions within sixty (60) days of the date that the application to renew is filed, then the General Manager and Permittee will mutually agree upon a registered professional engineer or a certified groundwater professional with expertise in hydrology, hydraulics and hydrogeology to mediate the dispute. If the General Manager and Permittee are unable to resolve the dispute

through mediation, then the General Manager may propose revisions to the Permit as provided in District Rule 7.2.

(8) Beginning no later than the fifth (5th) anniversary of the date of issuance of the Permit, Permittee shall have a binding contract or contracts to provide at least 12,000 acre-feet of water per year to one or more End Users in one or more authorized places of use. If Permittee does not have such a contract or contracts, then the aggregated annual withdrawal amount in this Permit shall be automatically reduced to the amount for which Permittee has a binding contract or contracts, and the General Manager is authorized to issue an amendment to this Permit reflecting the reduced amount.

(9) Before providing water withdrawn from the Aggregated Wells to any End User, Permittee shall submit to the District: (a) each End User's water conservation plan and drought contingency plan, if the Texas Water Code or Texas Commission on Environmental Quality rules require the End User to prepare a water conservation plan and drought contingency plan; or (b) if the Texas Water Code or Texas Commission on Environmental Quality rules do not require the End User to prepare a water conservation plan and drought contingency plan, a certification from the End User that the End User agrees to avoid waste and achieve water conservation. Any End User water conservation plans and drought contingency plans that are submitted must comply with the relevant provisions of the Texas Water Code and rules of the Texas Commission on Environmental Quality or successor agency.

(10) This Permit is issued subject to any future production limits adopted by the District under the District Rules that apply within the District or within the applicable management zone.

(11) This Permit is not subject to the District's rules on time limits for the completion of a permitted well or the operation of a permitted well.

(12) Production Fees charge to Permittee under this Permit shall be based upon amounts authorized to be produced under this Permit at the time that Production Fees are due.

Term:

(1) The District may terminate this Permit if the District gives written notice to Permittee that the District has received an application for an Operating Permit for a well whose location would violate District spacing requirements because of that well's distance from the Permitted Well, and Permittee fails to: (a) provide the District with a signed and notarized waiver stating that Permittee does not object to the location of the proposed well within thirty (30) days of the date of such notice; (b) request a variance from the District spacing requirements in the manner provided in the District Rules within thirty (30) days of the date of such notice; or (c) complete the Permitted Well and file the well log required by Texas Occupations Code Section 1901.251 with the District within 180 days of the date of such notice.

(2) This Operating Permit shall be effective for a period of five (5) years from the date the Permit is approved, unless terminated, amended or revoked as provided in the District Rules.

Acceptance of this Permit by the Permittee constitutes acknowledgment and agreement to comply with all of the terms, provisions, conditions, and restrictions stated in the Permit and the rules of the Lost Pines Groundwater Conservation District.

ISSUED:

Michael H. Talbot

President, Lost Pines Groundwater
Conservation District Board of Directors
Date: 1-21-16

LOST PINES GROUNDWATER CONSERVATION DISTRICT TRANSPORT PERMIT

District Well Number: 5933122

Permit Approved: Renewed December 12, 2018; Originally Approved December 21, 2015

Permittee:

Forestar (USA) Real Estate Group, Inc.
6300 Bee Caves Rd., Bldg. 2, Suite 500
Austin, Texas 78746-5149

Location of Well: approximately 4.5 miles northeast of the City of Lexington and 1.5 miles east of US Highway 77 off County Road 411 in Lee County (W096°58'6" N30°28'22"), Well #1

Permittee is authorized to transfer water produced from Well No. 5933122 outside the boundaries of the Lost Pines Groundwater Conservation District under the following conditions:

Maximum annual transfer amount: an aggregated annual amount of not more than 28,500 acre-feet per year from Well No. 5933122 (Well #1); Well No. 5933409 (Well #2); Well No. 5933410 (Well #3); Well No. 5933411 (Well #4); Well No. 5933412 (Well #5); Well No. 5933217 (Well #6); Well No. 5933123 (Well #7); Well No. 5933413 (Well #8); Well No. 5933504 (Well #9); and Well No. 5933505 (Well #10), subject to the terms and conditions of the Operating Permits for those wells.

Type of water use: Municipal

Place of water use: Bastrop, Hays, Lee, Travis and Williamson Counties

Standard Permit provisions:

This Transport Permit is granted subject to the District Rules, the orders of the Board, the District Management Plan, and Chapter 36 of the Texas Water Code. In addition to any well-specific permit provisions and special conditions included in this Transport Permit, this Transport Permit includes the following provision:

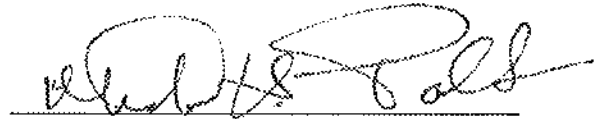
- (1) Water withdrawn under the permit must be put to beneficial use at all times, and operation of the permitted well in a wasteful manner is prohibited.

Term:

This Transport Permit, as renewed, shall be effective for a period of time commensurate with the Operating Permit for Well No. 5933122 and shall expire on January 26, 2021, unless terminated, amended or revoked in accordance with the rules of the Lost Pines Groundwater Conservation District.

Acceptance of this permit by the Permittee constitutes acknowledgment and agreement to comply with all of the terms, provisions, conditions, and restrictions stated in the permit and the rules of the Lost Pines Groundwater Conservation District.

ISSUED:



President, Lost Pines Groundwater District
Board of Directors

Date: 1-15-19

GM EXHIBIT 6

LOST PINES GROUNDWATER CONSERVATION DISTRICT OPERATING PERMIT

District Well Number: 5855514

Permit Approved: September 7, 2016

Permittee:

End Op, L.P.
9430 Research Blvd, Suite 350
Austin, TX 78759

Location of Well: approximately 1.9 miles north of the intersection of State Highway 21 and County Road 359 in Bastrop County (W097°10'36" N30°12'23"), Well No. 3

Permittee is authorized to operate Well No. 5855514 within the Lost Pines Groundwater Conservation District under the following conditions:

Authorized annual withdrawal: See Special conditions

Maximum rate of withdrawal: 3,500 gallons per minute/per well

Aquifer unit: Simsboro

Type of water use: Municipal

Place of water use: Hays, Travis and Williamson Counties

Standard Permit provisions:

This Operating Permit is granted subject to the District Rules, the orders of the Board, the District Management Plan, and Chapter 36 of the Texas Water Code. In addition to any well-specific permit provisions and special conditions included in this Operating Permit, this Operating Permit includes the following provisions:

(1) This permit is granted in accordance with District Rules, and acceptance of this permit constitutes an acknowledgement and agreement that Permittee will comply with the terms, conditions, and limitations set forth in this permit, the District rules, the orders of the Board, and the District Management Plan.

(2) Water withdrawn under the permit must be put to beneficial use at all times, and operation of Well No. 5855514 (the "Permitted Well") in a wasteful manner is prohibited.

(3) Water produced from the Permitted Well must be measured using a water measuring device or method approved by the District that is within plus or minus 10% of accuracy.

(4) The Permitted Well site must be accessible to District representatives for inspection, and Permittee agrees to cooperate fully in any reasonable inspection of the Permitted Well and Permitted Well site by District representatives.

(5) Permittee will use reasonable diligence to protect groundwater quality

(6) Permittee will follow well plugging guidelines at the time of well closure.

(7) The application pursuant to which this permit has been issued is incorporated in this permit by reference, and this permit is granted on the basis of and contingent upon the accuracy of the information provided in that application. A finding that false or inaccurate information has been provided is grounds for revocation of the permit.

(8) Violation of the permit's terms, conditions, requirements, or special provisions, including pumping amounts in excess of authorized withdrawals, may subject the Permittee to enforcement action under District Rules.

(9) Whenever the special conditions in the permit are inconsistent with other provisions of the permit or the District Rules, the special conditions will prevail.

Special conditions:

This Operating Permit is granted subject to the following special conditions:

(1) Within ninety (90) days of the issuance of the Permit, Permittee shall enter into the Monitoring Well System Construction and Maintenance Agreement approved by the District Board (the "Monitoring Well Agreement"). Permittee shall construct, operate, and maintain the New Monitoring Wells and the Existing Monitoring Well, as defined in the Monitoring Well Agreement, in accordance with the terms and provisions of the Monitoring Well Agreement. Any violation of the terms of the Monitoring Well Agreement shall constitute a violation of this Permit.

(2) The authorized annual withdrawal amount under this permit is hereby aggregated with the authorized annual withdrawal amount for the following designated wells: Well No. 5855512 (Well No. 1), Well No. 5855513 (Well No. 2); Well No. 5855216 (Well No. 4); Well No. 5855217 (Well No. 5); Well No. 5855323 (Well No. 6); Well No. 5847809 (Well No. 7); Well No. 5855218 (Well No. 8); Well No. 5847602 (Well No. 9); Well No. 5847303 (Well No. 10); Well No. 5847304 (Well No. 11); Well No. 5848212 (Well No. 12); Well No. 5848121 (Well No. 13); and Well No. 5848122 (Well No. 14). Well No. 5855514 and the designated wells are collectively referred to as the "Aggregated Wells."

(3) Subject to the other terms of this Permit, Permittee is authorized to withdraw an aggregated annual withdrawal amount of up to 46,000 acre-feet per year from the Aggregated Wells as follows:

(a) Phase I. Permittee may not withdraw water from any Aggregated Well until the date that Permittee conveys the Existing Monitoring Well, the New Monitoring Wells and the Monitoring Well Equipment to the District in accordance with the terms and provisions of the Monitoring Well Agreement (the "Phase II Date").

(b) Phase II. If Permittee has a binding contract to provide water to one or more End Users in one or more authorized places of use, then beginning on the Phase II Date, Permittee may withdraw an aggregated annual withdrawal amount equal to the lesser of: (i) the amount of water per year that Permittee has a binding contract to provide; or (ii) 25,000 acre-feet of water per year from the Aggregated Wells (the "Phase II Withdrawal Amount"). If Permittee enters into additional contracts to provide water to one or more End Users after the Phase II Date, then the Phase II Withdrawal Amount will increase to the total amount of water per year that Permittee has binding contracts to provide; provided, however, that the Phase II Withdrawal Amount will never exceed 25,000 acre-feet per year.

(c) Phase III. Permittee may request that the aggregated annual withdrawal amount be increased to an amount not to exceed 36,000 acre-feet of water per year (the "Phase III Withdrawal Amount"), and the General Manager shall grant that request, if and when Permittee submits information to the District demonstrating that:

(i) At least five years have passed since the issuance of the Permit;

(ii) Permittee has withdrawn an aggregate amount of at least 12,500 acre-feet per year from a combination of one or more of the Aggregated Wells for two (2) consecutive twelve calendar month periods;

(iii) the Estimated DFC Year Water Level, as defined in Special Condition (4), is less than the Desired Future Condition for the Simsboro Aquifer in effect when the Permittee submits the information to the General Manager; and

(iv) Permittee has a binding contract to provide the Phase III Withdrawal Amount that Permittee has requested to one or more End Users in one or more authorized places of use.

(d) Phase IV. Permittee may request that the aggregated annual withdrawal amount be increased to an amount not to exceed 46,000 acre-feet per year (the "Phase IV Withdrawal Amount"), and the General Manager shall grant that request, if and when Permittee submits information to the District demonstrating that:

(i) Permittee has withdrawn an aggregate amount of at least 27,000 acre-feet per year from a combination of one or more of the Aggregated Wells for three (3) consecutive twelve calendar months periods;

(ii) the Estimated DFC Year Water Level, as defined in Special Condition (4), is less than the Desired Future Condition for the Simsboro Aquifer in effect when the Permittee submits the information to the General Manager; and

(iii) Permittee has a binding contract to provide the Phase IV Withdrawal Amount that Permittee has requested to one or more End Users in one or more authorized places of use.

(4) For purposes of this Operating Permit, each of the following terms has the following meanings:

(a) "Monitoring Well System" means the monitoring wells used to calculate the Estimated DFC Year Water Level, as defined in this Special Condition (4), and shall consist of the following: (i) the New Monitoring Wells, as defined in the Monitoring Well Agreement, (ii) other existing wells currently monitored by the District, and (iii) other third-party wells that the District may obtain authorization to monitor and include in the System ("Other Monitoring Wells"). Other Monitoring Wells shall only be added to the Monitoring Well System if the District provides written notice to Permittee of the addition of an Other Monitoring Well to the Monitoring Well System and Permittee does not object to the inclusion of that Other Monitoring Well in the Monitoring Well System within 30 days of the date of the notice. If Permittee timely objects to the inclusion of an Other Monitoring Well in the Monitoring Well System, then the General Manager and Permittee will mutually agree upon a registered professional engineer or a certified groundwater professional with expertise in hydrology, hydraulics and hydrogeology to mediate the dispute. If the General Manager and Permittee are unable to resolve the dispute through mediation, then the General Manager may propose the inclusion of the Other Monitoring Well to the Board of Directors for action.

(b) "Annual Water Level" means the measured or interpolated water level in each Monitoring Well in the Monitoring System that best represents the static water level in that Monitoring Well at the end of a calendar year. All water levels shall be determined using scientifically appropriate methodologies.

(c) "Average Water Level" means the average of Annual Water Levels in all Monitoring Wells, as follows:

$$\frac{\text{Sum of Annual Water Levels in Monitoring Wells}}{\text{Number of Monitoring Wells}} = \text{Average Measured Water Level}$$

(d) "Annual Drawdown" means the change in the Average Measured Water Level between January 1 of a calendar year and January 1 of the previous calendar year, calculated as follows:

$$\text{Average Water Level} - \text{prior year Annual Water Level} = \text{Annual Drawdown}$$

(e) "Rate of Change" means the Annual Drawdown on January 1 of a calendar year divided by the Total Production in the previous calendar year/

(f) "Total Production" means the actual reported withdrawals from the Simsboro Aquifer from permitted wells within the District in a calendar year plus the Estimated Simsboro Exempt Well Production for the same calendar year.

(g) "Estimated Exempt Well Production" means 1,143.21 acre-feet per year in 2015, 1,143.21 acre-feet plus 15.14 acre-feet per year for each year after 2015, and 1,976.06 acre-feet per year in 2070.

(h) "Average Rate of Change" means the average of the Rates of Change for each calendar year beginning in 2011 and ending the calendar year before Permittee submits the documentation described in Special Conditions (3)(c) or (d) of the Operating Permits, as follows:

$$\frac{\text{Sum of Rate of Change for past years beginning in 2011}}{\text{Number of past years}} = \text{Average Rate of Change}$$

(i) "Estimated DFC Year Water Level" means the projected water level for the year identified in the then-current Desired Future Condition for the Simsboro Aquifer, calculated by subtracting the Estimated Future Drawdown from the Average Water Level for the calendar year before Permittee submits the documentation described in Special Conditions (3)(c) or (d) of the Operating Permits, as follows:

$$\text{Average Water Level in prior year} - \text{Estimated Future Drawdown} = \text{Estimated DFC Year Water Level}$$

(j) "Estimated Future Drawdown" means the sum of the Estimated Annual Drawdowns for each year beginning in the year in which Permittee submits the documentation described in Special Conditions 3(c) or (d) of the Operating Permit and ending in year identified in the then-current Desired Future Condition for the Simsboro Aquifer.

(k) "Estimated Annual Drawdown" means the Average Rate of Change times the Estimated Existing Well Production plus the Current Phase Withdrawal and the Next Phase Withdrawal for a calendar year, as follows:

Estimated Existing Well Production + Current Phase Withdrawal + Next Phase Withdrawal
x Average Rate of Change = Estimated Annual Drawdown

- (l) "Estimated Existing Well Production" means:
 - (i) 20,298 acre-feet per year from January 1, 2010 to December 31, 2019;
 - (ii) 28,184 acre-feet per year from January 1, 2020 to December 31, 2029;
 - (iii) 31,240 acre-feet per year from January 1, 2030 to December 31, 2039;
 - (iv) 34,295 acre-feet per year from January 1, 2040 to December 31, 2049;
 - (v) 37,361 acre-feet per year in from January 1, 2050 to December 31, 2059;
 - (vi) 40,406 acre-feet per year from January 1, 2060 to December 31, 2069.

(m) "Current Phase Authorized Withdrawal" means the amount of groundwater authorized to be withdrawn in the current phase under the Operating Permit.

(n) "Next Phase Authorized Withdrawal" means the additional amount that Permittee has requested it be authorized to withdraw in the next phase under the Operating Permit.

(5) The General Manager may approve a weighted average methodology for calculating the Average Water Level or Average Rate of Change if the new methodology is supported by data gathered by the Monitoring Well System.

(6) If Permittee submits information that Permittee claims demonstrates that the conditions for increasing groundwater withdrawal to the Phase III Withdrawal Amount or the Phase IV Withdrawal Amount have been met, then, within 60 days of receipt of the information, the General Manager will notify Permittee, in writing, if the General Manager has determined that the required conditions have been met or if the General Manager disputes that the desired conditions have been met. If the General Manager disputes that the required conditions have been met, the General Manager shall supply the information data and analysis supporting his determination with his written notice. If the General Manager and the Permittee are unable to agree within 60 days of receipt of the information provided by the General Manager disputing that the required conditions have been met, then the General Manager and Permittee will mutually agree upon a registered professional engineer or a certified groundwater professional with expertise in hydrology, hydraulics and hydrogeology to mediate the dispute. If the General Manager and Permittee are unable to resolve the dispute through mediation, Permittee may request a contested case hearing as provided in the District Rules and the Texas Water Code to resolve the dispute. Permittee and the General Manager shall be the sole parties to the contested case hearing.

(7) If the Permittee files an application to renew the Permit, then the General Manager and Permittee shall evaluate the methodology for determining the Estimated DFC Year Water Level described in Special Conditions (3), (4) and (5) based on data collected prior to the date of the application to renew and jointly propose revisions to the Permit based on that

data. If the General Manager and the Permittee are unable to agree to joint proposed revisions within sixty (60) days of the date that the application to renew is filed, then the General Manager and Permittee will mutually agree upon a registered professional engineer or a certified groundwater professional with expertise in hydrology, hydraulics and hydrogeology to mediate the dispute. If the General Manager and Permittee are unable to resolve the dispute through mediation, then the General Manager may propose revisions to the Permit as provided in District Rules.

(8) Beginning no later than the fifth (5th) anniversary of the date of the Phase II Date, Permittee shall have a binding contract or contracts to provide water to one or more End Users in one or more authorized places of use. If Permittee does not have any binding contracts before the fifth (5th) anniversary of the Phase II Date, the permit expires on the 5th anniversary of the Phase II Date.

(9) Before providing water withdrawn from the Aggregated Wells to any End User, Permittee shall submit to the District: (a) each End User's water conservation plan and drought contingency plan, if the Texas Water Code or Texas Commission on Environmental Quality rules require the End User to prepare a water conservation plan and drought contingency plan; or (b) if the Texas Water Code or Texas Commission on Environmental Quality rules do not require the End User to prepare a water conservation plan and drought contingency plan, a certification from the End User that the End User agrees to avoid waste and achieve water conservation. Any End User water conservation plans and drought contingency plans that are submitted must comply with the relevant provisions of the Texas Water Code and rules of the Texas Commission on Environmental Quality or successor agency.

(10) Permittee shall pay Aqua Water Supply Corporation ("Aqua WSC") \$15.00 per acre-foot of groundwater actually produced by Permittee's Wells into a fund created by Aqua Water Supply Corporation ("Aqua's Mitigation Fund") within 20 calendar days of the end of the calendar month during which Permittee produced the groundwater. If the payment is late, a late payment penalty of five percent (5%) of the monthly payment that is overdue shall be imposed and shall be due to Aqua WSC in the immediately following month. If payment has not been received 15 (fifteen) calendar days after the payment is due, interest of twelve percent (12%) compounded annually shall accrue and be due on the balance of the late payment that is due. The dollar (\$) per-acre-foot rate applicable to calculate the payment due from Permittee to Aqua's Mitigation Fund shall be increased each January based on the Consumer Price Index-South Urban Region. Permittee's obligation to make payments into Aqua's Mitigation Fund begins when Permittee's Wells commence production and ends at the earlier of twenty (20) years or when the total contributions to Aqua's Mitigation Fund equals \$15,000,000.00. If the Operating Permits for all of Permittee's Wells are not renewed or extended, Permittee's obligation to pay into Aqua's Mitigation Fund ends when production of groundwater from all of Permittee's Wells ceases.

(11) Permittee's failure to make payments into Aqua's Mitigation Fund, as provided in Special Condition (10), is a violation of this Permit.

(12) Permittee shall create a fund that is administered by a third party for the benefit of all landowners or persons or entities with an ownership interest in the Simsboro aquifer who have demonstrated an adverse impact on and potential increased costs for groundwater wells existing as of the date of issuance of this Permit caused, at least in part, by production from Permittee's Wells (the "General Mitigation Fund"). Permittee shall pay \$5.00 per acre-foot for groundwater actually produced by Permittee's Wells into the General Mitigation Fund within 20 calendar days of the end of the calendar month during which Permittee produced the groundwater. If the payment is late, a late payment penalty of five percent (5%) of the monthly payment that is overdue shall be imposed and shall be due in the immediately following month. If payment has not been received 15 (fifteen) calendar days after the payment is due, interest of twelve percent (12%) compounded annually shall accrue and be due on the balance of the late payment that is due. The dollar (\$) per-acre-foot rate applicable to calculate the payment due from Permittee to the General Mitigation Fund shall be increased each January based on the Consumer Price Index-South Urban Region. Permittee's obligation to make payments into the General Mitigation Fund begins when Permittee's Wells commence production and ends at the earlier of twenty (20) years or when total contributions to the fund equals \$3,750,000.00. If the Operating Permits for all of Permittee's Wells are not renewed or extended, Permittee's obligation to pay into the General Mitigation Fund ends when production from all of Permittee's Wells ceases.

(13) Permittee's failure to make payments into the General Mitigation Fund, as provided in Special Condition (12), is a violation of this Permit.

(14) Permittee may not complete any Aggregated Well authorized to be completed in Bastrop County until Permittee has completed and operated at least four wells in Lee County.

(15) This Permit is issued subject to any future production limits adopted by the District under the District Rules that apply within the District or within the applicable management zone.

(16) This Permit is not subject to the District's rules on time limits for the completion of a permitted well or the operation of a permitted well.

(17) Production Fees charge to Permittee under this Permit shall be based upon amounts authorized to be produced under this Permit at the time that Production Fees are due.

(18) Subject to meeting all other terms of this Operating Permit, Permittee may request, and the General Manager shall approve, a change in the place of use.

Term:

(1) The District may terminate this Permit if the District gives written notice to Permittee that the District has received an application for an Operating Permit for a well whose location would violate District spacing requirements because of that well's distance from the Permitted Well, and Permittee fails to provide the District with a signed and notarized waiver stating that Permittee does not object to the location of the proposed well within thirty (30) days of the date of such notice.

(2) This Operating Permit shall be effective for a period of five (5) years from the effective date, which shall be January 1, 2017, unless terminated, amended or revoked as provided in the District Rules.

Acceptance of this Permit by the Permittee constitutes acknowledgment and agreement to comply with all of the terms, provisions, conditions, and restrictions stated in the Permit and the rules of the Lost Pines Groundwater Conservation District.

ISSUED:

Michael E. LaFol
President, Lost Pines Groundwater
Conservation District Board of Directors
Date: 9-21-16

**LOST PINES GROUNDWATER CONSERVATION DISTRICT
TRANSPORT PERMIT**

District Well Number: 5855514

Permit Approved: September 7, 2016

Permittee:

End Op, L.P.
9430 Research Blvd, Suite 350
Austin, TX 78759

Location of Well: approximately 1.9 miles north of the intersection of State Highway 21 and County Road 359 in Bastrop County (W097°10'36" N30°12'23"), Well No. 3

Permittee is authorized to transfer water produced from Well No. 5855514 outside the boundaries of the Lost Pines Groundwater Conservation District under the following conditions:

Maximum annual transfer amount: an aggregated annual amount of not more than 46,000 acre-feet per year from Well No. 5855512 (Well No. 1) Well No. 5855513 (Well No. 2); Well No. 5855514 (Well No. 3); Well No. 5855216 (Well No. 4); Well No. 5855217 (Well No. 5); Well No. 5855323 (Well No. 6); Well No. 5847809 (Well No. 7); Well No. 5855218 (Well No. 8); Well No. 5847602 (Well No. 9); Well No. 5847303 (Well No. 10); Well No. 5847304 (Well No. 11); Well No. 5848212 (Well No. 12); Well No. 5848121 (Well No. 13); and Well No. 5848122 (Well No. 14), subject to the terms and conditions of the Operating Permits for those wells.

Type of water use: Municipal

Place of water use: Hays, Travis and Williamson Counties

Standard Permit provisions:

This Transport Permit is granted subject to the District Rules, the orders of the Board, the District Management Plan, and Chapter 36 of the Texas Water Code. In addition to any well-specific permit provisions and special conditions included in this Transport Permit, this Transport Permit includes the following provision:

- (1) Water withdrawn under the permit must be put to beneficial use at all times, and operation of the permitted well in a wasteful manner is prohibited.

Term:

- (1) The term of this Transport Permit shall be three years if construction of a conveyance system has not been initiated prior to the issuance of the permit.
- (2) The term of this Transport Permit shall be thirty (30) years if construction of a conveyance system has been initiated prior to the issuance of the permit.
- (3) A three-year term under subsection (1) shall automatically be extended to a 30-year term under subsection (2) if construction of a conveyance system is begun before the expiration of the initial three-year term.

Acceptance of this permit by the Permittee constitutes acknowledgment and agreement to comply with all of the terms, provisions, conditions, and restrictions stated in the permit and the rules of the Lost Pines Groundwater Conservation District.

ISSUED:

Michael H. Lee

President, Lost Pines Groundwater District
Board of Directors

Date: 9-21-16

REVISED DRAFT PERMIT FOR CONSIDERATION – JULY 26, 2019

**LOST PINES GROUNDWATER CONSERVATION DISTRICT
OPERATING PERMIT**

District Well Number: 58-55-5-0032

Permit Approved: _____

Permittee:

Lower Colorado River Authority (LCRA)
P.O. Box 220
Austin, Texas 78767-0220

Location of Well: Approximately eight (8) miles northeast of the City of Bastrop in Bastrop County (30.202285/-97.207107), Well No. 1

Permittee is authorized to operate Well No. 58-55-5-0032 within the Lost Pines Groundwater Conservation District under the following conditions:

Authorized annual withdrawal: See Special Conditions

Maximum rate of withdrawal: See Special Conditions

Aquifer unit: Simsboro

Type of water use: Municipal, Industrial, Recreational, Irrigation, and Agricultural

Place of water use: LCRA Water Service Area

Standard Permit Provisions:

This Operating Permit is granted subject to the District Rules, the orders of the Board, the District Management Plan, and Chapter 36 of the Texas Water Code. In addition to any well-specific permit provisions and special conditions included in this Operating Permit, this Operating Permit includes the following provisions:

(1) This permit is granted in accordance with District Rules, and acceptance of this permit constitutes an acknowledgement and agreement that Permittee will comply with the terms, conditions, and limitations set forth in this permit, the District rules, the orders of the Board, and the District Management Plan.

(2) Water withdrawn under the permit must be put to beneficial use at all times, and operation of the permitted well in a wasteful manner is prohibited.

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(3) Water produced from the well must be measured using a water measuring device or method approved by the District that is within plus or minus 10% of accuracy.

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

(5) Permittee will use reasonable diligence to protect groundwater quality.

(6) Permittee will follow well plugging guidelines at the time of well closure.

(7) The application pursuant to which this permit has been issued is incorporated in this permit by reference, and this permit is granted on the basis of and contingent upon the accuracy of the information provided in that application. A finding that false or inaccurate information has been provided is grounds for revocation of the permit.

(8) Violation of the permit's terms, conditions, requirements, or special provisions, including pumping amounts in excess of authorized withdrawals, may subject the permittee to enforcement action under District Rules.

(9) Whenever the special conditions in the permit are inconsistent with other provisions of the permit or the District Rules, the special condition will prevail.

Special Conditions:

This Operating Permit is granted subject to the following special conditions:

(1) Within ~~ninety-one~~ one hundred and eighty (180) days of the issuance of the Permit, Permittee shall enter into ~~at the~~ Monitoring Well System Construction and Maintenance Agreement approved by the District Board (the "Monitoring Well Agreement"). Permittee shall construct, operate, and maintain the New Monitoring Wells and the Existing Monitoring Well, ~~as defined in the Monitoring Well Agreement,~~ in accordance with the terms and provisions of ~~the a~~ Monitoring Well Agreement. Any violation of the terms of the Monitoring Well Agreement shall constitute a violation of this Permit.

(2) The authorized annual withdrawal amount and the authorized maximum rate of withdrawal under this permit for Well No. 58-55-5-0032 are hereby aggregated with the authorized annual withdrawal amount and the authorized maximum rate of withdrawal for the following designated wells: Well No. 58-55-5-0033 (Well No. 2); Well No. 58-55-4-0016 (Well No. 3); Well No. 58-55-4-0017 (Well No. 4); Well No. 58-55-4-0018 (Well No. 5); Well No. 58-55-4-0019 (Well No. 6); Well No. 58-55-4-0020 (Well No. 7); and Well No. 58-55-4-0021 (Well No. 8). Well No. 58-55-5-0032 and the designated wells are collectively referred to as the "Aggregated Wells."

REVISED DRAFT PERMIT FOR CONSIDERATION – JULY 26, 2019

(3) Subject to the other terms of this Permit, Permittee is authorized to withdraw an aggregated annual withdrawal amount of up to 25,000 acre-feet per year from the Aggregated Wells with an aggregated maximum rate of withdrawal of 18,000 gallons per minute for the Aggregated Wells as follows:

(a) Phase I. Permittee may not withdraw water from any Aggregated Well until the date that Permittee ~~conveys the Existing Monitoring Well, the New Monitoring Wells and the Monitoring Well Equipment to the District in accordance~~ has added New Monitoring Wells that the District agrees are necessary before Permittee may increase its pumping under Phase II and has complied with the terms and provisions of the ~~a~~ Monitoring Well Agreement (the "Phase II Date").

(b) Phase II. If Permittee has a binding contract to provide water to one or more End Users in one or more authorized places of use, then beginning on the Phase II Date, Permittee may withdraw an aggregated annual withdrawal amount from Well Nos. 7 and 8 equal to the lesser of: (i) the amount of water per year that Permittee has a binding contract to provide; or (ii) 8,000 acre-feet of water per year from the Aggregated Wells ~~(the "Phase II Withdrawal Amount")~~. An authorized aggregated maximum rate of withdrawal of 6,000 gallons per minute for Well Nos. 7 and 8 shall apply in this phase ~~(the "Phase II Maximum Rate of Withdrawal")~~. "End User" shall be defined, consistent with the District Rules as the person or entity that makes beneficial use of the water withdrawn from a well, including, but not limited to, an agricultural user, industrial user, mining user, municipal user, or Retail Public Water Utility. End User does not include the retail customers of a retail public utility. For any agricultural commitments, LCRA shall be the End User.

(c) Phase III. Permittee may request that the aggregated annual withdrawal amount be increased to an amount not to exceed 15,000 acre-feet of water per year from Well Nos. 5, 6, 7 and 8 (the "Phase III Withdrawal Amount"), with an authorized aggregated maximum rate of withdrawal of 10,000 gallons per minute for Well Nos. 5, 6, 7 and 8 ~~(the "Phase III Maximum Rate of Withdrawal")~~, and the General Manager shall grant that request, if and when Permittee submits information to the District demonstrating that:

(i) At least three years have passed since the issuance of the Permit;

(ii) Permittee has withdrawn an aggregate amount of at least ~~48,000~~ 48,000 acre-feet per year from a combination of one or more of the Aggregated Wells ~~for~~ during two (2) consecutive twelve calendar month periods;

(iii) the Estimated DFC Year Water Level, ~~as defined in the Monitoring Well Agreement,~~ is less than the Desired Future Condition for the Simsboro Aquifer in effect when the Permittee submits the information to the General Manager; and

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(iv) Permittee has a binding contract to provide the Phase III Withdrawal Amount that Permittee has requested to one or more End Users in one or more authorized places of use.

(d) Phase IV. Permittee may request that the aggregated annual withdrawal amount be increased to an amount not to exceed 25,000 acre-feet per year from Well Nos. 1, 2, 3, 4, 5, 6, 7 and 8 (the “Phase IV Withdrawal Amount”), with an authorized aggregated maximum rate of withdrawal of 18,000 gallons per minute for Well Nos. 1, 2, 3, 4, 5, 6, 7 and 8 ~~(the “Phase IV Maximum Rate of Withdrawal”)~~, and the General Manager shall grant that request, if and when Permittee submits information to the District demonstrating that:

(i) Permittee has withdrawn an aggregate amount of at least ~~15,000~~11,250 acre-feet per year from a combination of one or more of the Aggregated Wells ~~for during~~ three (3) consecutive twelve calendar months periods;

(ii) the Estimated DFC Year Water Level, ~~as defined in the Monitoring Well Agreement,~~ is less than the Desired Future Condition for the Simsboro Aquifer in effect when the Permittee submits the information to the General Manager; and

(iii) Permittee has a binding contract to provide the Phase IV Withdrawal Amount that Permittee has requested to one or more End Users in one or more authorized places of use.

(4) For purposes of this Operating Permit, each of the following terms has the following meanings:

(a) “Monitoring Well System” means the monitoring wells used to calculate the Estimated DFC Year Water Level, as defined in this Special Condition (4), and shall consist of the New Monitoring Wells, as defined in the Monitoring Well Agreement. Monitoring Well System may consist of any current or future District monitoring wells or third-party wells used for Desired Future Condition compliance district-wide, county-wide or for any applicable existing or future District management zone.

(b) “Annual Static Water Level” means the measured water level in each Monitoring Well in the Monitoring Well System that best represents the static water level in that Monitoring Well at the end of a calendar year. All water levels shall be determined using scientifically appropriate methodologies.

(c) “Average Annual Static Water Level” means the average of Annual Static Water Levels in all Monitoring Wells, as follows:

Average Annual Static Water Level = Sum of Annual Static Water Levels in Monitoring Wells / Number of Monitoring Wells

(d) “Annual Drawdown” in each Monitoring Well means subtracting the Annual Static Water Level for the Monitoring Well at the end of the calendar year from the Annual Static Water Level for that Monitoring Well at the end of the previous calendar year, as follows:

Annual Drawdown = Annual Static Water Level for the Monitoring Well at the end of the previous calendar year - Annual Static Water Level for the Monitoring Well at the end of a current calendar year

(e) “Average Annual Drawdown” means the average of the Annual Drawdowns for all wells in the Monitoring Well System for which Annual Drawdowns were able to be calculated for that calendar year.

(f) “Rate of Change” means the Average Annual Drawdown during a calendar year divided by the Total Production in that calendar year, as follows:

Rate of Change = Average Annual Drawdown during one calendar year / Total Production from that calendar year

(g) “Total Production” means the actual reported withdrawals from the Simsboro Aquifer from permitted wells within the District in a calendar year plus the Estimated Simsboro Exempt Well Production for the same calendar year.

(h) “Estimated Simsboro Exempt Well Production” means 1,143.21 acre-feet per year in 2015, 1,143.21 acre-feet plus 15.14 acre-feet per year for each year after 2015, and 1,976.06 acre-feet per year in 2070. The General Manager may update the Estimated Simsboro Exempt Well Production if additional data allows for a more accurate accounting of exempt use estimates.

(i) “Average Rate of Change” means the average of the Rates of Change for each calendar year beginning in 2011 and ending the calendar year before Permittee submits the documentation described in Special Conditions (3)(c) or (d) of the Operating Permits, as follows:

Average Rate of Change = Sum of Rate of Change for past years beginning in 2011 / Number of past years

(j) “Estimated DFC Year Water Level” means the projected water level for the year identified in the then-current Desired Future Condition statement for the Simsboro Aquifer, calculated by subtracting the Estimated Future Drawdown from the Annual Static Water Level for the calendar year before Permittee submits the

REVISED DRAFT PERMIT FOR CONSIDERATION – JULY 26, 2019

documentation described in Special Conditions (3)(c) or (d) of the Operating Permits, as follows:

Estimated DFC Year Water Level = Average Measured Water Level in prior year - Estimated Future Drawdown

The Estimated DFC Year Water Level applies to the Permittee and the terms of this Permit. It does not apply to the District's determination of Desired Future Condition compliance district-wide, county-wide or for any applicable existing or future District management zone.

(k) "Estimated Future Drawdown" means the sum of the Estimated Annual Drawdowns for each year beginning in the year in which Permittee submits the documentation described in Special Conditions 3(c) or (d) of the Operating Permit and ending in year identified in the then-current Desired Future Condition for the Simsboro Aquifer.

(l) "Estimated Annual Drawdown" means the Average Rate of Change times the Estimated Existing Well Production plus the Current Phase Authorized Withdrawal and the Next Phase Authorized Withdrawal for a calendar year, as follows:

Estimated Annual Drawdown = (Estimated Existing Well Production + Current Phase Authorized Withdrawal + Next Phase Authorized Withdrawal) x (Average Rate of Change)

(m) "Estimated Existing Well Production" is based on the Texas Water Development Board's Modeled Available Groundwater for the District and means:

- (i) 8,508 acre-feet per year from January 1, 2010 to December 31, 2019;
- (ii) 14,253 acre-feet per year from January 1, 2020 to December 31, 2029;
- (iii) 15,673 acre-feet per year from January 1, 2030 to December 31, 2039;
- (iv) 16,311 acre-feet per year from January 1, 2040 to December 31, 2049;
- (v) 17,334 acre-feet per year from January 1, 2050 to December 31, 2059;
- (vi) 16,279 acre-feet per year from January 1, 2060 to December 31, 2069.

(n) "Current Phase Authorized Withdrawal" means the amount of groundwater authorized to be withdrawn in the current phase under the Operating Permit.

(o) "Next Phase Authorized Withdrawal" means the additional amount that Permittee has requested it be authorized to withdraw in the next phase under the Operating Permit.

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(5) The General Manager may approve a weighted average methodology for calculating the Average Annual Static Water Level or Average Rate of Change if the new methodology is supported by data gathered by the Monitoring Well System.

(6) If Permittee submits information that Permittee claims demonstrates that the conditions for increasing groundwater withdrawal to the Phase III Withdrawal Amount or the Phase IV Withdrawal Amount have been met, then, within 60 days of receipt of the information, the General Manager will notify Permittee, in writing, if the General Manager has determined that the required conditions have been met or if the General Manager disputes that the desired conditions have been met. If the General Manager disputes that the required conditions have been met, the General Manager shall supply the information and analysis supporting his determination with his written notice. If the General Manager and the Permittee are unable to agree within 60 days of receipt of the information provided by the General Manager disputing that the required conditions have been met, then the General Manager and Permittee will mutually agree upon a registered professional engineer or a certified groundwater professional with expertise in hydrology, hydraulics and hydrogeology to mediate the dispute. If the General Manager and Permittee are unable to resolve the dispute through mediation, Permittee may request a contested case hearing as provided in the District Rules and the Texas Water Code to resolve the dispute. Permittee and the General Manager shall be the sole parties to the contested case hearing.

(7) If the Permittee files an application to renew the Permit, then the General Manager and Permittee shall evaluate the methodology for determining the Estimated DFC Year Water Level described in Special Conditions (3) and (4) based on data collected prior to the date of the application to renew and jointly propose revisions to the Permit based on that data. If the General Manager and the Permittee are unable to agree to joint proposed revisions within sixty (60) days of the date that the application to renew is filed, then the General Manager and Permittee will mutually agree upon a registered professional engineer or a certified groundwater professional with expertise in hydrology, hydraulics and hydrogeology to mediate the dispute. If the General Manager and Permittee are unable to resolve the dispute through mediation, then the General Manager may propose revisions to the Permit as provided in District Rules.

(8) Beginning no later than the fifth (5th) anniversary of the date of the Phase II Date, Permittee shall have a binding contract or contracts to provide water to one or more End Users in one or more authorized places of use. If Permittee does not have any binding contracts before the fifth (5th) anniversary of the Phase II Date, the permit expires on the 5th anniversary of the Phase II Date.

(9) Before providing water withdrawn from the Aggregated Wells to any End User, Permittee shall submit to the District: (a) each End User's water conservation plan and drought contingency plan, if the Texas Water Code or Texas Commission on Environmental Quality rules require the End User to prepare a water conservation plan and drought contingency plan; or (b)

REVISED DRAFT PERMIT FOR CONSIDERATION – JULY 26, 2019

if the Texas Water Code or Texas Commission on Environmental Quality rules do not require the End User to prepare a water conservation plan and drought contingency plan, a certification from the End User that the End User agrees to avoid waste and achieve water conservation. Any End User water conservation plans and drought contingency plans that are submitted must comply with the relevant provisions of the Texas Water Code and rules of the Texas Commission on Environmental Quality or successor agency.

(10) This Permit is not subject to the District's rules on time limits for the completion of a permitted well or the operation of a permitted well.

(11) This permit is issued subject to any future production limits adopted by the District under the District Rules.

(12) Production Fees charged to Permittee under this Permit shall be based upon amounts authorized to be produced under this Permit at the time that Production Fees are due.

(13) Permittee is subject to the District Rules that require that all wells be completed within 100 feet of the location identified on the application pursuant to which this permit has been issued; provided that the well location complies with the applicable well spacing requirements under the District Rule 8.2.B.

(14) Prior to operation of any of the Aggregated Wells, Permittee shall complete a 36-hour pump test that complies with District Rule 5.1.B(5) and report the results of the test to the District.

(a) Permittee shall produce groundwater from the well at an instantaneous rate of withdrawal at the Maximum Rate of Withdrawal for each phase in Special Condition No. 3 during the 36-hour pump test for each well.

(b) Permittee shall provide the District with not less than 75 days' prior notice of the date the 36-hour pump test will begin.

(c) Permittee shall pay all costs of the 36-hour pump test.

(d) Within ninety (90) days of the completion of the 36-hour pump test, Permittee shall provide the data gathered at any of the Aggregated Wells tested during the pump test to the General Manager.

(e) The General Manager will review the results of the 36-hour pump test to determine if the authorized~~permitted~~ maximum rate of withdrawal results in any adverse impacts to groundwater or the Simsboro Aquifer. If the pump test results indicate aquifer parameters that result in unanticipated impacts on water levels in nearby wells that are materially different than the model predictions, then the General Manager may reduce the authorized maximum rate of withdrawal under this permit.

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The General Manager will mail notice of his decision to reduce the authorized maximum rate of withdrawal or not to reduce the authorized maximum rate of withdrawal to Permittee no later than the 90th day after receipt of the information described in subsection (d).

(f) Permittee may appeal the General Manager's decision under subsection (e) to the Board under the District Rules.

(15) This permit is issued subject to the General Manager's final approval of the total depth of the well, the depth of the screened interval, and the pump size of the completed well. Prior to operation of the well, Permittee must provide the General Manager with the design specifications, including the total depth of the well, the depth of the screened interval, and the pump size, for the completed well within thirty (30) days of completion of the well. The General Manager may administratively approve the design specifications so long as the specifications are in accordance with those provided in the permit application without notice or a hearing if the design amendments do not trigger notice or a hearing under District Rules 7.2 or 7.3.

(16) If the District gives written notice to Permittee that the District has received an application for an Operating Permit for a well whose location would violate District spacing requirements because of that well's distance from the Permitted Well, the Permittee shall have an opportunity to request a contested case hearing on that application in accordance with the District Rules. If the Permittee does not object to the location of the proposed well, Permittee must provide the District with a signed and notarized waiver stating that Permittee does not object to the location of the proposed well within thirty (30) days of the date of such notice. If no contested case hearing request or waiver is received, the District may take action to authorize an application for an Operating Permit for a well whose location would violate District spacing requirements because of that well's distance from the Permitted Well.

Term:

(1) This Operating Permit shall be effective for a period of five (5) years from the date the permit is approved, unless terminated, amended, renewed, or revoked as provided in the District Rules.

Acceptance of this permit by the Permittee constitutes acknowledgment and agreement to comply with all of the terms, provisions, conditions, and restrictions stated in the permit and the rules of the Lost Pines Groundwater Conservation District.

ISSUED:

President, Lost Pines Groundwater
Conservation District Board of Directors

REVISED DRAFT PERMIT FOR CONSIDERATION – JULY 26, 2019

Date: _____

**LOST PINES GROUNDWATER CONSERVATION DISTRICT
TRANSPORT PERMIT**

District Well Number: 58-55-5-0032

Permit Approved: _____

Permittee:

Lower Colorado River Authority (LCRA)
P.O. Box 220
Austin, Texas 78767-0220

Location of Well: Approximately eight (8) miles northeast of the City of Bastrop in Bastrop County (30.202285/-97.207107), Well No. 1

Permittee is authorized to transfer water produced from Well No. 58-55-5-0032 outside the boundaries of the Lost Pines Groundwater Conservation District under the following conditions:

Maximum annual transfer amount: An aggregated annual amount of not more than 25,000 acre-feet per year from Well No. 58-55-5-0032 (Well No. 1); Well No. 58-55-5-0033 (Well No. 2); Well No. 58-55-4-0016 (Well No. 3); Well No. 58-55-4-0017 (Well No. 4); Well No. 58-55-4-0018 (Well No. 5); Well No. 58-55-4-0019 (Well No. 6); Well No. 58-55-4-0020 (Well No. 7); and Well No. 58-55-4-0021 (Well No. 8), subject to the terms and conditions of the Operating Permits for those wells.

Type of water use: Municipal, Industrial, Recreational, Irrigation, and Agricultural

Place of water use: LCRA Water Service Area

Standard Permit provisions:

This Transport Permit is granted subject to the District Rules, the orders of the Board, the District Management Plan, and Chapter 36 of the Texas Water Code. In addition to any well-specific permit provisions and special conditions included in this Transport Permit, this Transport Permit includes the following provision:

- (1) Water withdrawn and transported under the permit must be put to beneficial use at all times, and operation of the permitted well in a wasteful manner is prohibited.

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Special Permit provisions:

(1) Water withdrawn and transported under the permit must be put to beneficial use at all times, and may not be transported pursuant to a bed and banks permit nor discharged to any surface water, as defined by Section 11.021 of the Texas Water Code, as amended (e.g., a stream, river, or lake).

Term:

(1) The term of this Transport Permit shall be three (3) years if construction of a conveyance system has not been initiated prior to the issuance of the permit.

(2) The term of this Transport Permit shall be thirty (30) years if construction of a conveyance system has been initiated prior to the issuance of the permit.

(3) A three-year term under subsection (1) shall automatically be extended to a 30-year term under subsection (2) if construction of a conveyance system is begun before the expiration of the initial three-year term.

Acceptance of this permit by the Permittee constitutes acknowledgment and agreement to comply with all of the terms, provisions, conditions, and restrictions stated in the permit and the rules of the Lost Pines Groundwater Conservation District.

ISSUED:

President, Lost Pines Groundwater District
Board of Directors

Date: _____

GM EXHIBIT 8**SOAH DOCKET NO. 952-13-5210**

APPLICATIONS OF END OP, L.P. FOR	§	BEFORE THE STATE OFFICE
WELL REGISTRATION, OPERATING	§	OF
PERMITS AND TRANSFER PERMITS	§	ADMINISTRATIVE HEARINGS

END OP, L.P.'S AND AQUA WATER SUPPLY CORPORATION'S
AGREED STIPULATIONS

End Op, L.P. ("End Op") and Aqua Water Supply Corporation ("Aqua") file these Agreed Stipulations, and would show as follows:

I. Factual Background

1. In July 2007, End Op, L.P. ("End Op") filed applications for operating and transfer permits with the Lost Pines Groundwater Conservation District (the "District") for fourteen (14) wells seeking to withdraw an aggregate of 56,000 acre-feet of groundwater per year from the Sinsboro aquifer to be used for public water supply purposes in Travis and Williamson Counties ("Applications").
2. On March 18, 2013, the District deemed End Op's Applications administratively complete.
3. Based upon the Applications and all supporting information, on March 20, 2013, the District's General Manager recommended that the District grant End Op's Applications under the terms and conditions set out in the draft operating and transfer permits provided and recommended by the General Manager.
4. In April 2013, Aqua filed a protest against and requested a contested case hearing on End Op's Applications. On April 18, 2013, a public hearing was held on End Op's Applications.
5. Per End Op's request in May 2013, the District contracted with SOAH to conduct the contested case hearing requested by Aqua on End Op's Applications that is the subject of this proceeding.

6. In order to resolve issues raised by Aqua in its protest specifically concerning potential adverse impacts to Aqua, End Op and Aqua (collectively, the "Parties") executed a settlement agreement on December 16, 2013 ("Settlement Agreement"), that, among other things, required the Parties to: (1) file before the hearing on the merits on February 11-14, 2014 ("Hearing on the Merits") agreed stipulations and exhibits reflecting the Parties' different conclusions concerning the impacts, if any, on Aqua's permits, groundwater wells, and water utility infrastructure that could potentially result from pumping associated with End Op's permits, if granted in whole or in part; and (2) present proposed permit conditions that Aqua agrees, if included in End Op's permits, would sufficiently mitigate any potential impacts on Aqua and other users of the same aquifer and address Aqua's alleged financial impacts of long term pumping by End Op.
7. On December 18, 2013, and pursuant to Order No. 2 and the Settlement Agreement, End Op filed its direct case including all pre-filed testimony, exhibits, and proposed order of witnesses. The material evidence and exhibits filed by End Op on December 18, 2013, included evidence addressing the impacts, if any, on Aqua's permits, wells, and water utility infrastructure that could potentially result from pumping associated with End Op's permits, if granted in whole or in part.
8. On January 10, 2014, and pursuant to Order No. 2 and the Settlement Agreement, Aqua filed pre-filed testimony and exhibits demonstrating what Aqua considers to be the impacts on Aqua's permits, groundwater wells, and water utility infrastructure that could potentially result from pumping associated with End Op's permits, if granted in whole or in part.
9. On January 23, 2014, per the parties' request, a status conference was held at which the Parties provided the Administrative Law Judge ("ALJ") with a copy of the Settlement Agreement and explained the terms of the Settlement Agreement. Specifically, the Parties described how the Settlement Agreement streamlined the process for introducing evidence on

potential impacts associated with End Op's proposed pumping, committed the Parties to waive cross-examination of each other's witnesses and how agreed stipulations would propose agreed permit conditions that Aqua agrees will address any potential impacts on Aqua's permits, wells, and water utility infrastructure. The ALJ ordered End Op and Aqua to file their agreed stipulations and agreed proposed permit conditions no later than February 4, 2013.

II. Agreed Stipulations

10. The document attached as Exhibit A is a true and correct copy of the Settlement Agreement.

11. The pre-filed testimony, exhibits, and witness list filed by End Op on December 18, 2013, include the following:

- a. Applicant End Op L.P.'s Exhibit List and exhibits 1-41 attached thereto;
- b. the Declaration of Stacey V. Reese;
- c. the Affidavit of Michael R. Keester;
- d. the Affidavit of Timothy E. Haynie;
- e. the Direct Expert Testimony and referenced attachments of Michael R. Keester;
- f. the Direct Testimony and referenced attachments of Timothy E. Haynie; and
- g. Applicant End Op, L.P.'s Witness List.

12. End Op's evidence demonstrating what End Op considers to be the impacts, if any, on Aqua's permits, groundwater wells, and water utility infrastructure that could potentially result from pumping associated with End Op's permits, if granted in whole or in part, is contained within the above referenced pre-filed testimony and exhibits filed on December 18, 2013.

13. The pre-filed testimony, exhibits, and witness list filed by Aqua on January 10, 2014, include the following:

a. Aqua Water Supply Corporation's Index of Testimony and Exhibits and the following seven exhibits attached thereto:

- i. Pre-filed Direct Testimony of Dave McMurry;
- ii. Pre-filed Direct Testimony of David Fleming;
- iii. Curriculum Vitae of David Fleming;
- iv. Pre-Filed Direct Testimony of James Beach;
- v. Curriculum Vitae of James Beach;
- vi. Map: Aqua Water Supply Corporation Well Location; and
- vii. Calculations Demonstrating Impacts to Wells.

14. The above referenced evidence, exhibits and pre-filed testimony filed by Aqua on January 10, 2014, demonstrate what Aqua considers to be the impacts, if any, on Aqua's permits, groundwater wells, and water utility infrastructure that could potentially result from pumping associated with End Op's permits, if granted in whole or in part.

15. The Parties will not to object to each other's evidence, pre-filed testimony, or exhibits, or cross-examine each other's witnesses.

16. Although End Op disagrees with Aqua's evidence, pre-filed testimony and exhibits filed on January 10, 2014, on potential impacts, End Op shall not object to Aqua's evidence, pre-filed testimony or exhibits and shall not provide rebuttal to address Aqua's evidence, pre-filed testimony or exhibits on potential impacts.

17. Although Aqua disagrees with End Op's evidence, pre-filed testimony and exhibits filed on December 18, 2013, on potential impacts, Aqua shall not object to any of End Op's evidence, pre-filed testimony or exhibits.

18. Although the Parties do not agree on each other's evidence, pre-filed testimony and exhibits on potential impacts, the Parties agree that the permit conditions in Sections 2.7-2.9 of

the Settlement Agreement and the Standard Permit and Special Conditions provisions contained in the operating and transfer permits in the General Manager's Recommendation (except that the aggregated annual withdraw amount shall be 46,000 acre-feet not 56,000 acre-feet) should be included in any permits issued to End Op as the conditions would address any potential impacts on Aqua's permits, groundwater wells, and water utility infrastructure that may result from pumping associated with End Op's permits.

19. After the Parties present their evidence on potential impacts to Aqua's permits, wells, or water utility infrastructure at the Hearing on the Merits, End Op may present evidence regarding and witnesses to testify on the factors set out in Chapter 36 (except for Texas Water Code section 36.113(d)(2) as it relates to Aqua) that the ALJ shall consider in granting or denying End Op's permits. End Op may respond to any evidence put forth by the General Manager and cross-examine any witnesses the General Manager presents. Aqua shall not participate in the portion of the Hearing on the Merits during which End Op presents evidence and witnesses on the factors set out in Chapter 36 (except for Texas Water Code section 36.113(d)(2) as it relates to Aqua) or cross-examine any witnesses or respond to any evidence the General Manager presents (except for Texas Water Code section 36.113(d)(2) as it relates to Aqua).

20. Aqua agrees that Aqua will not contest permits issued to End Op provided they include the conditions set out in Sections 2.7-2.9 of the Settlement Agreement and the Standard Permit and Special Conditions provisions contained in the operating and transfer permits in the General Manager's Recommendation (except that the aggregated annual withdraw amount shall be 46,000 acre-feet not 56,000 acre-feet). Aqua agrees that these conditions would adequately address any potential impacts on Aqua's permits, wells, or water utility infrastructure that may result from pumping associated with End Op's permits.

21. The Agreed Proposed Permit Conditions filed on February 4, 2014, include all the proposed permit conditions outlined in the Settlement Agreement and the Standard Permit and Special Conditions provisions contained in the operating and transfer permits in the General Manager's Recommendation (except that the aggregated annual withdraw amount shall be 46,000 acre-feet not 56,000 acre-feet). The Agreed Proposed Permit Conditions filed on February 4, 2014, address potential impacts on Aqua's permits, wells, and water utility infrastructure and address Aqua's alleged financial impacts of long term pumping by End Op.

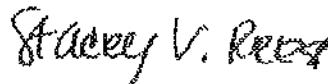
Respectfully submitted,

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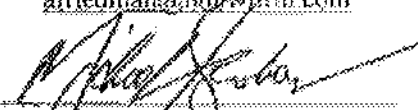


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By:


Michael A. Gershon

Attorneys for Aqua Water Supply Corporation

CERTIFICATE OF SERVICE

I hereby certify that on February 4, 2014, a true and correct copy of the foregoing *End Op, L.P.'s and Aqua Water Supply Corporation's Agreed Stipulations* was filed electronically with SOAH and then served on the following in accordance with the rules of the State Office of Administrative Hearings and the Texas Rules of Civil Procedure on the following counsel of record:

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*Attorneys for The General Manager of the
Lost Pines Groundwater Conservation District*

By:

Stacey V. Reese

Stacey V. Reese

SOAH DOCKET NO. 952-13-5210

APPLICATIONS OF END OP, L.P.
FOR WELL REGISTRATION,
OPERATING PERMITS AND
TRANSFER PERMITS

§
§
§
§

BEFORE THE STATE OFFICE
OF
ADMINISTRATIVE HEARINGS

SETTLEMENT AGREEMENT

This Settlement Agreement (the "Agreement") is made by and between End Op, L.P. ("End Op") and Aqua Water Supply Corporation ("Aqua").

RECITALS

WHEREAS, in April 2013, Aqua filed a protest against and requested a contested case hearing on End Op's Applications.

WHEREAS, per End Op's request in May 2013, the District contracted with SOAH to conduct the Contested Case Hearing.

WHEREAS, at a hearing held by the District in April 2013, and again during the preliminary hearing held by SOAH in August 2013, End Op stipulated that Aqua had demonstrated that Aqua was qualified as a party pursuant to section 36.415 of the Texas Water Code and the District's rules.

WHEREAS, after a preliminary hearing held on August 12, 2013, the ALJ determined that Aqua had qualified as a party to participate in the Contested Case Hearing and that Environmental Stewardship, Hette Brown, Andrew Meyer, and Darwyn Hanna did not qualify to participate as parties in the Contested Case Hearing.

WHEREAS, the Hearing on the Merits in the Contested Case Hearing currently scheduled for February 11-14, 2014, and other procedural deadlines, were established by order of the ALJ. The Parties subsequently agreed to modify some procedural deadlines pursuant to Texas Rule of Civil Procedure 11.

WHEREAS, Aqua's priority is to meet its statutory and regulatory obligations to provide its member-customers with continuous and adequate retail public water utility service, and to do so with exceptional customer service at an affordable cost to its member-customers, and has engaged in this proceeding to protect its and its member-customers' interests in Aqua's groundwater supply, groundwater wells, associated utility infrastructure, intentions to implement its associated capital improvements plan, and to protect these interests and achieve these goals in an economically responsible manner.

WHEREAS, taking into consideration the goals and priorities asserted in the immediately preceding paragraph, Aqua believes that this Agreement is the most advantageous approach to



Aqua for resolving the Dispute, protecting Aqua's interests in an economically responsible manner.

WHEREAS, End Op's goal is to be a vehicle by which groundwater can be utilized in locations where it can be put to beneficial use while still protecting private property rights and the aquifer in the process. End Op believes that responsible stewardship of the aquifer includes sharing the resource among all landowners who have a right to benefit from the groundwater beneath their land while simultaneously addressing any adverse impacts on existing use. This agreement memorializes End Op's commitment to mitigate any adverse impacts its project may have on existing use even though End Op is not required by law to do so. Taking into consideration these goals and commitments, End Op believes that this Agreement is the most advantageous approach to resolve the Dispute.

WHEREAS, the Parties agree that resolving and settling the Dispute as set forth herein is in their respective best interest after consulting with counsel of their choosing.

NOW THEREFORE, in consideration of the recitals, representations and warranties, releases and agreements contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree and have agreed as follows:

1. DEFINITIONS

In this Agreement, the following terms shall have the following meanings:

- 1.1. "End Op" as used herein shall mean and include End Op, L.P., and its agents, successors, assigns, representatives, employees, officers, directors, affiliates, subsidiaries, and partners, and any other persons or entities acting on its behalf.
- 1.2. "Aqua" as used herein shall mean and include Aqua Water Supply Corporation and its agents, successors, assigns, representatives, employees, officers, directors, affiliates, subsidiaries, and partners, and any other persons or entities acting on its behalf.
- 1.3. "SOAH" as used herein shall mean the State Office of Hearing Examiners.
- 1.4. "ALJ" as used herein shall mean the Honorable Judge Michael J. O'Malley, the Administrative Law Judge assigned to the Contested Case Hearing, or any other Administrative Law Judge that may preside over the Contested Case Hearing.
- 1.5. "The Contested Case Hearing" as used herein shall mean SOAH Docket No. 952-13-5210 pending before the State Office of Administrative Hearings with the Honorable Judge Michael J. O'Malley presiding.
- 1.6. "The Dispute" as used herein shall mean any and all actual, currently existing, or potential issues between the Parties relating to End Op's Applications, Aqua's

Applications, Aqua's Permits, and the Contested Case Hearing on End Op's Applications for operating and transport permits.

- 1.7. The "Parties" as used herein shall mean End Op and Aqua. End Op and Aqua are referred to herein individually as a "Party."
- 1.8. The "District" as used herein shall mean the Lost Pines Groundwater Conservation District and any of its agents, successors, assigns, representatives, general manager, officers, directors, employees, successors, or any other persons or entities acting on its behalf.
- 1.9. The "General Manager" as used herein shall mean Joe Cooper, the General Manager of the District, or any successor to Joe Cooper or any representative acting on the General Manager's behalf.
- 1.10. "End Op's Applications" as used herein shall mean End Op's 14 applications for operating and transfer permits and any amendments currently on file with the District seeking to withdraw 56,000 acre-feet per year of groundwater from the Simsboro aquifer that are the subject of the Contested Case Hearing and that End Op may seek to amend prior to a final decision by the District.
- 1.11. "End Op's Permits" as used herein shall mean any permits including without limitation, an operating, reservation, or transfer permit issued by the District in connection with End Op's Applications expressly including any renewal or extension of previously issued permits.
- 1.12. "Aqua's Applications" as used here shall mean any applications for an operating, transfer or reservation permit currently on file with the District but not yet issued as of the Effective Date of this Agreement or any application that Aqua may file that relates to well sites referred by Aqua as McDade 2, Griffith 1, Griffith 5, Tiner and Foster, as described with more specificity in Attachment "A."
- 1.13. "Aqua's Permits" as used herein shall mean any permit issued by the District to Aqua prior to the Effective Date of the Agreement expressly including any renewal or extension of previously issued permits and any permits including without limitation, an operating, reservation, or transfer permit issued by the District in connection with Aqua's Applications expressly including any renewal or extension of previously issued permits.
- 1.14. The "Effective Date" as used herein shall mean the date upon which the Agreement is executed by the Parties, and if the Agreement is executed on different dates by each of the Parties, it is deemed to be the date upon which the last Party signs the Agreement.

- 1.15. "Proposal for Decision" as used herein shall mean the ALJ's recommendation on End Op's Applications and/or End Op's Permits in the Contested Case Hearing made to the District.
- 1.16. "Final Decision" as used herein shall mean the District's final and appealable decision on End Op's Applications after reviewing and considering the ALJ's Proposal for Decision and issued pursuant to Section 36.413 of the Texas Water Code.
- 1.17. "Hearing on the Merits" as used herein shall mean the final hearing on the merits of End Op's Applications conducted by the ALJ in the Contested Case Hearing currently set for February 11-14, 2014, or any other hearing held on the merits in the Contested Case Hearing.
- 1.18. "Aqua's Mitigation Fund" as used herein shall mean a fund created by Aqua solely for Aqua to be administered when, in Aqua's sole discretion, there is an adverse effect on Aqua requiring the expenditure of funds.
- 1.19. "General Mitigation Fund" as used herein shall mean a fund created by End Op that is administered by a third party for the benefit of all landowners or persons or entities with an ownership interest in the Simsboro aquifer (excluding Aqua) who have demonstrated a need for mitigation due to some adverse effect on their groundwater well caused at least in part by End Op.
- 1.20. "General Manager's Recommendation" as used herein shall mean the memo submitted by the General Manager to the District's Board of Directors dated March 20, 2013, which includes a description of End Op's Applications, recommendations, and proposed operating and transfer permits.
- 1.21. "Aqua's Evidence on Potential Impacts" as used herein shall mean evidence demonstrating what Aqua considers to be the impacts on Aqua's Permits and Aqua's groundwater wells and water utility infrastructure that could potentially result from pumping associated with End Op's Permits. Aqua's Evidence on Potential Impacts expressly excludes any evidence on any factors set out in Chapter 36 of the Texas Water Code including without limitation sections 36.113, 36.1131, 36.1132, and 36.122 of the Texas Water Code except for the factor in section 36.113(d)(2) relating to any potential impacts on Aqua's Permits and Aqua's groundwater wells and water utility infrastructure as set out in this Agreement.
- 1.22. "End Op's Evidence on Potential Impacts" as used herein shall mean evidence offered by End Op pursuant to section 36.113(d)(2) demonstrating what End Op considers to be the impacts, if any, on Aqua's Permits and Aqua's groundwater wells and water utility infrastructure that could potentially result from pumping associated with End Op's Permits, if granted in whole or in part.

2. SETTLEMENT TERMS AND CONSIDERATION

- 2.1. Aqua shall not withdraw its request for a contested case hearing on End Op's Applications and shall remain a party to the Contested Case Hearing through the Hearing on the Merits and until the ALJ issues a Proposal for Decision. Aqua shall participate in the Contested Case Hearing and Hearing on the Merits as set out in Sections 2.11-2.14 below.
- 2.2. Aqua shall not take any action, legal or otherwise, to challenge, appeal, or commence litigation on the Proposal for Decision, the Final Decision, or End Op's Permits unless the ALJ's Proposal for Decision, the Final Decision, or End Op's Permits are inconsistent with the relief committed to under this Agreement, or unless of breach of this Agreement by End Op.
- 2.3. Aqua shall not assist, request, entice, coerce, solicit, or otherwise encourage any other person or entity to take any action, legal or otherwise, to challenge, appeal or commence litigation on the Proposal for Decision, the Final Decision, End Op's Applications, or End Op's Permits.
- 2.4. End Op shall not: (i) seek a contested case hearing on or file a formal protest challenging Aqua's Applications; (ii) provide comments in opposition to the issuance of Aqua's Applications prior to the District's decision on Aqua's Applications; (iii) take any action, legal or otherwise, to challenge, appeal, or commence litigation on any proposal for decision or final decision by the District on Aqua's Applications; (iv) appeal or otherwise challenge or support a challenge of Aqua's Applications whether to the District or any court or other tribunal; or (v) assist, request, entice, coerce, solicit, or otherwise encourage any other person or entity to take any action, legal or otherwise, to challenge, appeal or commence litigation on any proposal for decision, final decision or any other basis associated with Aqua's Applications or Aqua's Permits.
- 2.5. So long as End Op's obligation to fund Aqua's Mitigation Fund or the General Mitigation Fund has not ceased, End Op shall not: (i) seek a contested case hearing on or file a formal protest challenging any renewal or extension of Aqua's Permits or any renewal or extension of permits issued in connection with Aqua's Applications; (ii) provide comments in opposition to the issuance of any renewal or extension of Aqua's Permits or any renewal or extension of permits issued in connection with Aqua's Applications prior to the District's decision on such renewals or extensions; (iii) take any action, legal or otherwise, to challenge the final decisions by the District on any renewal or extension of Aqua's Permits or any renewal or extension of permits issued in connection with Aqua's Applications; (iv) appeal or otherwise challenge or support a challenge of any renewal or extension of Aqua's Permits or any renewal or extension of permits issued in connection with Aqua's Applications whether to the District or any court or other tribunal; and (v) seek a spacing variance on any renewal or extension of End Op's Permits, any permits issued in connection with End Op's Applications,

or any renewal or extension of any permits issued in connection with End Op's Applications.

- 2.6. So long as End Op's obligation to fund Aqua's Mitigation Fund or the General Mitigation Fund has not ceased, Aqua shall not: (i) seek a contested case hearing on or file a formal protest challenging any renewal or extension of End Op's Permits; (ii) provide comments in opposition to the issuance of any renewal or extension of End Op's Permits prior to the District's decision on any renewal or extension of End Op's Permits; (iii) take any action, legal or otherwise, to challenge the final decisions by the District on any renewal or extension of End Op's Permits; (iv) appeal or otherwise challenge or support a challenge of any renewal or extension of End Op's Permits whether to the District or any court or other tribunal; and (v) seek a spacing variance on any renewal or extension of Aqua's Permits, any permits issued in connection with Aqua's Applications, or any renewal or extension of any permits issued in connection with Aqua's Applications.
- 2.7. End Op shall pay \$15.00 per acre foot of groundwater actually produced by wells authorized under End Op's Permits into Aqua's Mitigation Fund within 20 calendar days of the end of the calendar month during which End Op produced the groundwater. If the payment is late, a late payment penalty of five percent (5%) of the monthly payment that is overdue shall be imposed and shall be due in the immediately following month. If payment has not been received 15 (fifteen) calendar days after the payment is due, interest of twelve percent (12%) compounded annually shall accrue and be due on the balance of the late payment that is due. Contemporaneous with End Op's monthly payment, End Op shall provide Aqua with a written statement that identifies the amount of groundwater produced from each well and the meter reading from each well produced during the preceding month and any other information requested by Aqua that is reasonably necessary to verify the quantity of groundwater produced and payments made hereunder. End Op agrees to provide Aqua with access to inspect and verify the accuracy of the meters. The dollar (\$) per-acre-foot rate applicable to calculate the payment due from End Op to Aqua shall be increased each January based on the Consumer Price Index-South Urban Region. End Op's obligation to fund Aqua's Mitigation Fund begins when production associated with End Op's Permits commences and ends at the earlier of twenty (20) years or when the total contributions to the fund equals \$15,000,000.00. If End Op's Permits are not renewed or extended, End Op's obligation to pay into Aqua's Mitigation Fund ends when production of groundwater associated with End Op's Permits ceases.
- 2.8. End Op shall pay \$5.00 per acre-foot for groundwater actually produced by wells authorized under End Op's Permits into the General Mitigation Fund within 20 calendar days of the end of the calendar month during which End Op produced the groundwater. If the payment is late, a late payment penalty of five percent (5%) of the monthly payment that is overdue shall be imposed and shall be due in

the immediately following month. If payment has not been received 15 (fifteen) calendar days after the payment is due, interest of twelve percent (12%) compounded annually shall accrue and be due on the balance of the late payment that is due. Contemporaneous with End Op's monthly payment, End Op shall provide the administrator of this General Mitigation Fund with a written statement that identifies the amount of groundwater produced from each well and the meter reading from each well produced. The dollar (\$) per-acre-foot rate applicable to calculate the payment due from End Op to the General Mitigation Fund shall be increased each January based on the Consumer Price Index-South Urban Region. End Op's obligation to fund the General Mitigation Fund begins when production associated with End Op's Permits commences and ends at the earlier of twenty (20) years or when total contributions to the fund equals \$3,750,000.00. If End Op's Permits are not renewed or extended, End Op's obligation to pay into the General Mitigation Fund ends when production of groundwater associated with End Op's Permits ceases.

- 2.9. End Op shall limit and will seek and obtain permit conditions that limit annual groundwater withdrawals from End Op's wells in Bastrop County to 20,000 acre-feet or 35% of the annual withdrawal allocation authorized by End Op's Permits and Final Decision, whichever amount is less. End Op shall limit annual groundwater production, beneficial use and export to no more than 46,000 acre feet of groundwater, and will amend its pending applications to effectuate these limits.
- 2.10. End Op shall reimburse Aqua up to \$150,000.00 in documented professional fees (engineering, professional geoscientist, and legal) incurred up to the Effective Date of this Agreement to be paid once production associated with End Op's Permits commences at the rate of \$3.00 per acre-foot produced with no Consumer Price Index increase or interest.
- 2.11. Once the Agreement is in effect, the Parties shall jointly advise the General Manager of this Agreement and their intent to advise the ALJ of this Agreement. After advising the General Manager, the Parties shall jointly advise the ALJ of: (1) this Agreement and that the Agreement includes an agreement to include proposed permit conditions sufficient to mitigate any potential impacts on Aqua if the conditions are included; (2) the Parties' intent to proceed forward with the Hearing on the Merits on February 11-14; (3) the Parties' intent to coordinate the scheduling of deadlines for filing agreed stipulations and exhibits as set out in Section 2.12 pursuant to a Rule 11 agreement.
- 2.12. Aqua shall submit Aqua's Evidence on Potential Impacts in the form of agreed stipulations and exhibits filed before the Hearing on the Merits and the introduction of live testimony and exhibits consistent with the agreed stipulations and exhibits filed before the Hearing on the Merits. End Op shall submit End Op's Evidence on Potential Impacts in the form of agreed stipulations and exhibits filed before the Hearing on the Merits and the introduction of live

testimony and exhibits consistent with the agreed stipulations and exhibits filed before the Hearing on the Merits. Each Party recognizes that the Parties may file prefiled testimony in the Contested Case Hearing because the General Manager (1) does not agree to waive the requirement to file prefiled testimony and (2) is of the position that the Parties must file prefiled testimony. If prefiled testimony is filed by either Party, that prefiled testimony must be substantively consistent with the agreed stipulations and exhibits referred to in this section, and Aqua's prefiled testimony must be limited in scope to Aqua's Evidence on Potential Impacts. Each Party agrees not to object to the other Party's prefiled testimony that is drafted in accordance with this Agreement. The agreed stipulations and any prefiled testimony filed by the Parties on Aqua's Evidence on Potential Impacts and End Op's Evidence on Potential Impacts shall also state or include the following: (1) Although End Op disagrees with Aqua's Evidence on Potential Impacts, End Op shall not object to Aqua's Evidence on Potential Impacts and shall not provide rebuttal to address Aqua's Evidence on Potential Impacts; (2) Although Aqua disagrees with End Op's Evidence on Potential Impacts, Aqua shall not object to End Op's Evidence on Potential Impacts; and (3) Although the Parties do not agree on each Party's Evidence on Potential Impacts, the Parties agree that the permit conditions proposed in Sections 2.7-2.9 and the Standard Permit and Special Conditions provisions contained in the operating and transfer permits in the General Manager's Recommendation (except that the aggregated annual withdraw amount shall be 46,000 acre-feet not 56,000 acre-feet) would address any potential impacts on Aqua's Permits that may result from pumping associated with End Op's Permits. End Op shall submit proposed operating and transfer permits on End Op's Applications to the ALJ before or at the Hearing on the Merits for consideration in the Proposal for Decision. Aqua shall not contest End Op's proposed operating and transfer permits provided they include the conditions set out in Sections 2.7-2.9 and the Standard Permit and Special Conditions provisions contained in the operating and transfer permits in the General Manager's Recommendation (except that the aggregated annual withdraw amount shall be 46,000 acre-feet not 56,000 acre-feet) and shall agree that these proposed conditions would address any potential impacts on Aqua's Permits that may result from pumping associated with End Op's Permits.

- 2.13. Prior to the Hearing on the Merits and during the Contested Case Hearing, the Parties shall not notice depositions of each Party's respective witness(es) or expert witness(es). Aqua shall not examine or cross-examine any witness for the General Manager that is noticed for deposition by End Op during the Contested Case Hearing. Aqua shall not examine or cross-examine any of End Op's witness(es) or expert witness(es) noticed for deposition by the General Manager during the Contested Case Hearing.
- 2.14. After the Parties present the information to the ALJ on each Party's Evidence on Potential Impacts consistent with Section 2.12 at the Hearing on the Merits, End Op may present evidence regarding and witnesses to testify on the factors set out in Chapter 36 (except for Texas Water Code section 36.113(d)(2) as it relates to

Aqua) that the ALJ shall consider in granting or denying End Op's Permits. End Op may respond to any evidence put forth by the General Manager and cross-examine any witnesses the General Manager presents. Aqua shall not participate in the portion of the Hearing on the Merits during which End Op presents evidence and witnesses on the factors set out in Chapter 36 (except for Texas Water Code section 36.113(d)(2) as it relates to Aqua) or cross-examines any witnesses or responds to any evidence the General Manager presents (except for Texas Water Code section 36.113(d)(2) as it relates to Aqua).

3. MISCELLANEOUS PROVISIONS

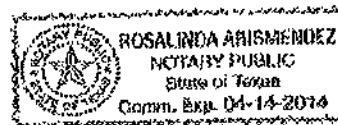
- 3.1. In the event of any alleged breach of this Agreement by either of the Parties, the party claiming breach shall give the other Party 30 day's written notice, after which, if the Party has failed to cure, the party claiming breach may pursue any and all legal and equitable remedies in court. Because of the unique nature of the Parties' performance under this Agreement, the Parties agree that the breach or default of this Agreement will allow the non-breaching Party to have any of the following options, or combination thereof, with regard to remedies for the breach or default: (i) specific performance of this Agreement; (ii) injunctive relief, (iii) recovery of damages; and (iv) reasonable and necessary attorneys' fees, costs and other court costs for the prevailing Party.
- 3.2. The Parties agree that this Agreement is clear, unambiguous, negotiated at arms-length and that any ambiguities are not to be construed against the drafting party.
- 3.3. The Parties agree and stipulate that they have reviewed this Agreement, and that each Party has received independent legal advice from their respective attorneys as to the effect and import of its provisions. The Parties further agree that this Agreement is being entered into for the express purpose and intention of making and entering into a full and final compromise and settlement of all matters in the Dispute and that in so doing, neither Party is making any admission of fault or liability, but the Parties are merely buying their peace.
- 3.4. The Parties each represent and warrant, as of the date hereof, that they have all requisite power and authority to enter into this Agreement and to perform all of their respective obligations hereunder.
- 3.5. The Parties agree that this Agreement constitutes the sole and entire agreement between the Parties and supersedes all prior agreements, negotiations, and communications between the Parties with respect to the Dispute.
- 3.6. The Parties acknowledge that, in entering into this Agreement, they are not relying upon any representations or warranties other than the terms and provisions expressly set forth in this Agreement.

- 3.7. It is expressly understood and agreed that this Agreement may not be altered, amended, waived, modified, or otherwise changed in any respect or particular whatsoever except by a writing duly executed by authorized representatives of the Parties.
- 3.8. All of the respective covenants, undertakings, and obligations of each of the Parties will bind that Party and will apply to and bind any successors or assigns of that Party. End Op shall provide written notice of its intent to assign any interests implicated by this Agreement by certified mail to Aqua's General Manager and Board President 45 (forty-five) days before it effectuates the assignment. End Op agrees to require that each assignee of any interest implicated by this Agreement separately agree in writing to the assignment of all duties and obligations established by this Agreement. Failure to comply with this paragraph shall constitute a breach of this Agreement, which is subject to all remedies provided for hereunder.
- 3.9. The Parties understand and agree that this Agreement shall be interpreted and construed under the laws of the State of Texas, which laws shall prevail in the event of any conflict of law, and venue of any dispute concerning this Agreement shall be in Bastrop County, Texas.
- 3.10. This Agreement may be executed in counterparts, each of which shall be considered an original, all of which together shall be considered one and the same instrument. This Agreement may be executed by facsimile and such signatures shall be binding and deemed original for the purposes of enforcing this Agreement.

IN WITNESS WHEREOF, this Agreement is executed as of the date and year indicated below,

End Op, L.P.

By: Duration Water, L.L.C., its General Partner



ATTEST:

By: Frankie Linner

By: Rosalinda Arismendez

Name: Frankie Linner

Name: _____


Title: Manager

Title: _____

Date: 12/16/2013

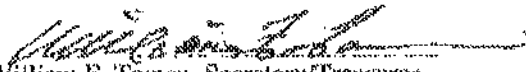
Date: _____

Aqua Water Supply Corporation

By: 
Cliff Sessler, President

Date: 12/11/13

ATTEST:

By: 
William F. Tomau, Secretary/Treasurer

Date: 12-11-13

ATTACHMENT "A"

Site descriptions for Aqua wells referenced in Section 1.12

WELL NAME	GENERAL SITE DESCRIPTION	COUNTY
MCDADE #2	4.5 MILES SE OF MCDADE ON S SIDE OF HWY 290	BASTROP
FOSTER	INTERSECTION OF FM 713 AND JEDDO ROAD IN SOUTHERN BASTROP COUNTY	BASTROP
TINER	VICINITY OF INTERSECTION OF JEDDO RD AND CISTERN RD IN BASTROP COUNTY	BASTROP
GRIFFITH #1	SE CORNER OF THE INTERSECTION OF FM 1441 AND CHAROLAIS DRIVE	BASTROP
GRIFFITH #5	INTERSECTION OF OAK HILL CEMETERY ROAD AND CRAPE MYRTLE ROAD	BASTROP

AS AMENDED APRIL 20, 2016

**RULES OF THE LOST PINES
GROUNDWATER CONSERVATION DISTRICT**

SECTION 1: DEFINITIONS

SECTION 2: GENERAL PROVISIONS

- Rule 2.1 Board of Directors
- Rule 2.2 General Manager
- Rule 2.3 Regulatory Fees
- Rule 2.4 Purpose and Effect of Rules
- Rule 2.5 Amending of Rules
- Rule 2.6 Heading and Captions
- Rule 2.7 Severability
- Rule 2.8 Confidential Information

SECTION 3: EXEMPT WELLS AND NON-EXEMPT WELLS

- Rule 3.1: Wells Exempt From Obtaining Operating Permit (Exempt Wells)
- Rule 3.2 Wells Requiring Operating Permit (Non-exempt Wells)

SECTION 4: WELL REGISTRATION FOR EXEMPT WELLS AND NON-EXEMPT WELLS

- Rule 4.1 Required Well Registration
- Rule 4.2 Well Registration Application
- Rule 4.3. Approval of Well Registration
- Rule 4.4 Time Limit for Completion of New Exempt Well

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SECTION 1: DEFINITIONS

"Agriculture" means:

- (1) cultivating the soil to produce crops for human food, animal feed, or planting seed or for the production of fibers;
- (2) the practice of floriculture, viticulture, silviculture, and horticulture, including the cultivation of plants in containers or nonsoil media, by a nursery grower;
- (3) 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;
- (4) 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;
- (5) wildlife management; and
- (6) raising or keeping equine animals.

"Administratively Complete" means: (1) that all information requested by the District has been fully and accurately provided; and (2) that all applicable fees have been paid.

"Agricultural Use" means any use or activity involving agriculture, including irrigation. Irrigation of a golf course is not an agricultural use.

"Aquifer Unit" means the Sparta aquifer unit, the Queen City aquifer unit, the Carrizo aquifer unit, the Calvert Bluff aquifer unit, the Simsboro aquifer unit, the Hooper aquifer unit, or any other formation or sand from which groundwater is produced.

"Beneficial Use" means use of water for one of the following beneficial purposes, without waste:

- (1) agricultural, gardening, domestic, stock raising, municipal, mining, manufacturing, industrial, commercial, recreational, or pleasure 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.

"Board" means the Board of Directors of the Lost Pines Groundwater Conservation District.

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“Completion of a well” means the date when the construction of a water well is finished, excluding setting the pump.

“Contested Case” means an application or other matter for which the Board has granted a request for a contested case hearing.

“Critical Infrastructure” means the infrastructure provided in Texas Government Code section 421.001(2).

“Dedicated” means committed to a definite use.

“Desired Future Condition” means a quantitative description, adopted in accordance with Texas Water Code section 36.108, of the desired condition of the groundwater resources in the District at one or more specified future times.

“Deteriorated Well” means a well that, because of its condition, will cause or is likely to cause pollution of any water in the State, including groundwater.

“District” means the Lost Pines Groundwater Conservation District.

“District Fee Schedule” means the schedule of fees charged by the District, adopted in accordance with Rule 2.3.

“District Management Plan” means a management plan developed by the District pursuant to Texas Water Code section 36.1071.

“District Office” means the office of the District, which is designated by and may be changed by resolution of the Board.

“Domestic Use” means use of water by an individual or a household to support domestic activity. Such use may include water for drinking, washing, or culinary purposes; for irrigation of lawns, or of a family garden and/or orchard; for watering of domestic animals; and for water recreation including aquatic and wildlife enjoyment. Domestic use does not include water used to support activities for which consideration is given or received or for which the product of the activity is sold.

“End User” means the person or entity that makes beneficial use of the water withdrawn from a well, including, but not limited to, an agricultural user, industrial user, mining user, municipal user, or Retail Public Water Utility. End user does not include the retail customers of a retail public water utility.

“Exempt well” means a well that is not required to obtain an Operating Permit, as described in Rule 3.1.

“General Manager” means the General Manager of the District, as described in Rule 2.2.

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“GPM” means gallons per minute.

“Hearings Examiner” means a person, other than a Board member, appointed by the Board to conduct a hearing on a permit or enforcement action.

“Landowner” or **“owner of land”** means the owner of the right to use the surface of a tract of land, if that owner is different from the owner or holder of the right to produce groundwater from the tract of land.

“Livestock Use” means the use of water for the watering of livestock, poultry, or wildlife, including exotic livestock, game animals, fur-bearing animals, birds, or waterfowl, and for maintaining aquatic life. Livestock use includes watering livestock that are kept for pleasure, recreational use, or commercial use.

“Management Zone” means one or more of the zones into which the Board may divide the District, as set forth in Rule 9.2.

“Modeled Available Groundwater” means the amount of groundwater that the executive administrator of the TWDB determines may be produced on an average annual basis to achieve a Desired Future Condition established under Texas Water Code section 36.108.

“New well” means a well drilled after June 21, 2000.

“Non-exempt well” means a well that is required to obtain an Operating Permit under Section 5 of these Rules.

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

“Operating Permit” means a permit issued under Section 5 of these Rules.

“Operating Permit holder” means the person or entity to whom an Operating Permit is issued or the person or entity to whom an Operating Permit has been transferred in accordance with these Rules.

“Owner” means the owner or holder of the right to produce groundwater from a tract of land.

“Pre-existing well” means a well drilled before June 21, 2000.

“Production Fee” means a fee, adopted in accordance with Rule 2.3, to be paid to the District for either the amount of water authorized by permit to be withdrawn from a non-exempt well or the amount of water actually withdrawn from a non-exempt well, as authorized by Texas Water Code section 36.205(c).

“Property Line” means a line at which the ownership of the right to produce groundwater changes.

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"Replacement well" means a well drilled with the purpose of replacing an existing well.

"Retail Public Water Utility" means a person or entity, including a municipality, that provides potable water to the ultimate consumer for compensation.

"SOAH" means the State Office of Administrative Hearings.

"State Plugging Report" means the report that a person who plugs a well is required to complete under 16 Texas Administrative Code section 76.700(2).

"State Well Report" means the report that every well driller who drills, completes, deepens, or alters a well is required to complete under the Texas Department of Licensing and Regulation Rules, as defined in 16 Texas Administrative Code sections 76.10(45) and 76.700(1).

"TCEQ" means the Texas Commission on Environmental Quality, or any successor agency.

"Transport Fee" means a fee, adopted in accordance with Rule 2.3, to be paid to the District for the amount of water transported outside the District boundaries, as authorized by Texas Water Code section 36.122(e).

"Transport Permit" means a permit issued under Section 6 of these Rules.

"Transport Permit holder" means the person or entity to whom a Transport Permit is issued or the person or entity to whom a Transfer Permit has been transferred in accordance with these Rules.

"TWDB" means the Texas Water Development Board, or any successor agency.

"Waste" means any one or more of the following:

(1) The withdrawal of groundwater from a groundwater reservoir at a rate and in an amount that causes or threatens to cause intrusion into the reservoir of water unsuitable for agricultural, gardening, domestic, or livestock raising purposes.

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

(3) The escape of groundwater from one groundwater reservoir to any other reservoir or geologic stratum that does not contain groundwater.

(4) The pollution or harmful alteration of groundwater in a groundwater reservoir by saltwater or by other deleterious matter admitted from another stratum or from the surface of the ground.

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(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 road 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 TCEQ under chapter 26 of the Texas Water Code.

(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 occupant of the land receiving the discharge.

(7) Unless the water from an artesian well is used for a purpose and in a manner in which it may be lawfully used on the Well Owner's land, willfully causing or knowingly permitting the water to run off the owner's land or to percolate through the stratum above which the water is found.

(8) Drilling or operating a well or wells without a required permit or producing groundwater in violation of a permit condition or a District Rule.

(9) Operating a Deteriorated Well.

"Well System" means two or more non-exempt wells that are owned by the same Well Owner and connected to the same water collection or distribution system.

"Water well" or **"well"** means an artificial excavation constructed to explore for, produce, sample, or monitor the water level of groundwater.

"Well Owner" or **"owner of well"** means the owner of a water well or well or the owner of the right to produce groundwater from that well, if that owner is different from the owner of the well.

"Well registration" means the registration required by Rule 4.2.

[Adopted 11/14/12; definition of "Production Fee" amended 12/18/12; effective 1/1/13; definition of "Reservation Fee" deleted and definition of "SOAH" added 4/20/16]

SECTION 2: GENERAL PROVISIONS

Rule 2.1 Board of Directors

A. **Board structure; officers.** The Board consists of appointed members, qualified as required by law. Each year at its regular January meeting, and if there is no January meeting, at its next regular meeting, the Board will select one of its members to serve as president to preside over Board meetings and proceedings, one to serve as vice-president to preside over Board meetings and proceedings in the absence of the president, and one to serve as secretary-treasurer to keep a true and correct account of all proceedings of the Board and to preside over Board meetings and proceedings in the absence of the president and vice-president. The Board may appoint an assistant

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secretary to assist the secretary-treasurer and to preside over Board meetings and proceedings in the absence of the president, vice-president and secretary-treasurer. In the event of a vacancy in an office, the Board will select out of its members a person to serve out the remaining term of office. Unless a vacancy occurs, members and officers serve until their successors are selected and qualified to hold office. In the absence of a General Manager, the president will serve as General Manager.

B. **Meetings.** The Board will hold regular meetings at least four times a year on a day and at a place that the Board may establish from time to time by resolution. At the request of the president, or upon written request of at least three Board members, the Board may hold a special meeting. The business of the District will be conducted at regular or special Board meetings when a quorum is present. All Board meetings will be held in accordance with the Open Meetings Act.

C. **Committees.** The president may establish committees for formulation of policy recommendations to the Board, and may appoint the chair and membership of the committees, which may include persons who are and who are not Board members. Committee members serve at the pleasure of the president.

[Adopted 11/14/12; effective 1/1/13; Rule 2.1.A amended 4/20/16]

Rule 2.2 General Manager

A. **Authority.** The Board may employ a person to be the General Manager, who is the chief administrative officer of the District. The General Manager will have full authority to manage and operate the affairs of the District, subject only to the direction given by the Board through policies and orders adopted by the Board. At least annually, the Board will determine the compensation to be paid to the General Manager, and shall review the actions and performance of the General Manager to determine whether the General Manager has fulfilled his or her responsibilities and whether additional responsibilities should be delegated to the General Manager. The General Manager, with the approval of the Board, may employ all persons necessary for the proper handling of the business of the District.

B. **Delegation of authority.** The General Manager may delegate duties as may be necessary to effectively and expeditiously accomplish those duties, provided that no delegation will relieve the General Manager from his or her responsibilities under the Texas Water Code, the act creating the District, these Rules, or the policies, orders, and permits promulgated by the Board.

[Adopted 11/14/12; effective 1/1/13]

Rule 2.3 Regulatory Fees. The Board will adopt a District Fee Schedule following the procedures in Rule 14.1 or Rule 14.2. The District Fee Schedule shall set out the administrative fees, production fees, and transportation fees that the District will collect. A copy of the District Fee Schedule may be obtained from the District Office.

[Adopted 11/14/12; effective 1/1/13]

Rule 2.4 Purpose and Effect of Rules. The District Rules are promulgated under the act creating the District and the Texas Water Code chapter 36 authority to make and enforce rules to provide for the conservation, preservation, protection, and recharge of groundwater and aquifers within the District, while recognizing the ownership and rights of the owners of the land and their lessees and assigns in groundwater. These Rules may not be construed to limit, restrict, or deprive the District or the Board of any exercise of any power, duty, or jurisdiction conferred by the act creating the District, Texas Water Code chapter 36, or any other applicable law or statute.

[Adopted 11/14/12; effective 1/1/13]

Rule 2.5 Amending of Rules. The Board may from time to time amend or revoke these Rules or adopt new Rules following the procedures in Rules 14.1 and 14.2.

[Adopted 11/14/12; effective 1/1/13]

Rule 2.6 Headings and Captions. The section and other headings and captions in these Rules are for reference purposes only, and do not affect in any way the meaning or interpretation of these rules.

[Adopted 11/14/12; effective 1/1/13]

Rule 2.7 Severability. If any provision of these Rule or its application to any person or circumstance is held invalid or unenforceable, the invalidity does not affect other provisions or applications of the Rules which can be given effect without the invalid provision or application, and to this end the provisions of these Rules are severable.

[Adopted 11/14/12; effective 1/1/13]

Rule 2.8 Confidential Information. The District shall use reasonable effort to protect the confidentiality of information within its custody in compliance with all applicable federal, state and local regulations, including federal Homeland Security laws, the Texas Public Information Act, and Texas Government Code section 418.181 relating to Critical Infrastructure information.

[Adopted 11/14/12; effective 1/1/13]

SECTION 3: EXEMPT WELLS AND NON-EXEMPT WELLS

Rule 3.1: Wells Exempt From Obtaining Operating Permit (Exempt Wells)

A. Domestic and livestock well.

(1) A water well completed before January 1, 2013, that is used solely for Domestic Use or for Livestock Use is exempt from obtaining an Operating Permit under

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Section 5 of these Rules if the well is drilled, completed, or equipped so that it is incapable of producing more than 25,000 gallons of groundwater a day.

(2) A water well completed after January 1, 2013, that is used solely for Domestic Use or Livestock Use is exempt from obtaining an Operating Permit under Section 5 of these Rules if the well is:

(a) located or to be located on a tract of land larger than two (2) acres;
and

(b) drilled, completed, or equipped so that it is incapable of producing more than 25,000 gallons of groundwater a day.

(3) A water well used to supply water for a subdivision of land for which a plat approval is required by Chapter 232, Local Government Code is not an exempt well under this Rule 3.1.A.

B. **Agricultural well.** Except as provided in 4.3.D, a water well that uses less than 200 acre-feet of water per year solely for Agricultural Use is exempt from obtaining an Operating Permit under Section 5 of these Rules.

C. **Rig supply well.** A water well used solely to supply water for a rig that is actively engaged in drilling or exploration operations for an oil or gas well permitted by the Railroad Commission of Texas is exempt from obtaining an Operating Permit under Section 5 of these Rules, provided that the person holding the permit is responsible for drilling and operating the water well and the water well is located on the same lease or field associated with the drilling rig. A well that is no longer used solely to supply water for a rig that is actively engaged in drilling or exploration operations for an oil or gas well permitted by the Railroad Commission of Texas must obtain an Operating Permit under Section 5 of these Rules, unless the well will be an exempt well under Rule 3.1.A, Rule 3.1.B, Rule 3.1.D, or Rule 3.1.E.

D. **Mining well.** A water well authorized under a permit issued by the Railroad Commission of Texas under Chapter 134, Natural Resources Code, or for production from the well to the extent the withdrawals are required for mining activities regardless of any subsequent use of the water, is exempt from obtaining an Operating Permit under Section 5 of these Rules.

E. **Test or monitoring well.** A water well drilled and completed solely for purposes of aquifer testing, including a test well or a well for monitoring water levels or water quality, is exempt from obtaining an Operating Permit under Section 5 of these Rules. An applicant for an Operating Permit may operate and produce water from a well for the 36-hour pump test described in Rule 5.1.B(5) without obtaining an Operating Permit, but must obtain an Operating Permit for any other use of water from the well.

F. **Required registration.** The exempt wells described in this Rule must be registered as provided in Section 4 of these Rules.

[Adopted 11/14/12; effective 1/1/13; Rule 3.1.B amended 4/20/16]

Rule 3.2 Wells Requiring Operating Permit (Non-exempt Wells)

- A. A well that does not qualify for an exemption under Rule 3.1 is a non-exempt well.
- B. A non-exempt well completed before or on June 21, 2000 must apply for an Operating Permit on or before August 31, 2001.
- C. No person may operate or produce water from a non-exempt well completed after June 21, 2000 without first obtaining an Operating Permit from the District, except as provided in Rule 3.1.E.

[Adopted 11/14/12; effective 1/1/13]

SECTION 4: WELL REGISTRATION FOR EXEMPT WELLS AND NON-EXEMPT WELLS

Rule 4.1 Required Well Registration

- A. All water wells drilled before June 22, 2000, may be registered with the District. Such wells are referred to as pre-existing wells.
- B. Beginning on June 22, 2000, no new water well may be drilled or operated without first registering the proposed well with the District. Such wells are referred to as new wells.

[Adopted 11/14/12; effective 1/1/13]

Rule 4.2 Well Registration Application

- A. The Well Owner shall apply for the registration of a well. Forms for registering wells are available from the District Office.
- B. An applicant for registration of a well shall provide the following information:
 - (1) the name, address, and phone number of the applicant, and the name, address and phone number of the Owner and the owner of the land on which the well is located, if different from the applicant;
 - (2) if the applicant is different from the Owner or the owner of the land on which the well is located, documentation of the applicant's authority to construct and operate a well on the property for the proposed use;

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- (3) a statement of the nature and purposes of the proposed use of water from the well;
- (4) a description of the well's location;
- (5) the proposed total depth of the well;
- (6) the proposed depth of the screened intervals;
- (7) the pump size; and
- (8) a registration fee if one has been established under Rule 2.3.

C. The General Manager may require the applicant to submit any additional information necessary to make a determination under Rule 4.3.A.

D. The General Manager will assist the applicant in filing an application to register a well that is exempt under Rule 3.1.A.

[Adopted 11/14/12; effective 1/1/13; Rule 4.2.B, C and D amended 4/20/16]

Rule 4.3. Approval of Well Registration

A. At the time of filing of a registration, the General Manager will determine whether the water well is an exempt well or a non-exempt well, as defined in Rules 3.1 and 3.2.

B. If the well is a non-exempt well, the Well Owner shall apply for an Operating Permit under Section 5 of these Rules. If the District grants the application for an Operating Permit, the Operating Permit is an approval of the well registration on the terms and conditions set out in the Operating Permit.

C. If a well is a pre-existing well that was drilled before June 21, 2000, and is an exempt well, the General Manager shall approve the registration if the information provided is complete. Upon the General Manager's approval, the District shall issue a certificate of registration to the applicant.

D. If a well is a new well drilled after April 20, 2016, and is an exempt well under Rule 3.1.B, then the General Manager may:

- (1) approve the well registration if:
 - (a) the information provided is complete; and
 - (b) the new well will comply with the applicable spacing requirements under Rule 8.2 or the applicant has obtained a variance under Rule 8.3; or
- (2) refer the well registration to the Board, which may:

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- (a) approve the well registration; or
- (b) require the Well Owner to apply for an Operating Permit under Section 5 of these Rules.

E. If a well is a new well drilled after June 21, 2000, and is an exempt well under any provision of Rule 3.1 except 3.1.B, the General Manager shall approve the registration if:

- (1) the information provided is complete; and
- (2) the new well will comply with the applicable spacing requirements under Rule 8.2 or the applicant has obtained a variance under Rule 8.3.

F. Upon the General Manager's approval of a well registration, the District shall issue a certificate of registration to the applicant.

G. An applicant may appeal any decision of the General Manager under this Rule 4.3 to the Board as provided in Rule 15.6.

[Adopted 11/14/12; effective 1/1/13; Rule 4.3.D, E F and G amended 4/10/16]

Rule 4.4 Time Limit for Completion of New Exempt Well

A. A certificate of registration for a new exempt well shall expire if the new well is not completed and the well log required by Texas Occupations Code Section 1901.251 is not filed with the District within 180 days of the issuance of the certificate of registration. A certificate holder may request an extension of the time to drill a well. The request must be submitted in writing and must include the reasons for the request. The General Manager may grant the request, deny it, or grant a different extension than the one requested, without notice and hearing.

B. An applicant may appeal any decision of the General Manager under this Rule 4.4 to the Board as provided in Rule 15.6.

[Adopted 11/14/12; effective 1/1/13; amended 4/20/16]

SECTION 5: OPERATING PERMITS FOR NON-EXEMPT WELLS

Rule 5.1 Operating Permit Application

A. The owner of a proposed non-exempt well shall submit an application for an Operating Permit on a form obtained from the District. The form shall be signed and sworn to by the applicant. A separate application is required for each well.

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B. For applications for Operating Permits other than applications described in Rule 5.2.B and Rule 5.2.C, the applicant shall provide the following information:

- (1) a copy of the completed registration form for the well;
- (2) a location map or property plat drawn on a scale that adequately details the proposed well site by latitude and longitude or by GPS coordinates, and the location of other registered or permitted wells within 5,000 feet of the location of the proposed well;
- (3) the maximum instantaneous production rate requested (in gallons per minute);
- (4) the maximum annual production amount requested (in gallons per year and acre feet per year) for each purpose;
- (5) if the application requests a total maximum annual production amount of 200 acre-feet or greater, the results of a 36-hour pump test of a test well performed in accordance with procedures approved by the District, unless the General Manager waives this requirement in writing;
- (6) the location of the use of the water;
- (7) information describing how the amount of water requested addresses an existing or projected water supply need;
- (8) if the applicant is not the End User of the water, then: (a) if the applicant has identified an End User, the identity of the End User and a description of the applicant's regulatory, statutory, contractual or other legal obligation to address the End User's water supply need, or (b), if the applicant has not identified the End User, a statement that the End User has not been identified;
- (9) the applicant's water conservation plan, if the Texas Water Code or TCEQ rules require the applicant to have a water conservation plan, and, if the applicant is different from the End User, the End User's water conservation plan, if available;
- (10) the applicant's drought contingency plan, if the Texas Water Code or TCEQ rules require the applicant to have a drought contingency plan, and, if the applicant is different from the End User, the End User's drought contingency plan, if available;
- (11) a water well closure plan or a declaration that the applicant will comply with well plugging guidelines and report closure to the TCEQ;
- (12) for new wells, an Operating Permit application fee if one has been established under Rule 2.3; and

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(13) any other information deemed necessary by the District to comply with the requirements of Texas Water Code chapter 36, its enabling statutes, and general law.

C. For applications for Operating Permits described in Rule 5.2.B and Rule 5.2.C, the applicant shall provide the information described in Rule 5.1.B(1), (3) through (7), (11) and (12).

D. The applicant may provide the District with any other information relevant to the considerations in Rule 5.2.D.

[Adopted 11/14/12; effective 1/1/13; amended 10/21/15; Rule 5.1.B amended 4/20/16]

Rule 5.2 Processing of Operating Permit Application

A. **Processing.** Except as provided in Rule 5.2.B. and Rule 5.2.C, an application for an Operating Permit will be processed as provided in Rule 15.1. If an applicant files more than one application for an Operating Permit at the same time, the District shall process those applications together, unless the applicant requests otherwise.

B. **No additional withdrawal amount requested.** An application for an Operating Permit will be processed as provided in Rule 15.3, if:

(1) the application requests that production from the well be aggregated with the permitted annual withdrawal amount of other wells pursuant to Rule 5.3.C.; and

(2) the application does not seek authority to withdraw any amount of water in addition to the aggregated permitted annual withdrawal amount of the other designated wells.

C. **Less than 50 acre-feet per year requested.** If an application for an Operating Permit requests an annual withdrawal of 50 acre-feet per year or less, then the General Manager may: (1) grant the application, (2) approve the Operating Permit with terms other than those requested in the application, (3) deny the application; or (4) refer the application to the Board for decision under Rule 15.3. An applicant may appeal any decision of the General Manager under this Rule 5.2.C to the Board as provided in Rule 15.6.

D. **Consideration.** In deciding whether to grant an application for an Operating Permit, approve the Operating Permit with terms other than those requested in the application, or deny the application, the Board shall consider the requirements of Texas Water Code chapter 36 and the District Rules, including, but not limited to, the following:

(1) whether the application conforms to the requirements prescribed by chapter 36 of the Texas Water Code and the District Rules;

(2) whether the proposed use of water unreasonably affects existing groundwater and surface water resources or existing permit holders;

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- (3) whether the proposed use of water is dedicated to a Beneficial Use;
- (4) whether the proposed use of water is consistent with the District Management Plan;
- (5) whether the applicant has agreed to avoid waste and achieve water conservation; and
- (6) whether the applicant has agreed that reasonable diligence will be used to protect groundwater quality;
- (7) whether the applicant will follow well plugging guidelines at the time of well closure.
- (8) whether granting the application is consistent with the District's duty to manage total groundwater production on a long-term basis to achieve an applicable Desired Future Condition, considering:
 - (a) the Modeled Available Groundwater determined by the TWDB executive administrator;
 - (b) the TWDB executive administrator's estimate of the current and projected amount of groundwater produced under exemptions granted by District Rules and Texas Water Code § 36.117;
 - (c) the amount of groundwater authorized under permits previously issued by the District;
 - (d) a reasonable estimate of the amount of groundwater that is actually produced under permits issued by the District; and
 - (e) yearly precipitation and production patterns;
- (9) whether the conditions and limitations in the Operating Permit prevent Waste, achieve water conservation, minimize as far as practicable the drawdown of the water table or the reduction of artesian pressure, or lessen interference between wells;
- (10) whether the applicant has a history of non-compliance with District Rules and chapter 36 of the Texas Water Code, including any record of enforcement actions against the applicant for violation of District Rules or chapter 36.

[Adopted 11/14/12; effective 1/1/13; amended 10/21/15; Rule 5.2.A, B and C amended 4/20/16]

Rule 5.3 Operating Permit Provisions

A. Well-specific permit provisions. Every Operating Permit issued by the District will include the following:

- (1) the name and address of the person to whom the permit is issued;
- (2) the location of the well;
- (3) the date the permit is to expire if the permitted well is not drilled and completed;
- (4) a statement of the purpose(s) for which water from the well is to be used;
- (5) the location of the use of the water from the well;
- (6) the total depth of the well and the aquifer unit from which the well will produce water;
- (7) the maximum amount of water that may be withdrawn from the well in a calendar year;
- (8) the maximum instantaneous rate at which water may be withdrawn from the well; and
- (9) the term of the permit.

B. Standard permit provisions. All Operating Permits are granted subject to the District Rules, the orders of the Board, the District Management Plan, and Chapter 36 of the Texas Water Code. In addition to any well-specific permit provisions and special conditions included in the Operating Permit, each Operating Permit includes the following standard permit provisions:

- (1) This permit is granted in accordance with District Rules, and acceptance of this permit constitutes an acknowledgement and agreement that permittee will comply with the terms, conditions, and limitations set forth in this permit, the District rules, the orders of the Board, and the District Management Plan.
- (2) Water withdrawn under the permit must be put to beneficial use at all times, and operation of the permitted well in a wasteful manner is prohibited.
- (3) Water produced from the well must be measured using a water measuring device or method approved by the District that is within plus or minus 10% of accuracy.
- (4) The well site must be accessible to District representatives for inspection, and permittee agrees to cooperate fully in any reasonable inspection of the well and well site by District representatives.

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(5) Permittee shall use reasonable diligence to protect water quality.

(6) Permittee shall follow well plugging guidelines at the time of well closure.

(7) The application pursuant to which this permit has been issued is incorporated in this permit by reference, and this permit is granted on the basis of and contingent upon the accuracy of the information provided in that application. A finding that false or inaccurate information has been provided is grounds for revocation of the permit.

(8) Violation of the permit's terms, conditions, requirements, or special provisions, including pumping amounts in excess of authorized withdrawals, may subject the permittee to enforcement action or permit revocation under the District Rules..

(9) Whenever the special conditions in the permit are inconsistent with other provisions of the permit or the District Rules, the special condition will prevail.

C. **Aggregation of withdrawals.** The Board may include a special condition in an Operating Permit allowing the aggregation of the permitted annual withdrawal amount in the Operating Permit with the permitted annual withdrawal amount of other wells designated in the Operating Permit or of other wells within a geographic area designated in the Operating Permit, so that the aggregated annual withdrawal amount may be withdrawn from any one or more of those designated wells, if:

(1) the wells whose withdrawal will be aggregated are part of the same Well System; and

(2) the wells whose withdrawals will be aggregated are completed in the same aquifer unit.

D. **Other special conditions.**

(1) If the General Manager has waived the pump test requirement for an application, as provided in Rule 5.1.B(5), then the Operating Permit may include a special condition requiring the Permittee to provide the District with the results of a 36-hour pump test performed in accordance with procedures approved by the District before the Permittee begins using water from the permitted well.

(2) The Operating Permit may include any special conditions that the Board determines are required by the considerations in Rule 5.2.D and any other special conditions required or authorized by these Rules or applicable law.

[Adopted 11/14/12; effective 1/1/13; amended 10/21/15; Rule 5.3.B and D amended 4/20/16]

Rule 5.4 Operating Permit Term

A. Operating Permits issued before January 1, 2013, that authorize the use of water solely for agricultural purposes are effective until amended or revoked as provided in these Rules.

B. Except as provided in Rule 5.4.A, Rule 5.5, and Rule 5.6, Operating Permits are effective for a period of five years from the date the permit is granted, unless amended or revoked as provided in these Rules.

[Adopted 11/14/12; effective 1/1/13]

Rule 5.5 Time Limit for Completion of Permitted Well

A. An Operating Permit shall automatically terminate if, within 180 days of the date of issuance of the permit:

(1) the permitted well has not been completed; or

(2) the well log required by Texas Occupations Code Section 1901.251 has not been filed with the District.

B. Before an Operating Permit automatically terminates under Rule 5.5.A, the Operating Permit holder may request a 180-day extension of the time to drill a well. The request must be submitted in writing and must include the reasons for the request. The Board will take action on the request under Rule 15.3.

[Adopted 11/14/12; effective 1/1/13; Rule 5.5.B amended 4/20/16]

Rule 5.6 Time Limit for Operation of Permitted Well

A. An Operating Permit shall automatically terminate if, within 24 months of the date that the permitted well is completed, the permittee has not used water from the permitted well for a purpose authorized in the Operating Permit.

B. Before an Operating Permit automatically terminates under Rule 5.6.A, the Operating Permit holder may request a 24-month extension of the time to operate a well. The request must be submitted in writing and must include the reasons for the request. The Board will take action on the request under Rule 15.3.

[Adopted 11/14/12; effective 1/1/13; Rule 5.2.B amended 4/20/18]

Rule 5.7 Renewal of Operating Permit

A. **Application.** At least 60 days before the term of an Operating Permit expires, an Operating Permit holder may apply for renewal of the permit. An application for renewal shall be in writing. A renewal application fee must also be submitted, if one has been

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established under Rule 2.3. An Operating Permit holder who has timely filed an application for renewal may continue to operate the permitted well under the existing terms and conditions of the Operating Permit until the General Manager acts on the application for renewal.

B. **Approval.** The General Manager shall approve an application for renewal of an Operating Permit on the existing terms and conditions if the application is timely filed and accompanied by a renewal application fee, if one has been established under Rule 2.3.

C. **Permittee-proposed amendments.** If the Operating Permit holder proposes a change in the Operating Permit that requires an amendment under Rule 7.2 in conjunction with an application to renew the Operating Permit, the application to amend shall be processed separately from the application for renewal and as provided in Rule 7.2.

D. **General Manager proposed amendments.** Within 60 days of the date that an Operating Permit holder files an application for renewal of an Operating Permit, the General Manager may propose an amendment to the Operating Permit under Rule 7.2.H. A General Manager-proposed amendment shall be processed separately and as provided in Rule 7.2.H.

E. **Enforcement proceedings.** Any enforcement proceedings against the Operating Permit holder shall be processed separately from the application for renewal as provided in Rule 5.8 and Section 13 of the District Rules, and shall not be affected by the renewal of the Operating Permit under this Rule 5.7.

F. **Renewal term.** If an application for renewal is granted, the Operating Permit is effective for a period of five (5) years from the date of the expiration of the prior term, unless amended or revoked as provided in these Rules.

G. **Failure to apply.** If an Operating Permit holder fails to timely file an application for renewal, the Operating Permit will expire at the end of its stated term.

[Adopted 11/14/12; effective 1/1/13; amended 4/20/16]

SECTION 6: TRANSPORT PERMITS

Rule 6.1 Required Transport Permit

A. Except as provided in Rule 6.1.B, no person may transfer groundwater outside of the District's boundaries for use outside the District's boundaries without first obtaining a Transport Permit.

B. A Transport Permit is not required for the transfer of groundwater outside of the District's boundaries under the following circumstances:

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(1) if the groundwater will be used on a contiguous property owned by the same person that is partly inside and partly outside the District boundaries;

(2) if the groundwater will be used by a Retail Public Water Utility that is required to obtain a certificate of convenience and necessity under Texas Water Code chapter 13 to supply water within a certificated service area that lies partly inside and partly outside the District boundaries;

(3) if the groundwater will be used by a Retail Public Water Utility that is not required to obtain a certificate of convenience and necessity under Texas Water Code chapter 13 to supply water to a retail service area that lies partly inside and partly outside the District boundaries; and

(4) if the groundwater is transferred outside of the District's boundaries under a continuing arrangement in effect before March 2, 1997; provided, however, that a Transport Permit is required for any increase in the amount of groundwater transferred outside the District's boundaries under a continuing arrangement in effect before March 2, 1997.

[Adopted 11/14/12; effective 1/1/13]

Rule 6.2 Transport Permit Application

A. A Well Owner shall submit an application for a Transport Permit on a form obtained from the District. The form shall be signed and sworn to by the applicant. A separate application is required for each well from which the water to be transferred outside the District's boundaries will be produced.

B. The application form for a Transport Permit shall require the applicant to provide the following information:

(1) a copy of the completed registration form for the well;

(2) the maximum amount of water proposed to be transferred outside the District's boundaries annually (in gallons per year or acre-feet per year);

(3) the location of the use of the water;

(4) information describing how this application addresses a water supply need in the receiving area, including information on when that water supply need is projected to occur; and

(5) if the applicant is not the End User of the water, then (a) if the applicant has identified an End User, the identity of the End User and a description of the applicant's regulatory, statutory, contractual or other legal obligation to address the End User's water supply need, or (b) if the applicant has not identified the End User, a statement that an End User has not been identified;

(6) a Transport Permit application fee if one has been established under Rule 2.3; and

(7) any other information deemed necessary by the District to comply with the requirements of Texas Water Code chapter 36, its enabling statutes, and general law.

C. The applicant may provide the District with any other information relevant to the considerations in Rule 6.3.B.

[Adopted 11/14/12; effective 1/1/13]

Rule 6.3 Processing of Transport Permit Application

A. **Processing.** An application for a Transport Permit shall be processed as provided in Rule 15.1. If an application for a Transport Permit for a well is submitted with an application for an Operating Permit for the same well, the applications will be combined and processed together.

B. **Considerations.** In deciding whether to grant an application for a Transport Permit, deny the application, or approve the Transport Permit with terms other than those requested in the application, the Board shall consider the requirements of Texas Water Code chapter 36 and the District Rules, including, but not limited to, the following:

(1) the availability of water in the District and in the proposed receiving area during the period for which the water supply is requested;

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

(3) the approved regional water plan and the District Management Plan.

[Adopted 11/14/12; effective 1/1/13; Rule 6.3.A amended 4/20/16]

Rule 6.4 Transport Permit Provisions

A. **Standard permit provisions.** Every Transport Permit issued by the District will include the following:

(1) the name and address of the person to whom the permit is issued;

(2) the location of the well;

(3) the purpose for which water from the well is to be used;

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- (4) a provision requiring water withdrawn under the permit be put to beneficial use at all times;
- (5) the location of the use of the water from the well;
- (6) the maximum amount of water withdrawn from the well that may be transferred outside the District's boundaries in a calendar year; and
- (7) the term of the permit.

B. **Special conditions.** A Transport Permit may also include any other special conditions required or authorized by these Rules or other applicable law for Operating Permits.

[Adopted 11/14/12; effective 1/1/13]

Rule 6.5. Term of Transport Permit

- A. The term of a Transport Permit shall be three years if construction of a conveyance system has not been initiated prior to the issuance of the permit.
- B. The term of a Transport Permit shall be thirty (30) years if construction of a conveyance system has been initiated prior to the issuance of the permit.
- C. A three-year term under Rule 6.5.A shall automatically be extended to a 30-year term under Rule 6.5.B. if construction of a conveyance system is begun before the expiration of the initial term.

[Adopted 11/14/12; effective 1/1/13]

Rule 6.6 Renewal of Transport Permit

- A. **Application.** Before the term of a Transport Permit expires, a Transport Permit holder may apply for renewal of the permit. An application for renewal shall be in writing. A renewal application fee must also be submitted, if one has been established under Rule 2.3. A Transfer Permit holder who has timely filed an application for renewal may continue to transfer water outside the District's boundaries under the terms of the permit while the District considers the application.
- B. **Processing.** An application for renewal of a Transport Permit will be processed as provided in Rule 15.3.
- C. **Considerations.** In deciding whether to grant an application for renewal, deny it, or approve renewal of the Transport Permit with amended terms or conditions, the Board shall consider the following:

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(1) if the well requires an Operating Permit, whether the Operating Permit for the well remains in effect;

(2) whether the Transport Permit holder has complied with the terms and conditions of the permit, the District Rules, and chapter 36 of the Texas Water Code, including any record of enforcement actions against the Transfer Permit holder;

(3) whether any inaccurate information provided in the application justifies non-renewal or any changes in the permit conditions;

(4) whether any changes in the Texas Water Code or the District Rules on which the permit or a permit condition was based or any judicial decision issued after the permit was granted require any changes in the permit conditions; and

(5) whether any changes in the District's Desired Future Conditions or the District Management Plan that were approved after the permit was granted require any changes in the permit conditions.

C. **Renewal term.** If an application for renewal is granted, the Transport Permit is effective for a period of three (3) years from the date of the expiration of the prior term, unless amended or revoked as provided in these Rules.

D. **Failure to apply.** If a Transport Permit holder fails to timely file an application for renewal, the Transport Permit will expire at the end of its stated term.

[Adopted 11/14/12; effective 1/1/13; amended 4/20/16]

SECTION 7: CHANGE IN WELL CONDITIONS OR OPERATIONS; CHANGE IN OWNERSHIP; REPLACEMENT WELLS

Rule 7.1 Changes to Well Conditions or Operations of Exempt and Non-exempt Wells Requiring Operating Permit Application

A. **Changes to exempt wells.** No person may make any change to an exempt well that would cause the exempt well to become a non-exempt well until the Well Owner files and receives District approval of an application for an Operating Permit under Section 5 of these Rules.

B. **Changes to non-exempt wells.** No person may make a change to a non-exempt well that would change the applicable spacing requirements for the non-exempt well or that would otherwise cause the non-exempt well to operate in a manner not authorized by the terms and provisions of the well's Operating Permit until the Operating Permit holder files and receives District approval of an application for an amendment of the Operating Permit under Section 7.2 of these Rules.

[Adopted 11/14/12; effective 1/1/13; amended 4/20/16]

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Rule 7.2. Amendments to Operating Permit for Non-exempt Wells

A. **Required amendments.** An amendment to an Operating Permit is required for any change to the terms, provisions or special condition in the Operating Permit.

B. **Application.** An application for an amendment to an Operating Permit shall be in writing and signed and sworn to by the applicant. An amendment application fee must also be submitted, if one has been established under Rule 2.3.

C. **Amendment without increase in authorized amount or withdrawal rate.** If an application to amend an Operating Permit does not seek to increase the maximum amount of water that may be withdrawn from the well in a calendar year, or the maximum instantaneous rate at which water may be withdrawn from the well, then the application will be processed as provided in Rule 15.3; provided, however, that the Board may, in its sole discretion, require the application to be processed as provided in Rule 15.1

D. **Amendment to aggregate without increase in withdrawal rate.** If an application to amend an Operating Permit requests that the existing authorized annual withdrawal amount from the well be aggregated with the existing authorized annual withdrawal amounts of other wells pursuant to Rule 5.3.C. and does not seek to increase the maximum instantaneous rate at which water may be withdrawn from the well, then the application may be processed as provided in Rule 15.4; provided, however, that the Board may, in its sole discretion, require the application to be processed as provided in Rule 15.1

E. **Amendment to decrease authorized amount or withdrawal rate.** The General Manager may grant an application to amend an Operating Permit that seeks solely to decrease the maximum amount of water that may be withdrawn from the well in a calendar year, or the maximum instantaneous rate at which water may be withdrawn from the well, without notice or hearing.

F. **Processing.** Except as provided in Rule 7.2.C, Rule 7.2.D and Rule 7.2.E, an application for an amendment shall be processed as provided in Rule 14.3.

G. **Considerations.** Except as provided in Rule 7.2.H, in deciding whether to grant an application for an amendment, deny it, or approve the amendment with terms other than those requested in the application, the District shall use the considerations provided in Rule 5.2.D.

H. **General Manager-proposed amendments.** The General Manager may propose an amendment to an Operating Permit: (1) if the Operating Permit has a term, then within 60 days of the date on which the Permittee files an application for renewal of the Operating Permit; or (2) if the Operating Permit does not have a term, then not more than once every five years. The General Manager shall provide the Permittee with written notice of the proposed amendment. A General Manager-proposed amendment

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shall be processed as provided in Rule 15.1C-F. The Board will grant a General Manager-proposed amendment if the General Manager demonstrates that:

(1) false or inaccurate information provided in the application justifies the proposed change in the permit terms or conditions; or

(2) relevant information that has become available since the permit was issued justifies the proposed changes in permit terms or conditions; or

(3) changes in the Texas Water Code or the District Rules on which the permit or a permit condition was based or any judicial decision issued after the permit was granted require the proposed change in permit terms or conditions; or

(4) changes in the District's Desired Future Conditions or the District Management Plan that were approved after the permit was granted require the proposed change in permit terms or conditions.

[Adopted 11/14/12; effective 1/1/13; amended 10/21/15; amended 4/20/16]

Rule 7.3 Amendments to Transport Permit

A. **Required amendments.** An amendment to a Transport Permit is required for any change to the terms, provisions or special conditions in the Transport Permit.

B. **Application.** An application for an amendment to a Transfer Permit shall be signed and sworn to by the applicant. An amendment application fee must also be submitted, if one has been established under Rule 2.3.

C. **Amendment without increase in authorized transport amount.** If an application to amend a Transport Permit does not seek to increase the maximum amount of water that may be transported outside the boundaries of the District in a calendar year, then the application will be processed as provided in Rule 15.3; provided, however, that the Board may, in its sole discretion, require the application to be processed as provided in Rule 15.1.

D. **Amendment to decrease authorized amount.** The General Manager may grant an application to amend a Transport Permit to decrease the maximum amount of water that may be transferred outside the boundaries of the District in a calendar year, without notice or hearing.

E. **Processing.** Except as provided in Rule 7.3.C and Rule 7.3.D., an application for an amendment to a Transport Permit shall be processed as provided in Rule 15.1.

F. **Considerations.** In deciding whether to grant an application for an amendment, deny it, or approve the amendment with terms other than those requested in the application, the Board shall use the considerations provided in Rule 6.3.B.

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[Adopted 11/14/12; effective 1/1/13; amended 4/20/16]

Rule 7.4 Transfer of Ownership and Well Registration for Exempt Wells and Non-Exempt Wells

A. The new owner of an exempt or non-exempt well shall report the change in ownership of the well to the District. The new Well Owner shall submit to the District:

- (1) the name, address and phone number of the new Well Owner;
- (2) a copy of the written instrument transferring ownership of the well to the new Well Owner; and
- (3) a change of ownership fee, if one has been established under Rule 2.3.

B. The General Manager shall reflect the change in ownership of the well and the well registration in the records of the District if the General Manager determines that:

- (1) the information provided is complete; and
- (2) any required fee has been paid.

C. An applicant may appeal any decision of the General Manager under this Rule 7.4 to the Board as provided in Rule 15.6.

[Adopted 11/14/12; effective 1/1/13; amended 4/20/16]

Rule 7.5 Transfer of Operating Permit for Non-exempt Wells

A. **Prior approval required.** Except as provided in Rule 7.5.E, an Operating Permit holder may not transfer ownership of an Operating Permit to another person or entity without the District's prior approval.

B. **Application.** The proposed transferee shall submit an application to transfer an Operating Permit. The Application shall be writing and signed by the applicant and shall include:

- (1) the name, address and phone number of the new applicant;
- (2) a copy of the written instrument transferring ownership of the Operating Permit to the proposed transferee; and
- (3) a transfer application fee, if one has been established under Rule 2.3.

C. **Processing.** An application to transfer an Operating Permit will be processed as provided in Rule 15.3.

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D. **Considerations.** In deciding whether to grant an application for transfer, deny it, or approve the transfer with conditions, the Board shall consider:

(1) whether the proposed transferee has complied with the terms and conditions of any other District permits issued to the proposed transferee, the District Rules, and chapter 36 of the Texas Water Code, including any record of enforcement actions against the proposed transferee; and

(2) whether the proposed transferee has the financial and managerial capabilities necessary to comply with the terms and conditions of the permit to be transferred.

E. **Agricultural Wells.** The holder of an Operating Permit for a well that is used solely for Agricultural Use may transfer ownership of the Operating Permit without the District's prior approval. The new owner shall report the change of ownership to the District as provided in Rule 7.4.

[Adopted 11/14/12; effective 1/1/13; Rule 7.5.B and C amended 4/20/16]

Rule 7.6 Transfer of Transport Permit

A. **Prior approval required.** A Transport Permit holder may not transfer ownership of a Transport Permit to another person or entity without the District's prior approval.

B. **Exempt wells.** A Transport Permit for an exempt well may only be transferred with the ownership of the well. An application to transfer a Transport Permit for an exempt well will be processed as provided in Rule 15.3. In deciding whether to grant an application for transfer, deny it, or approve the transfer with conditions, the Board shall use the considerations provided in Rule 7.5.D.

C. **Non-exempt wells.** A Transport Permit for a non-exempt well may only be transferred with the Operating Permit for the well. An application to transfer a Transport Permit for a non-exempt well shall be processed with the application for transfer of the Operating Permit under Rule 7.5.

[Adopted 11/14/12; effective 1/1/13; Rule 7.6B and C amended 4/20/16]

Rule 7.7 Replacement Wells for Exempt Wells and Non-exempt Wells

A. No person may drill a replacement well for an exempt well or a non-exempt well without the District's prior approval.

B. An application for a replacement well shall be in writing and signed and sworn to by the proposed transferee. A replacement well application fee must also be submitted, if one has been established under Rule 2.3.

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C. The General Manager shall approve the application in writing if the General Manager determines that:

(1) either: (a) the location of the proposed replacement well is within 500 feet of the existing well and complies with the applicable spacing requirements under Rule 8.2; or (b) the applicant has obtained a variance under Rule 8.3 or Rule 14.7; and

(2) the replacement well will be located in the same aquifer unit as the well being replaced.

D. A replacement well must be drilled within 30 feet of the approved location, and not elsewhere. Rule 10.1.A does not apply to a replacement well.

E. The approval of a replacement well shall expire if the new well is not completed and the well log required by Texas Occupations Code Section 1901.251 is not filed with the District within 180 days of the issuance of the approval. The applicant may request an extension of the time to drill a replacement well. The request be submitted in writing and must include the reasons for the request. The General Manager may grant the request, deny it, or grant a different extension than the one requested, without notice and hearing.

F. If a replacement well is completed and the well log is filed with the District within the applicable time limit under Rule 7.7.E, then the well registration, Operating Permit, and other permits for the well that is being replaced will be assigned to the replacement well, unless the Well Owner notifies the District in writing that the Well Owner intends to plug the replacement well and retain the original well. Immediately after determining whether the replacement well or the original well will be retained for production, the Well Owner shall plug the other well in accordance with applicable law, unless the District and the Well Owner mutually agree that the District will use that other well as a monitoring well.

G. An applicant may appeal any decision of the General Manager under this Rule 7.7 to the Board as provided in Rule 15.6.

[Adopted 11/14/12; effective 1/1/13; Rule 7.7.B and G amended 4/20/16]

SECTION 8: SPACING REQUIREMENTS

Rule 8.1. Purpose and Applicability

A. The purpose of these well spacing requirements is to minimize as far as practicable the drawdown of the water table or the reduction of artesian pressure, to prevent interference between wells, to prevent degradation of water quality, and to prevent waste.

B. The requirements of this Rule 8 apply to all new wells drilled within the District after January 13, 2013, except exempt wells described in Rule 3.1.C and Rule 3.1.D.

[Adopted 11/14/12; effective 1/1/13]

Rule 8.2 Minimum Well Spacing Requirements

A. **From Property Lines.** A new non-exempt well may not be drilled within 100 feet of the nearest Property Line. A new exempt well may not be drilled within 50 feet of the nearest Property Line.

B. **From other wells.** A new non-exempt well shall be spaced from the nearest well that is (1) registered or permitted on the date that the application for well registration is filed; (2) completed in the same aquifer unit; and (3) owned by a different Well Owner as follows:

Maximum Pump Capacity (gpm)	Simsboro and Carrizo (feet)
≤ 500	1,500
501 – 1000	2,500
> 1000	5,000

[Adopted 11/14/12; effective 1/1/13; Rule 8.2.B amended 4/20/16]

Rule 8.3. Well Spacing Variances

A. **Non-exempt wells.** If a variance from the spacing requirements of Rule 8.2 is required for a proposed new well that requires an Operating Permit under Section 5 of these Rules, then a variance will be considered with the Operating Permit application. If a variance from the spacing requirements of Rule 8.2 is required for an existing well that requires an amendment to an Operating Permit under Rule 7.3, then a variance from the spacing requirements of Rule 8.2 will be considered with the Operating Permit amendment application.

B. **Exempt wells.** If the well for which the variance is required is or will be an exempt well, the variance shall be processed as follows:

(1) The General Manager may grant the variance, without notice or hearing, if:

(a) the applicant for well registration has submitted signed and notarized waivers from all Owners and Well Owners within the applicable spacing limits described in Rule 8.2; and

(b) the well location complies with the requirements of Rule 10.1.B.

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(2) The General Manager, in his or her sole discretion, may refer the well registration to the Board for a decision on whether a variance should be granted, without regard to whether the requirements of Rule 8.3.B(1) have been met.

(3) If a variance is required and Rule 8.3.B(1) does not apply or the General Manager has referred the well registration to the Board under Rule 8.3.C(2), the variance will be set on the agenda for a Board meeting. In addition to the notice required by the Open Meetings Act, the District shall mail notice at least fourteen (14) days prior to the Board meeting at which the variance will be considered to the applicant for well registration and to all Owners and Well Owners located within the spacing limits described in Rule 8.2. The notice of the meeting shall provide the proposed location of the well(s), the applicant's name and address, and the date, time, and location of the Board meeting. The Board may grant the variance, deny the variance, or approve the variance with terms other than those requested at the noticed Board meeting or any subsequent and appropriately noticed Board meeting.

[Adopted 11/14/12; effective 1/1/13; amended 4/20/16]

SECTION 9: PRODUCTION LIMITS FOR NON-EXEMPT WELLS

Rule 9.1. Production Limits. To accomplish the purposes of Texas Water Code chapter 36, and to 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 district shall manage total groundwater production on a long-term basis to achieve the applicable Desired Future Condition. The District may establish production limits on all permits for this purpose following the procedures in Rule 14.1 and 14.2. All Operating Permits are issued subject to any future production limits adopted by the District under this Rule.

[Adopted 11/14/12; effective 1/1/13]

Rule 9.2. Management Zones

A. Using the best hydrogeologic and other relevant scientific data readily available, the Board may create certain management zones within the District based on geographically or hydrogeologically defined areas, aquifers, or aquifer subdivisions, in whole or in part, following the procedures in Rule 14.1 or Rule 14.2. Within a management zone, the District may:

- (1) assess water availability;
- (2) authorize total production and make proportional adjustments to permitted withdrawals;
- (3) allow for the transfer of permits; and

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(4) otherwise undertake efforts to manage the groundwater resources in a manner that is consistent with the District Management Plan and that aids in the attainment of all applicable Desired Future Conditions.

B. The District shall attempt to delineate Management Zones along boundaries that, to the extent practicable, will promote fairness and efficiency by the District in its management of groundwater and the ability of the public to identify the boundaries based upon land surface features.

[Adopted 11/14/12; effective 1/1/13]

SECTION 10: WELL LOCATION AND CONSTRUCTION STANDARDS

Rule 10.1. Well Location

A. All new wells must be drilled within 100 feet of the location identified in the approved certificate of registration or the approved Operating Permits; provided that the well location must comply with the applicable well spacing requirements under Rule 8.2 or any variance granted under Rule 8.3.

B. All new wells must comply with the location standards of Texas Department of Licensing and Regulation rules at 16 Texas Administrative Code Section 76.1000, as amended, and with the minimum required separation distance for on-site sewage facilities under Texas Commission on Environmental Quality rules at 30 Texas Administrative Code Section 285.91(10), as amended.

C. Public water system wells must comply with the location standards of 30 Texas Administrative Code chapter 290.

[Adopted 11/14/12; effective 1/1/13]

Rule 10.2 Well Construction

A. Except as provided in Rule 10.2.C, all new construction of wells and installation of pumps shall be in accordance with the Texas Occupations Code Chapter 1901, "Water Well Drillers," and Chapter 1902, "Water Well Pump Installers," as amended, and the rules of the Texas Department of Licensing and Regulation at 16 Texas Administrative Code, Chapter 76, as amended.

B. All public water supply wells must be completed using the engineer-designed criteria approved by the Texas Commission on Environmental Quality under 30 Texas Administrative Code Chapter 290, as amended.

C. All non-exempt wells other than public water supply wells must be completed in accordance with the stricter of the Texas Department of Licensing and Regulation rules set forth at 16 Texas Administrative Code, Chapter 76, the applicable county regulations, the applicable city ordinances, or the following specifications:

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(1) The annular space between the borehole and the casing shall be filled with cement slurry from the ground level to a depth of not less than 10 feet below the land surface or well head.

(2) All wells shall have a concrete slab or sealing block above the cement slurry around the well at the ground surface.

(3) The slab or block shall extend at least two (2) feet from the well in all directions and have a minimum thickness of four inches and shall be separated from the well casing by a plastic or mastic coating or sleeve to prevent bonding of the slab to the casing.

(4) The surface of the slab shall be sloped to drain away from the well.

(5) In all new wells:

(a) the casing shall extend a minimum of one foot above the original ground surface; and

(b) A slab or block as described in Rule 10.2.C(3) is required above the cement slurry except when a pitless adapter is used. Pitless adapters may be used in such wells provided that:

(i) the pitless adapter is welded to the casing or fitted with another suitably effective seal; and

(ii) the annular space between the borehole and the casing is filled with cement to a depth not less than 15 feet below the adapter connection.

(6) The well casing shall be capped or completed in a manner that will prevent pollutants from entering the well.

[Adopted 11/14/12; effective 1/1/13]

Rule 10.3 Re-completions

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

B. If a well is allowing the commingling of undesirable water with 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

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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.

C. The Board may direct a Well Owner to take steps to prevent the commingling of undesirable water with fresh water, or the unwanted loss of water.

[Adopted 11/14/12; effective 1/1/13]

SECTION 11: REPORTING

Rule 11.1 Filing State Reports

A. **Well Report.** A water well driller shall submit a copy of the State Well Log report and, if available, a geophysical log to the District within 30 days of: (1) the cessation of drilling, for a well that will not be completed; (2) the completion of a well; (3) the deepening of a well; or (4) any other alteration to the well.

B. **Plugging Report.** Within 30 days after plugging a well, the person plugging the well shall submit to the District a copy of the State Plugging Report.

[Adopted 11/14/12; effective 1/1/13]

Rule 11.2 Water Use Reports

A. **Wells with Operating Permits.** An Operating Permit holder shall keep a record of the total amount of water produced from a permitted well in each calendar month. The Operating Permit holder shall submit an annual water production report to the District on or before January 31 of the following calendar year that includes the amount of groundwater withdrawn during each calendar month of the previous calendar year.

B. **Wells with Transport Permits.** A Transport Permit holder shall keep a record of the total amount of water produced from a well or a Well System and transported outside the boundaries of the District in each calendar year. The Transport Permit holder shall submit the annual water transport record to the District on or before January 31 of the following calendar year.

C. **Other wells transporting water outside District boundaries.** A Well Owner who transports groundwater outside the District's boundaries for use outside the District's boundaries, but is exempted from obtaining a Transport Permit under Rule 6.1.B.(2) or Rule 6.1.B.(3), shall keep a record of the total amount of water transported outside the boundaries of the District in each calendar year. The Well Owner shall submit the annual water transport report to the District on or before January 31 of the following calendar year.

D. **Exempt rig supply wells.** The operator of a well that is exempted from obtaining an Operating Permit under Rule 3.1.B shall keep a record of the total amount of water produced from the well in each calendar month. The operator shall submit an annual

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water production report to the District on or before January 31 of the following calendar year that includes the amount of groundwater withdrawn during each calendar month of the previous calendar year.

E. **Exempt mining wells.** An entity holding a permit issued by the Railroad Commission under Texas Natural Resources Code, Chapter 134 that authorizes the drilling of a water well shall keep a record of the total amount of water produced from the well in each calendar year. The entity shall submit an annual water production report to the District on or before January 31 of the following calendar year that includes the amount of groundwater withdrawn during each calendar month of the previous calendar year.

[Adopted 11/14/12; effective 1/1/13; amended 4/20/16]

SECTION 12: PROHIBITION AGAINST WASTE AND POLLUTION

Rule 12.1 Wasteful Use. Groundwater produced from within the District shall not be used in such a manner or under such conditions as to constitute Waste as defined by District Rules.

[Adopted 11/14/12; effective 1/1/13]

Rule 12.2 Groundwater Pollution. No person shall pollute or harmfully alter the character of the groundwater within the District by causing or allowing the introduction of undesirable water, pollutants, or other deleterious matter from another stratum, from the surface of the ground, or from the operation of a well. Injection activities that are in compliance with the Texas Commission on Environmental Quality regulatory requirements authorized by chapter 27 of the Texas Water Code chapter 27, for which the U.S. Environmental Protection Agency and the TCEQ have approved the aquifer exemption specified in the federal Safe Drinking Water Act and codified in 40 Code of Federal Regulations, section 114.7(b) and 30 Texas Administrative Code, section 331.13, shall not constitute groundwater pollution under this Rule 12.2.

[Adopted 11/14/12; effective 1/1/13]

Rule 12.3 Waste Prevention. Any person producing or using groundwater shall exercise due care in accordance with acceptable and approved methods to stop and prevent waste of groundwater.

[Adopted 11/14/12; effective 1/1/13]

Rule 12.4 Deteriorated Well. No person shall allow the continued existence of a Deteriorated Well or an abandoned well. Not later than the 180th day after the date a Landowner, Owner, or Well Owner or other person who possesses a Deteriorated Well learns of its condition and location, the well shall be plugged in accordance with the Rules of the Texas Department of Licensing and Regulation, 16 Texas Administrative Code chapter 76, as amended. It is the responsibility of the Landowner, Owner and

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Well Owner to ensure that such a well is plugged in order to prevent pollution of the groundwater and to prevent injury to persons. Not later than the 30th day after the date the well is plugged, a State Plugging Report shall be submitted to the District as required by Rule 11.1.B.

[Adopted 11/14/12; effective 1/1/13]

Rule 12.5 Open or Uncapped Well. If any Well is not in actual use, but has not been plugged, the Well Owner shall keep the Well permanently capped or closed with a covering capable of sustaining weight of at least 400 pounds.

[Adopted 4/20/16]

SECTION 13: INVESTIGATIONS AND ENFORCEMENT

Rule 13.1 Notice and Access to Property. District employees and agents are entitled to enter any public or private property within the boundaries of the district at any reasonable time 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. District employees shall make reasonable efforts to notify and coordinate with the permittee in advance of any entry. Entry will take place during normal business hours, unless the permittee agrees to entry at another time. District employees or agents acting under this authority shall exhibit proper credentials upon request, and shall observe all applicable rules and regulations concerning safety, internal security, and fire protection.

[Adopted 11/14/12; effective 1/1/13]

Rule 13.2 Notice of Violation of Water Code or District Rules. The District will send a notice of violation to a person who is believed to be in violation of Texas Water Code chapter 36. The notice of violation shall include a description of the alleged violation. The notice of violation will be processed as provided in Rule 15.7.

[Adopted 11/14/12; effective 1/1/13; amended 4/20/16]

Rule 13.3 Penalties for Violation of District Rules

The Board may assess penalties of up to \$5,000 per day per violation of a District Rule, and each day of a continuing violation constitutes a separate violation.

[Adopted 11/14/12; effective 1/1/13; amended 4/20/16]

Rule 13.4 Civil Enforcement of Water Code and District Rules. The Board may seek enforcement of Texas Water Code chapter 36 or the District Rules by injunction, mandatory injunction, or other appropriate remedy through a suit filed in a court of competent jurisdiction, as provided by Texas Water Code section 36.102.

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[Adopted 11/14/12; effective 1/1/13; amended 4/20/16 and renumbered Rule 13.4]]

Rule 13.5 Closing or Capping of Wells

A. After notice to the Well Owner and the opportunity to request a contested case hearing under Rule 15.7, the Board may enter an order requiring a Well Owner to close or cap a well that is not in actual use in compliance with Rule 12.5, if the Board finds that the closing or capping is required to protect groundwater quality.

B. If the District Board enters an order requiring the Well Owner to close or cap a well and the Well Owner fails to close or cap the well, the District may enter upon the property as provided by Rule 13.1 and close or cap the well.

C. If the District believes that an open well may cause a threat of imminent endangerment to human health, safety, or the environment, the Board enter an order requiring closing or capping of the well on an emergency basis, and the District may enter upon the property as provided by Rule 13.1 and close or cap the well. Notice of the Board order shall be provided to the Well Owner as soon as reasonably practicable, and the Well Owner may request a contested case hearing on the order in accordance with the procedures set out in Rule 15.7.

D. Tampering with, altering, damaging, or removing a well cap that was installed by the District without District approval is a violation of the District Rules.

[Adopted 4/20/16]

SECTION 14: PROCEDURE FOR ADOPTION OF RULES

Rule 14.1 Hearing on Rules Other Than Emergency Rules

A. The Board will consider proposed Rules at a regularly scheduled or specially called Board meeting. The Board meeting at which the proposed Rules are considered under this Rule shall be considered the public hearing on the proposed Rules and fulfills the requirement, if any, for a public hearing.

B. Notice required by the Open Meetings Act shall be provided for the hearing.

C. In addition to the notice required by the Open Meetings Act, not later than the 20th day before the date of the hearing, notice shall be provided as follows:

- (1) Post notice in a place readily accessible to the public at the District office;
- (2) Provide notice to the county clerks of Bastrop County and Lee County;
- (3) Publish notice in one or more newspapers of general circulation in the counties in which the District is located; and

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(4) Provide notice by mail, facsimile, or electronic mail to any person who has requested notice under Rule 14.1.F. Failure to provide such notice does not invalidate an action taken by the District at a rulemaking hearing.

D. Notice of the hearing on the proposed Rules shall include:

(1) A brief explanation of the subject of the rulemaking hearing, including a statement that the Board will consider changes to the Rules.

(2) The time, date, and location of the hearing.

(3) The agenda of the hearing.

(4) A statement that the proposed Rules are available to be reviewed or copied at the District Office prior to the hearing.

(5) A statement that the District will accept written comments and that provides the deadline for submitting such written comments.

(6) A statement that oral public comment will be taken at the hearing.

E. Copies of the proposed Rules shall be available at the District Office during normal business hours at least 20 days prior to the hearing.

F. A person may submit to the District a written request for notice of a rulemaking hearing. A request is effective for the remainder of the calendar year in which the request is received by the District. To receive notice of a rulemaking hearing in a later year, a person must submit a new request.

G. The presiding officer shall conduct a rulemaking hearing in the manner the presiding officer determines to be most appropriate to obtain information and comments relating to the proposed rule as conveniently and expeditiously as possible. Comments may be submitted orally at the hearing or in writing. The presiding officer may hold the record open for a specified period after the conclusion of the hearing to receive additional written comments.

H. A district may require each person who participates in a rulemaking hearing to submit a hearing registration form stating:

(1) the person's name;

(2) the person's address; and

(3) whom the person represents, if the person is not at the hearing in the person's individual capacity.

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I. The presiding officer shall prepare and keep a record of each rulemaking hearing in the form of an audio or video recording or a court reporter transcription.

J. The District may use an informal conference or consultation to obtain the opinions and advice of interested persons about contemplated rules and may appoint advisory committees of experts, interested persons, or public representatives to advise the district about contemplated rules.

K. If the Board decides to consider substantial changes to the proposed Rules, the Board will provide new notice of the proposed rules and hold an additional hearing on the proposed Rules in accordance with this Rule.

L. The Board shall issue a written order or resolution reflecting its decision. The proposed Rules that the Board has approved shall be an attachment to that written order or resolution.

M. The effective date of the written order or resolution shall be the date on which the President of the District signs the order or resolution. The order or resolution shall include the date upon which the proposed Rules will become effective. Any appeal authorized by Texas Water Code chapter 36, subchapter H shall run from the effective date.

[Adopted 11/14/12; effective 1/1/13; Rule 14.1.J amended 4/20/16]

Rule 14.2 Hearing on Emergency Rules

A. The Board may adopt an emergency rule without following the procedures in rule 14.1 if the Board:

(1) finds that a substantial likelihood of imminent peril to the public health, safety, or welfare, or a requirement of state or federal law, requires adoption of a rule on less than 20 days' notice; and

(2) prepares a written statement of the reasons for its finding under Rule 14.2.A(1).

B. An emergency rule under this Rule 14.2 must be adopted at a meeting of the Board subject to the requirements of the Open Meetings Act. Notice required by the Open Meetings Act shall be provided.

C. Except as provided by Rule 14.2.D, a rule adopted under this section may not be effective for longer than 90 days.

D. If notice of a hearing under Rule 14.1 is given not later than the 90th day after the date the rule is adopted, the rule is effective for an additional 90 days.

[Adopted 11/14/12; effective 1/1/13; Rule 14.2.A amended 4/20/16]

SECTION 15: PROCEDURES FOR APPLICATIONS AND OTHER MATTERS

Rule 15.1 Permit Applications Requiring Public Hearing

A. **"Application" defined.** In this Rule 15.1, "Application" refers to:

(1) an application for an Operating Permit, except an application described in Rule 5.2.C and Rule 5.2.D;

(2) an application for a Transport Permit;

(3) an application to amend an Operating Permit, except an application described in Rule 7.2.C., Rule 7.2.D and Rule 7.2.D; or

(4) an application to amend a Transport Permit, except an application described in Rule 7.3.C. and Rule 7.3.D.

B. **Technical review.** Upon receipt of an Application, the General Manager will conduct a technical review as follows:

(1) Within 60 days of the receipt of an Application, the General Manager will notify the applicant if the Application is incomplete or if any additional information or documentation is useful or necessary to address the factors that the Board will consider in making a decision on the Application under these Rules. If the applicant has not supplied the additional information or documentation within 180 days following the date that the General Manager notified the applicant of the need for the additional information or documentation, the Application shall expire. Any additional information or documentation timely submitted by an applicant will be considered a part of the Application.

(2) Within 180 days of the later of the date the District receives an Application or the date that the applicant supplies the additional information or documentation requested under Rule 15.1.B(1), the General Manager will complete the technical review of the Application, and notify the applicant in writing that the Application has been declared Administratively Complete. The written notice will contain a summary of the General Manager's recommendation on the Application, and, if the General Manager recommends that a permit, an amendment, or a renewal be granted, may include a draft permit. The General Manager may extend the 180-day period for technical review for a reasonable period upon written notice to the applicant if the General Manager determines that some specific aspect of the application requires a technical review period of more than 180 days.

C. **Notice.** Within 60 days of the date on which the General Manager determines that an Application is Administratively Complete, the Application will be set for a public hearing. Notice of the public hearing shall be provided as required by the Open Meetings Act and as follows:

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(1) **Contents of notice.** The General Manager shall prepare a notice, which shall include the following information:

- (a) the name of the applicant;
- (b) the address or approximate location of the well or proposed well;
- (c) a brief explanation of the proposed permit, permit amendment, permit renewal, or permit transfer, including any requested amount of groundwater, the purpose of the proposed use, and any change in use;
- (d) the time, date, and location of the public hearing; and
- (e) any other information the General Manager considers relevant and appropriate.

(2) **District notice.** The General Manager shall provide the notice as follows:

(a) Not later than the 25th day before the date of the public hearing , the General Manager shall provide the notice to the applicant by regular mail. At the request of the applicant, the General Manager will also provide the notice of hearing to the applicant by facsimile or electronic mail.

(b) Not later than the 20th day before the date of the public hearing , the General Manager shall:

- (i) post the notice in a place readily accessible to the public at the District Office;
- (ii) provide the notice to the county clerks of Bastrop County and Lee County; and
- (iii) provide the notice by regular mail, facsimile, or electronic mail to any person who has requested notice under Rule 14.3.C(4).

(3) **Applicant notice.** The applicant shall provide the notice as follows:

(a) Not later than the 20th day before the public hearing, the applicant shall provide the notice by regular mail to:

- (i) all Owners and Landowners of property within 5,000 feet of the proposed well location, as shown in the county tax rolls on the date the notice was mailed; and

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(ii) all Owners of registered and permitted wells within 5,000 feet of the proposed well location, as shown in the records of the District on the date the notice is mailed.

(b) Not later than the 20th day before the public hearing, the applicant shall publish the notice once in a newspaper of general circulation in each county within the District.

(c) The applicant shall provide the District with proof of the mailing and publication of notice before the date of the hearing. Proof of publication shall include a publisher's affidavit and tear sheet of the notice.

(4) **Request for notice.** A person may request notice from the District of a public hearing on an Application. The request must be in writing and is effective for the remainder of the calendar year in which the request is received by the District. To receive notice of a public hearing in a later year, a person must submit a new request. An affidavit of an officer or employee of the District establishing attempted service by first class mail, facsimile, or e-mail to the person in accordance with the information provided by the person is proof that notice was provided by the District. Failure to provide notice to a person requesting notice under this Rule 15.1.C(4) does not invalidate an action taken by the District at the meeting or hearing.

D. **Comments.** The President shall be the presiding officer at the public hearing. If the President is not present, the Board shall select one of the Directors who are present to preside. Each person other than the applicant or the General Manager who desires to comment on the Application at the Board meeting shall submit a registration form provided by the District. Any person who has submitted a registration form, the General Manager, and the applicant may make oral comments and submit written evidence on the Application at the time designated for comments. The presiding officer may:

(1) administer an oath to any person presenting evidence on behalf of the General Manager or the applicant or to any other person who makes oral comments on the Application;

(2) take action to ensure that information and oral comments are presented as conveniently and expeditiously as possible without prejudicing the rights of any person;

(3) prescribe reasonable time limits for oral comments and the presentation of evidence; and

(4) continue the public hearing from time to time and from place to place without providing notice under Rule 15.1.C.

E. Request for contested case hearing.

(1) **Filing of request.** The General Manager, the applicant, or any other person may request a contested case hearing on an Application in writing no later than the 5th day before the date of the public hearing described in the notice required by Rule 15.1.C. If the applicant requests a contested case hearing on its Application, then the Application shall be considered contested and a contested case hearing on the Application will be held in accordance with Rule 15.2. If the General Manager requests a contested case hearing, then the Board, in its discretion, shall determine whether a contested case hearing on the Application should be held in accordance with Rule 15.2.

(2) **Preliminary hearing.** If the District receives a request for a contested case hearing on the Application from a person other than the General Manager or the applicant, the Board shall schedule a preliminary hearing to hear the request.

(a) The preliminary hearing may be conducted by:

(i) a quorum of the Board;

(ii) a Hearings Examiner; or

(iii) SOAH, if the applicant or a person requesting a contested case hearing request that the preliminary hearing be conducted by SOAH under Rule 14.4.A.

(b) The District shall mail notice of the preliminary hearing to the applicant, any person who filed a request for a contested case hearing, and persons requesting notice under Rule 15.1.C(4) no later than the 10th day before the date of the preliminary hearing. Failure to provide notice to a person requesting notice under Rule 15.1.C(4) does not invalidate an action taken by the District at the preliminary hearing.

(c) The sole issues at the preliminary hearing shall be:

(i) whether the person requesting a contested case hearing has standing to protest the Application; and

(ii) whether the person requesting a contested case hearing has raised a justiciable issue related to the Application.

(d) A person other than the applicant or the General Manager has standing if that person has a personal justiciable interest that is related to a legal right, duty, privilege, power, or economic interest that is within the District's regulatory authority and that is affected by the Board's action on the Application, not including persons who have an interest common to members of the public.

(3) **Decision on request for contested case hearing.** Following the preliminary hearing, the Board shall determine whether any person requesting a contested case hearing has standing to make that request and whether a justiciable issue relating to the Application has been raised. If the Board determines that a person requesting a contested case hearing has standing and has raised a justiciable issue related to the Application, the Board shall grant that person's request for a contested case hearing, and a contested case hearing on the Application will be held in accordance with Rule 15.2. If the Board determines that no person who has requested a contested case hearing has standing or that no justiciable issue related to the Application has been raised, then the Application shall be considered uncontested, and the Board will take action on the application under Rule 15.1.F.

F. Uncontested Applications.

(1) If the District does not receive a timely-filed request for a contested case hearing on the Application, or if the Board denies all requests for a contested case hearing, then the Application shall be considered uncontested. The Board may take action on an uncontested Application at the public hearing described in the notice required by Rule 15.1.C or at any later properly noticed Board meeting. The Board shall issue a written order or resolution reflecting its decision.

(2) Not later than the 20th day after the date the Board issues a written order granting an uncontested Application, the applicant may demand a contested case hearing on the Application if the order:

(a) includes special conditions that were not part of the Application as finally submitted; or

(b) grants a maximum amount of groundwater production that is less than the amount requested in the Application.

The hearing on the Application will be held in accordance with Rule 15.2.

[Adopted 11/14/12; effective 1/1/13; amended 4/20/16 and renumbered Rule 15.1]

Rule 15.2 Permit Applications Requiring Contested Case Hearing

A. Hearing Conducted by SOAH. If timely requested by the applicant or other party to a contested case, the District shall contract with SOAH to conduct a preliminary hearing or a hearing on the merits of an Application.

(1) The General Manager, applicant or other party requesting a contested case hearing must request that the preliminary hearing or hearing on the merits be conducted by SOAH in writing on or before the date of the public hearing described in notice required by Rule 15.1.C.

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(2) The requesting person shall pay all costs associated with the contract for the hearing and shall deposit with the District an amount sufficient to pay the contract amount. The requesting person shall make the required deposit with the District no later than the 20th day before the preliminary hearing. At the conclusion of the hearing, the District shall refund any excess money to the paying person. All other costs may be assessed as authorized by this chapter or District rules.

(3) A hearing before a SOAH Administrative Law Judge shall be conducted as provided by Texas Government Code chapter 2001, subchapters C, D and F, the procedural rules of SOAH, and Rule 15.2 of the District Rules to the extent that Rule 15.2 is consistent with SOAH's procedural rules. The SOAH Administrative Law Judge will be the presiding officer for purposes of this Rule 15.2.

B. Hearing conducted by Board or Hearings Examiner. Except as provided in Rule 15.2.A, a contested case hearing shall be conducted by a quorum of the Board, or the Board, at its sole discretion, may appoint a Hearings Examiner to preside at and conduct the hearing on the Application. The appointment of a Hearings Examiner shall be made in writing. If the contested case hearing is conducted by a quorum of the Board, the President shall preside. If the President is not present, the Board shall select one of the Directors who are present to preside. If the hearing is conducted by a Hearings Examiner, the Hearings Examiner shall be the presiding officer.

C. Powers of Presiding Officer. The presiding officer in a contested case hearing may :

(1) Convene the hearing at the time and place specified in the notice.

(2) Set any necessary additional hearing dates.

(3) Designate the parties. Parties shall be limited to: (i) the General Manager; (ii) the applicant; and (iii) persons who have a personal justiciable interest related to a legal right, duty, privilege, power, or economic interest that is within a district's regulatory authority and affected by the Application, not including persons who have an interest common to members of the public, and who have raised a justiciable issue relating to the Application.

(4) Establish the order for presentation of evidence.

(5) Administer oaths to all persons presenting testimony.

(6) Examine persons presenting testimony.

(7) Ensure that information and testimony are introduced as conveniently and expeditiously as possible without prejudicing the rights of any party.

(8) Prescribe reasonable time limits for testimony and the presentation of evidence.

(9) Allow or require testimony to be submitted in writing and may require that written testimony be sworn to. On the motion of a party to the hearing, the presiding officer may exclude written testimony if the person who submits the testimony is not available for cross-examination by phone, a deposition before the hearing, or other reasonable means.

(10) Allow any discovery that is authorized by the Texas Rules of Civil Procedure.

(11) Rule on motions, on discovery issues, on the admissibility of evidence, and on other interlocutory matters.

(12) Refer the parties to an alternative dispute resolution (ADR) procedure on any matter at issue in the hearing, apportion costs for ADR, and appoint an impartial third party as provided by Section 2009.053 of the Government Code to facilitate that procedure.

(13) Continue a hearing from time to time and from place to place without providing notice under Rule 14.3.C. If the continuance is not announced on the record at the hearing, the presiding officer shall provide notice of the continued hearing by regular mail to the parties. If the hearing is being conducted by a quorum of the Board, Open Meetings notice also shall be provided.

(14) Apportion among the parties the costs related to:

- (a) a contract for the services of the presiding officer; and
- (b) the preparation of the official hearing record.

D. Evidence. The presiding officer shall admit relevant evidence and may exclude evidence that is irrelevant, immaterial, or unduly repetitious. The Texas Rules of Evidence shall apply in a contested case, except that evidence inadmissible under those rules may be admitted if the evidence is: (a) necessary to ascertain facts not reasonably susceptible of proof under those rules; (b) not precluded by statute; and (c) of a type on which a reasonably prudent person commonly relies in the conduct of the person's affairs.

E. Ex parte communications. A Board member, or a Hearings Examiner or Administrative Law Judge assigned to render a decision or to make findings of fact and conclusions of law in a contested case, may not directly or indirectly communicate in connection with an issue of fact or law in the contested case with a state agency, person, party, or a representative of those entities, except on notice and opportunity for each party to the contested case to participate. A Board member may communicate ex parte with another Board member in connection with an issue of fact or law in the contested case, if a quorum is not present. All ex parte communications that are not prohibited by Rule 15.2.E are expressly permitted.

F. Official Hearing Record. The presiding officer shall prepare and keep a record of each hearing in the form of an audio or video recording or a court reporter transcription. On the request of a party to the contested case hearing and payment of an appropriate deposit, as set by the presiding officer, the hearing shall be transcribed by a court reporter. The costs of such court reporter may be assessed against the party requesting it or among the parties to the hearing. The presiding officer may exclude a party from further participation in the hearing for failure to pay in a timely manner costs assessed against that party under this Rule 15.2.F.

G. Proposal for Decision.

(1) Except as provided in Rule 15.2.G(4), the presiding officer shall submit a proposal for decision to the Board not later than the 30th day after the date the evidentiary hearing is concluded.

(2) The proposal for decision shall include:

(a) a summary of the subject matter of the hearing;

(b) a summary of the evidence received; and

(c) the presiding officer's recommendations for Board action on the subject matter of the hearing.

(3) The presiding officer or the General Manager shall provide a copy of the proposal for decision to the applicant and each designated party. A party may submit written exceptions to the Board not later than the 20th day after the date of the proposal for decision.

(4) If the contested case hearing was conducted by a quorum of the Board and the presiding officer prepared a record of the hearing as provided in Rule 14.4.G, the presiding officer shall determine whether to prepare and submit a proposal for decision to the Board under this Rule 15.2.G.

H. Consideration of a Proposal for Decision. If a proposal for decision is submitted to the Board by the presiding officer, the Board shall consider the proposal for decision at a final hearing. Additional evidence may not be submitted during the final hearing. The parties may present oral argument at a final hearing to summarize evidence, present legal arguments, or argue an exception to the Proposal for Decision. The presiding officer may continue the final hearing from time to time and from place to place without providing notice under Rule 15.1.C. If the continuance is not announced on the record at the hearing, the presiding officer shall provide notice of the continued hearing by regular mail to the parties. If the hearing is being conducted by a quorum of the Board, Open Meeting Act notice also shall be provided.

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I. **Record of decision.** The Board's decision on the Application will be reflected in the minutes of the Board meeting.

J. **Board order.** The Board shall issue a written order or resolution reflecting its decision. The Board's decision shall be made within 60 days after the final hearing on the Application is concluded.

[Adopted 11/14/12; effective 1/1/13; amended 4/20/15 and renumbered Rule 15.2]

Rule 15.3 Rehearing of Decision on Permit Application Requiring a Public Hearing

A. **Request for written findings and conclusions.** An applicant in a contested or uncontested public hearing on an Application or a party to a contested case hearing on an Application may administratively appeal a decision of the Board described in Rule 15.2.I or Rule 15.3.E by requesting written findings and conclusions not later than the 20th day after the date of the Board's decision. On receipt of a timely written request, the Board shall make written findings and conclusions regarding the Board's decision on an Application. The Board shall provide certified copies of the findings and conclusions to the person who requested them and to each designated party not later than the 35th day after the date the Board receives the request.

B. **Request for rehearing.** An applicant in a contested or uncontested public hearing or a party to a contested hearing may request a rehearing not later than the 20th day after the date the Board issues written findings and conclusions. A request for rehearing must be filed in the District office and must state the grounds for the request. The person requesting a rehearing must provide copies of the request to all parties to the hearing.

C. **Finality of Board decision.** A decision by the Board on an Application is final:

(1) If a request for rehearing is not timely filed, then on the expiration of the period for filing a request for rehearing; or

(2) If request for rehearing is timely filed, then on the date:

(a) the Board denies the request for rehearing; or

(b) the Board renders a written decision after rehearing.

[Adopted 11/14/12; effective 1/1/13; amended 4/20/16 and renumbered Rule 15.3]

Rule 15.4 Applications Not Requiring Public Hearing

A. **Applicability.** This Rule 15.3 applies to any application other than the applications described in Rule 5.7, Rule 15.1.A and Rule 15.5.

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B. **Technical review.** Upon receipt of an application subject to this Rule, the General Manager will conduct a technical review as follows:

(1) Within 60 days of the receipt of an application, the General Manager will notify the applicant if the application is incomplete or if any additional information or documentation is useful or necessary to address the factors that the Board will consider in making a decision on the Application under these Rules. If the applicant has not supplied the additional information or documentation within 180 days following the date that the General Manager notified the applicant of the need for the additional information or documentation, the application shall expire. Any additional information or documentation that is timely submitted by the applicant will be considered part of the application.

(2) Within 180 days of the later of the date the District receives an Application or the date that the applicant supplies the additional information or documentation requested under Rule 15.3.B(1), the General Manager will complete the technical review of the Application, and notify the applicant in writing that the technical review has been completed and the application has been declared Administratively Complete. The written notice will contain a summary of the General Manager's recommendation on the application, and, if the General Manager recommends that a permit, an amendment, or a renewal be granted, may include a draft permit. The General Manager may extend the 180-day period for technical review for a reasonable period upon written notice to the applicant if the General Manager determines that some specific aspect of the application requires a technical review period of more than 180 days.

C. **Notice.** Within 60 days of the date on which the General Manager determines that an application subject to this Rule is Administratively Complete, the application will be set on the agenda for a Board meeting. Notice of the meeting shall be provided as required by the Open Meetings Act.

D. **Comments.** The agenda for the Board meeting shall designate a time for comments on the application. Each person other than the applicant or the General Manager who desires to comment on the Application at the Board meeting shall submit a registration form provided by the District. Any person who has submitted a registration form, the General Manager, and the applicant may make oral comments and submit written evidence on the Application. The Board, at its discretion, may administer an oath to any person presenting testimony to the Board on behalf of the General Manager or the applicant or to any other person making oral comments.

E. **Record of decision.** The Board's decision on the application will be reflected in the minutes of the Board meeting.

F. **Board order.** The Board shall issue a written order or resolution reflecting its decision.

[Adopted 11/14/12; effective 1/1/13; amended 4/20/16 and renumbered Rule 15.4]

15.5 Variances or Extensions of Time

A. **Applicability.** This Rule 15.5 applies to requests for variances from the requirements imposed by District Rules and to requests for extension of time under Rules 5.5, 5.6, and 7.1.E, except that requests for variances from the well spacing requirements in Section 8 of these Rules will be processed under Rule 8.3.

B. **Request.** A request for variance or extension of time shall be submitted in writing and include the reasons for the request.

C. **Notice and hearing.** The request for a variance or any request for an extension of time will be set on the agenda for a Board meeting, which shall serve as the hearing on the request. In addition to the notice required by the Open Meetings Act, the District shall mail notice to the applicant at least ten (10) days prior to the Board meeting at which the variance request will be considered. The notice to the applicant will contain a summary of the General Manager's recommendation on the request. The agenda for the Board meeting shall designate a time for comments on the application. Each person other than the applicant or the General Manager who desires to comment on the request at the Board meeting shall submit a registration form provided by the District. Any person who has submitted a registration form, the General Manager, and the applicant may make oral comments and submit written evidence on the request. The Board, at its discretion, may administer an oath to any person presenting testimony to the Board on behalf of the General Manager or the applicant or to any other person making oral comments.

D. **Record of decision.** The Board's decision on the request will be reflected in the minutes of the meeting.

E. **Board order.** The Board shall issue a written order or resolution reflecting its decision.

[Adopted 11/14/12; effective 1/1/13; amended 4/20/16 and renumbered Rule 15.5]

Rule 15.6 Appeals of General Manager Decisions

A. **Applicability.** An applicant who has been aggrieved by a decision of the General Manager under Rules 4.3, 4.4, 7.1, 7.2, or 7.7 may appeal that decision to the Board under this Rule 14.8.

B. **Request.** The appeal shall be submitted in writing and include the reasons for the request.

C. **Notice and hearing.** The appeal will be set on the agenda for a Board meeting, which shall serve as the hearing on the request. In addition to the notice required by the Open Meetings Act, the District shall mail notice to the applicant at least ten (10) days prior to the Board meeting at which the appeal will be considered. The agenda for the Board meeting shall designate a time for comments on the appeal. Each person other

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than the applicant or the General Manager who desires to comment on the Application at the Board meeting shall submit a registration form provided by the District. Any person who has submitted a registration form, the General Manager, and the applicant may make oral comments and submit written evidence on the appeal. The Board, at its discretion, may administer an oath to any person presenting testimony to the Board on behalf of the General Manager or the applicant or to any other person making oral comments.

D. **Record of decision.** The Board's decision on the request will be recorded in the minutes of the meeting.

E. **Board order.** The Board shall issue a written order or resolution reflecting its decision.

[Adopted 11/14/12; effective 1/1/13; amended 4/20/16 and renumbered Rule 15.6]

Rule 15.7 Enforcement Proceedings

A. **Request for contested case hearing.** Any person who receives a notice of violation may request a contested case hearing on the alleged violation. The request must be made in writing and filed with the District no later than the 30th day following the date the notice of violation was issued.

B. **Hearing.** If a timely request for a contested case hearing is received, a hearing will be conducted, and the Board order will be issued, in the manner provided in Rule 15.2 for permit actions requiring contested case hearings, except that the respondent and the General Manager shall be the sole parties to the contested case hearing.

C. **No hearing.** If a timely request for a contested case hearing is not received, then the notice of violation will be set on the agenda for a Board meeting. In addition to the notice required by the Open Meetings Act, the District shall mail notice to the respondent at least ten (10) days prior to the Board meeting at which the alleged violation will be considered. The General Manager and the applicant may make oral comments and submit written evidence on the alleged violation.

D. **Record of decision.** The Board's decision on the alleged violation will be reflected in the minutes of the meeting.

E. **Board order.** The Board shall issue a written order or resolution reflecting its decision.

[Adopted 11/14/12; effective 1/1/13; amended 4/10/16 and renumbered Rule 15.7]

SECTION 16: UNEXPIRED DRILLING PERMITS AND RESERVATION PERMITS

Rule 16.1 Unexpired Drilling Permits

A Drilling Permit issued by the District before January 1, 2013, and in effect on the January 1, 2013, shall continue in effect and shall be governed by its terms and prior District Rule 8.1; provided, however, that any holder of a Drilling Permit may not operate the well described in the Drilling Permit without first obtaining an Operating Permit under the District Rules in effect on the date that the application for an Operating Permit is filed, except that the District spacing rule in effect at the time of the initial application for the Drilling Permit shall continue to apply.

[Adopted 11/14/12; effective 1/1/13]

Rule 16.2 Unexpired Reservation Permits

A Reservation Permit issued by the District before January 1, 2013, and in effect on the January 1, 2013, shall continue in effect and shall be governed by its terms and prior District Rule 8.10; provided, however, that any holder of a Reservation Permit may not operate the well described in the Reservation Permit without first obtaining an Operating Permit under the District Rules in effect on the date that the application for an Operating Permit is filed, except that the District spacing rule in effect at the time of the initial application for the Reservation Permit shall continue to apply.

[Adopted 11/14/12; effective 1/1/13]

LOST PINES GROUNDWATER CONSERVATION DISTRICT

MANAGEMENT PLAN

**Adopted September 15, 2004;
Revised August 10, 2010;
Revised September 19, 2012;
Revised September 20, 2017**

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ATTACHMENTS

Attachment A: GAM Run 16-014: Lost Pines GCD Groundwater Management Plan

Attachment B: Estimated Historical Water Use and 2017 State Water Plan Datasets: Lost Pines Groundwater Conservation District

APPENDICES

Appendix A: Copy of GMA 12 Resolution and Submittal Adopting DFCs

Appendix B: Evidence of Coordination with Surface Water Management Entities

Appendix C: Certified Copy of District Resolution Adopting Management Plan

Appendix D: Evidence of Public Notice and Hearing on Management Plan

Section 1. THE DISTRICT

The Lost Pines Groundwater Conservation District (District) was created in 1999 by Senate Bill 1911, 76th Texas legislature, pursuant to Section 59, Article 16 of the Texas Constitution and Article 7880-3c, Texas Civil Statutes (now Chapter 36, Texas Water Code); ratified by the 77th Texas Legislature in 2001; and confirmed by voters in Bastrop and Lee counties in November 2002.

The District includes all of Bastrop and Lee counties (**Map 1**).

For state water planning purposes, the District was designated by the Texas Water Development Board (TWDB) as part of Groundwater Management Area 12 (GMA 12) (**Map 2**). The District participates in GMA 12 along with Mid-East Texas Groundwater Conservation District, Brazos Valley Groundwater Conservation District, Post Oak Savannah Groundwater Conservation District, and Fayette County Groundwater Conservation District.

The District participates in two of the State's sixteen Regional Planning Areas: Bastrop County is in Lower Colorado Regional Planning Group or Region K and Lee County is in Brazos River Regional Planning Group or Region G (**Map 3**).

Section 2. DISTRICT MISSION AND GUIDING PRINCIPLES: Actions, Procedures, Performance and Avoidance Necessary to Effectuate the Management Plan

Mission. The District's mission is to conserve, preserve and protect interests in groundwater in Bastrop and Lee counties, while addressing statutory goals and requirements. In fulfilling its mission, the District will endeavor to manage groundwater to meet demands on a sustainable basis, by which the District means development, use, and reasonable long-term management of groundwater resources so that those resources can continue to be used by future generations. The District will address applicable statutory management goals, including:

- Providing the most efficient use of groundwater
- Controlling and preventing waste of groundwater
- Addressing conjunctive surface water management issues
- Addressing natural resource issues that impact the use and availability of groundwater and are impacted by the use of groundwater
- Addressing drought conditions
- Addressing conservation, recharge enhancement, rainwater harvesting, precipitation enhancement, or brush control, where appropriate and cost effective, and
- Addressing the desired future conditions (meaning a quantitative description, adopted in accordance with Chapter 36, Texas Water Code,¹ of the desired condition of the groundwater resources for relevant aquifers (DFCs)), as those DFCs may be amended from time to time.

Based on current conditions, the statutory goal of controlling and preventing subsidence is not applicable to the District.

Guiding Principles. The District's guiding principles derive from its mission statement. Groundwater resources within the District are of vital importance to the residents and businesses in Bastrop and Lee counties and effectively constitute the only source of water available for most of the District. The District was created to provide for the conservation, preservation, protection, recharging, and prevention of waste of groundwater within the two counties, while complying with statutory requirements. The District believes its groundwater resources can be managed in a prudent manner through education and conservation coupled with reasonable regulation, and based on increasing quantitative understanding of available groundwater resources, recharge, and current and future demand, including real-time information on aquifer conditions developed via a network of monitoring wells.

Policy.

1. District groundwater is to be conserved, preserved, and protected and waste prevented to maintain the viability of the groundwater supply for future generations in the two counties, while complying with statutory requirements, as amended from time to time, including those applicable

¹ See §§ 36.001(30) (defining DFC) and 36.108 (joint planning process). References herein to "Chapter 36" are to Chapter 36, Texas Water Code. All references to a section of Chapter 36 are shown as "§ 36.[section number]."

to permits for transport of water out-of-District, and including without limitation certain provisions of Chapter 36 which are summarized in Appendix A (which may be supplemented when appropriate).

2. To the extent consistent with statutory goals and requirements and with its DFCs, the District will attempt to manage District aquifers on a sustainable basis. The District defines sustainability as development, use, and reasonable long-term management of groundwater resources so that those resources can continue to be used by future generations.

3. The District, in cooperation with local municipalities and water supply companies, has established a monitoring well network and an aquifer water level monitoring program (the "Monitoring Well Program"), and a system for reporting water levels. The District will measure and monitor water levels to detect declines, to allow the District to consider appropriate action to avoid or minimize depletion of the water supply and to maintain or achieve water levels which are consistent with the DFCs. For instance, it may be necessary for the District to reduce the amount of groundwater that non-exempt users pump to avoid or to minimize depletion of the groundwater supply in specified areas within the District and to achieve water levels which are consistent with the DFCs.

4. This Management Plan and the District rules, as amended from time to time, will be based on the best technical advice available to the District. The District will undertake investigations of the District's groundwater resources, including through the Monitoring Well Program, and will cooperate with investigations of groundwater resources and the interaction of groundwater and surface water by TWDB, TCEQ, GMA 12 or other entities, and will make the results of such investigations available to the Board and to the public. The District recognizes that good long-term groundwater management is built on availability of high-quality data, improved understanding of groundwater flow systems, and increasingly better understanding of the interaction between groundwater and surface water. The District recognizes the uncertainties inherent in long-term management of groundwater resources created by such factors as climate, drought, changes in exempt uses such as mining and oil and gas development, socioeconomic change and population growth, and also recognizes the uncertainties created by the geology and other characteristics of relevant aquifers. The District believes that uncertainties affecting decision-making can be reduced to some extent by reliance on high-quality data.

5. The District will treat all citizens equally. The District may exercise its discretion to consider unique situations or local conditions and the potential for adverse economic and environmental consequences, guided by this Management Plan, and such exercise of discretion shall not be construed as limiting the power and authority of the District.

6. In implementing this Management Plan, the District will seek cooperation from municipalities, water supply companies, irrigators, and other groundwater users, and will also seek to cooperate and coordinate with state and regional water planning authorities and agencies as well as the districts of GMA 12.

7. In support of its mission of conserving, protecting and preserving interests in groundwater within Bastrop and Lee counties, while addressing statutory goals and requirements, the Board may, among other actions, after notice and hearing, amend or revoke any permit for non-compliance, or reduce the groundwater production authorized by permit for

the purpose of managing District groundwater resources consistent with the DFCs. The District may also enforce the terms and conditions of permits and District rules by fine and/or by enjoining the permit holder in a court of competent jurisdiction as provided by § 36.102.

The District's Board of Directors will implement this Management Plan and any necessary changes or modifications to adhere to the policy stated herein.

The rules are on the District website: <http://www.lostpineswater.org/Forms----Documents.aspx>.

Section 3. TIME PERIOD COVERED BY THE MANAGEMENT PLAN

This Management Plan was originally adopted on September 15, 2004. The first revision was on August 10, 2010, the second revision was approved on September 19, 2012, and this third revision was approved on September 20, 2017. The District may review the Management Plan annually, but at least once every five years, the District will review and re-adopt its Management Plan, with or without change, and submit it to TWDB pursuant to Chapter 36.²

² See § 36.1072.

Section 4. GOVERNANCE

Board of Directors. The District is governed by a ten-member Board of Directors, five appointed by the Bastrop County Judge and five appointed by the Lee County Judge, qualified and sworn as required by law. After the initial appointment of directors and the setting of staggered terms, each Director is appointed to a four-year term beginning in January. Thus, every second year, following the initial appointment of directors, two directors are appointed by the Bastrop County Judge and two Directors are appointed by the Lee County Judge. The succeeding second year, three Directors are appointed by the Lee County Judge and three Directors are appointed by the Bastrop County Judge.

Each year, in January, the Board selects one of its members to serve as president to preside over Board meetings and proceedings, a second member to serve as vice-president to preside over Board meetings and proceedings in the absence or recusal of the president, and a third to serve as secretary-treasurer to keep a true and correct account of all proceedings of the Board. The Board may appoint an assistant secretary to assist the secretary-treasurer. Unless a vacancy occurs, members of the Board and officers serve until their successors are appointed, qualified to hold office, and sworn in. In the event of a vacancy in any office, the Board shall select one of its members to fill out the term of office. In the absence of a General Manager, the president of the Board will serve as General Manager.

The president may establish committees for formulation of policy recommendations to the Board and may appoint the chair and membership of the committees, which may include members of the Board and/or non-board members. Committee members serve at the pleasure of the president.

The Board will hold regular meetings at least four times a year on a day and at a place that the Board may establish from time to time by Board resolution. At the request of the president, or by written request of at least three Board members, the Board may hold a special meeting. The business of the District will be conducted at regular or special Board meetings when a quorum is present. All Board meetings will be conducted in accordance with the Open Meetings Act.

Daily Operations. The Board may employ a person to be the General Manager, with full authority to manage and to operate the affairs of the District, subject only to direction provided by the Board through policies and orders adopted by the Board. The General Manager may, with Board approval, employ all persons necessary to carry out daily operations. The General Manager may delegate duties as may be necessary to efficiently and expeditiously accomplish those duties; provided that no delegation will relieve the General Manager from his or her responsibilities under the Texas Water Code, the District enabling act, District rules, or District policies, orders and permits.

The Board shall establish by resolution an official office of the District, and the office will maintain regular business hours.

Section 5. DISTRICT DESIRED FUTURE CONDITIONS (DFCs)

On August 10, 2010, the GMA-12 DFCs were adopted for the relevant aquifers, i.e., the major and minor Aquifers within the District other than the Yegua-Jackson (the Sparta, Queen City, Carrizo, Calvert Bluff, Simsboro, and Hooper Aquifers) and submitted to TWDB. The Yegua-Jackson Aquifer was considered not relevant for the District and a DFC was not established for it. See **Appendix A**. On September 8, 2010, TWDB notified GMA 12 that the GMA-12 DFC submission was administratively complete.

On April 27, 2017, the second round of DFCs was formally adopted by GMA-12. At the time of the preparation of this Management Plan, the TWDB had not finished reviewing the GMA-12 DFC submittal packet.

In adopting and submitting the GMA-12 DFCs, the District stated that in its Management Plan it would further divide the recommended DFCs by county. The District's DFCs by county and by aquifer that were approved in 2017 are presented in **Table 1**.

Table 1- Desired Future Conditions

Aquifer	County	District-wide DFC in 2070 (Average drawdown in feet)	DFC in 2070 (County-wide average drawdown in feet)
Sparta	Bastrop Lee	5	-9 10
Queen City	Bastrop Lee	15	16 16
Carrizo	Bastrop Lee	62	74 64
Calvert Bluff	Bastrop Lee	100	81 142
Simsboro	Bastrop Lee	240	174 350
Hooper	Bastrop Lee	165	153 225

Section 6. MODELED AVAILABLE GROUNDWATER

Pursuant to the 2011 amendment of § 36.1071(e)(3), TWDB provided estimates of modeled available groundwater totals for the District, based on the DFCs established by GMA 12 under § 36.108. The modeled available groundwater totals provided by the TWDB in 2012 are presented below in **Table 2**.

Table 2 - Modeled Available Groundwater Totals for the District

All values are in acre-feet/year

AQUIFER	2010	2020	2030	2040	2050	2060
Sparta	2,405	2,236	5,315	1,980	1,885	1,877
Queen City	1,315	1,215	2,880	1,144	1,134	1,133
Carrizo	6,610	7,618	8,358	9,263	11,800	12,052
Calvert Bluff	1,785	2,226	2,633	3,183	3,912	3,985
Simsboro	29,556	32,731	31,362	34,916	36,544	37,249
Hooper	1,174	1,427	1,715	2,095	2,589	2,592
TOTAL	42,845	47,453	52,263	52,581	57,864	58,888

TWDB GAM Runs 10-044 MAG, 10-045 MAG, and 10-046 MAG.

Section 7. DISTRICT GROUNDWATER RESOURCES

This section presents information on District groundwater and surface water resources. The estimated historical groundwater use in the District for the last five years is provided in **Table 3**. The estimates in **Tables 4-6** are from TWDB GAM Run 16-014, March 6, 2017, which is provided in **Attachment A**. The estimates below in **Tables 7-10** comprise data from the TWDB 2017 State Water Plan Dataset for the District, which is provided in **Attachment B**.

The District considered and used all information referenced in this Management Plan, including without limitation the information in **Table 9** (water supply needs) and **Table 10** (water supply management strategies).

Table 3 - Estimated Historical Groundwater Use

Year	County	Municipal	Manufacturing	Mining	Steam Electric (Power)	Irrigation	Livestock	Total
2011	Bastrop	12,129	81	2,110	0	3,861	260	18,441
2012	Bastrop	11,010	60	45	0	2,829	215	14,159
2013	Bastrop	10,611	81	44	0	2,533	191	13,460
2014	Bastrop	9,771	93	34	3,400	2,444	206	15,948
2015	Bastrop	10,466	98	44	5,519	3,204	211	19,542
2011	Lee	2,895	7	7,707	0	1,609	422	12,640
2012	Lee	2,503	6	5,677	0	1,017	357	9,560
2013	Lee	2,538	6	6,081	0	837	305	9,767
2014	Lee	2,327	6	439	0	802	316	3,890
2015	Lee	2,316	7	6,889	0	519	324	10,055

A. GROUNDWATER RESOURCES

Except for a small area along the northwest border of Bastrop County south of the Colorado River that is not an aquifer, the geologic units exposed in Bastrop and Lee counties are Tertiary and Quaternary in age. All the Tertiary age geologic units dip or tilt to the southeast, and are composed of varying portions of sand, silt, and clay. From oldest (westernmost) to youngest (easternmost), these exposed Tertiary geologic units include the Midway Group, the Wilcox Group, the Carrizo Formation, the Reklaw Formation, the Queen City Sand, the Weches Formation, the Sparta Sand, the Cook Mountain Formation, the Yegua Formation, and the Jackson Group. Quaternary geologic units include river or stream alluvium, such as along the Colorado River and Middle Yegua Creek, as well as topographically higher terrace deposits.

AQUIFERS

Most of these geologic formations found within the District will yield some quantity of water to wells, as shown by the stratigraphic section below in **Figure 1**.

Figure 1 - Stratigraphic Section

Aquifer or Unit	Maximum Thickness (feet)	Description	Water-Bearing Properties
Alluvium	100	Sand, gravel, silt, and clay	Yields small to moderate quantities of fresh to slightly saline water to wells
Yegua-Jackson	900	Medium to fine sand, silt, clay, some lignite	Yields small to moderate quantities of fresh to slightly saline water to wells
Cook Mountain Formation	400	Clay with some sand	Yields small quantities of fresh to slightly saline water to wells
Sparta Sand	170	Fine to medium sand with some clay and silt	Yields small to large quantities of fresh to slightly saline water to wells
Weches Greensand	100	Glauconitic clay and sand	Not known to yield significant quantities of water to wells
Queen City Sand	600	Fine to medium sand, clay, with some conglomerate	Yields small to large quantities of fresh to slightly saline water to wells
Reklaw Formation	100	Glauconitic sand and silt (lower) and clay with some sand (upper)	Yields very small water to wells in upper part of formation
Carrizo Sand	600	Fine to coarse sand with some sandstone and clay	Capable of yielding large quantities of water to wells
Calvert Bluff Formation (Wilcox Group)	1500	Fine to coarse grained sand and sandstone with some silt, mudstone, and lignite	Capable of yielding moderate quantities of water to wells
Simsboro Sand (Wilcox Group)	800	Massive, fine to medium, well sorted sand	Capable of yielding large quantities of water to wells

Hooper Formation (Wilcox Group)	1300	Predominantly mudstone, with some sand and lignite.	Capable of yielding small to moderate quantities of water to wells
Midway Group	?	Mostly shale	Not known to yield significant quantities of water to wells

However, only the Carrizo, Wilcox, Queen City, Sparta, and Colorado River alluvium aquifers yield sufficient quantities to have wells that have been permitted by the District. Each of these geologic units has different water-bearing characteristics and capabilities, and each is described separately below.

Carrizo-Wilcox Aquifer

The Carrizo Formation and the Wilcox Group (which includes the Hooper Formation (lower), the Simsboro Formation (middle), and the Calvert Bluff Formation (upper)) form a single, hydrologically connected aquifer system recognized by the State as the Carrizo-Wilcox Aquifer. The Carrizo-Wilcox Aquifer is defined as a major aquifer by the state of Texas, and within Texas it stretches in a wide band from the Rio Grande in South Texas to Louisiana. The Carrizo-Wilcox crops out through the middle of Bastrop County and in the far northeastern portion of Lee County. Wells are completed in the Carrizo-Wilcox Aquifer in and near the outcrop of each of the four individual aquifer units.

Hooper Formation The lowermost aquifer within the Carrizo-Wilcox is the Hooper Formation, which is also generally the least productive of the three Wilcox Group aquifers. The Hooper is used by exempt wells in and near the outcrop area, as well as for municipal purposes by the City of Elgin, Aqua Water Supply Corporation, Manville Water Supply Corporation, and Lee County Water Supply Corporation.

The Hooper is comprised of predominantly mudstone, with varying amounts of sandstone, and some thin lignite beds in the upper part of the formation. The Hooper and the overlying Simsboro and Calvert Bluff Formations are no longer distinguishable as individual units much farther west than the Colorado River. Beyond this point the Wilcox Group aquifer is referred to as undifferentiated Wilcox.

The Hooper crops out in a band approximately 3 miles wide in northwestern Bastrop County near the Travis County line, as well as in far western Lee County. From the outcrop, the Hooper dips at a rate of 125 to 200 feet per mile, with the top of the Hooper reaching a maximum depth of more than 5,000 feet in southern Lee County, although wells completed in the Hooper in the District are generally less than 700 feet deep. The Hooper Formation can be up to 1,300 feet thick within the District.

The Hooper Formation produces a small to moderate amount of water to wells, mainly in the outcrop area. Well yields of larger, non-exempt wells are generally between 200 and 350 gpm, although some Hooper wells can yield more than 500 gpm. Water quality of groundwater produced from the Hooper is generally good, although water quality deteriorates farther down dip from the outcrop.

Simsboro Formation The middle aquifer within the Wilcox Group is the Simsboro Formation. This aquifer is identifiable only from the middle of Bastrop County and eastward, including all of Lee County, and is a highly productive unit. It is used by numerous exempt wells and by the City of Elgin, Aqua Water Supply Corporation, and Manville Water Supply Corporation for municipal supplies. Water is also produced by Alcoa from the Simsboro as part of its mining operations.

The Simsboro is primarily composed of a massive, fine to coarse-grained sand, with relatively small amounts of silt, clay, and mudstone. The Simsboro crops out in a band two to three miles wide across Bastrop and far northwestern Lee County. From the outcrop, the Simsboro dips at a rate of 125 to 200 feet per mile, with the top of the Simsboro reaching a maximum depth of nearly 4,500 feet in southern Lee County. Wells completed in the Simsboro in the District are generally less than 1,000 feet deep, although wells of more than 1,500 feet have been completed in the District. The Simsboro is up to 800 feet thick within the District, although it is generally less than 500 feet thick.

The Simsboro Formation produces large quantities of fresh to slightly saline groundwater to wells. Wells of over 2,000 gpm have been completed in the Simsboro Formation, and yields of 900 to 1,200 gpm in existing non-exempt wells are common. Water quality of groundwater produced from the Simsboro is good, although water quality deteriorates farther downdip from the outcrop.

Calvert Bluff Formation The uppermost aquifer within the Wilcox Group is the Calvert Bluff Formation. The Calvert Bluff is used by numerous exempt wells in and near the outcrop, as well as for irrigation by two non-exempt wells and for municipal purposes by Aqua Water Supply Corporation, Manville Water Supply Corporation, and Bastrop County Water Control Improvement District Nos. 1 and 2.

The Calvert Bluff Formation is comprised primarily of fine to coarse-grained sand and sandstone, interbedded with silt, mudstone, and some lignite. The Calvert Bluff crops out in a band six to eight miles wide in Bastrop and Lee counties, and from the outcrop the Calvert Bluff dips at a rate of 125 to 200 feet per mile. The top of the Calvert Bluff is more than 3,000 feet deep in southern Lee County, although wells completed in the Calvert Bluff within the District are generally less than 1,000 feet deep. The Calvert Bluff is up to 1,500 feet thick within the District.

The Calvert Bluff is more productive than the Hooper but not nearly as productive as the underlying Simsboro or overlying Carrizo aquifers. Typical non-exempt Calvert Bluff well yields within the District are 150 to 350 gpm, although several wells with yields of 500 to 1,000 gpm are present. Water quality in the Calvert Bluff is generally good, although water quality deteriorates farther downdip from the outcrop.

Carrizo Formation The uppermost aquifer within the "Carrizo-Wilcox" Aquifer is the Carrizo Formation. The Carrizo is a highly utilized aquifer within the District, with a large number of smaller, exempt wells producing from it in and near the outcrop. In addition, numerous non-exempt wells produce from the Carrizo for municipal purposes, including those operated by the Cities of Lexington, Smithville, and Giddings, as well as by Aqua Water Supply Corporation and Lee County Water Supply Corporation. Some water produced from the Carrizo is also used for irrigation purposes.

The Carrizo Formation is predominantly a fine to coarse-grained massive sand. It crops out in a band one to two miles wide through Bastrop and Lee counties. From the outcrop the Carrizo dips at a rate of about 140 feet per mile when not affected by faulting, with the top of the

Carrizo being found at more than 2,500 feet in southern Lee County. The Carrizo can be up to 600 feet thick within the District, but is generally between 300 and 500 feet thick. The Carrizo is a highly productive aquifer throughout much of its extent not only in the District but throughout much of Texas.

Yields of non-exempt Carrizo wells within the District are generally between 400 and 750 gpm, although well yields of up to 1,500 gpm have been observed. Water quality in the Carrizo is good, although, as with most aquifers in the District, water quality deteriorates farther downdip from the outcrop.

Queen City Aquifer

The Queen City Aquifer is defined as a minor aquifer by the state of Texas. It is located stratigraphically above the Carrizo-Wilcox aquifer, between the Reklaw and Weches formations. The Queen City is used by a large number of exempt wells within the District, as well as for municipal purposes by the cities of Lincoln and Giddings, and the Lee County Water Supply Corporation.

The Queen City Formation is comprised of a massive to thin-bedded, fine to medium-grained sandstone with some silt, clay, shale, and lignite. It crops out in a band two to four miles wide across both Bastrop and Lee counties. From the outcrop the Queen City dips at a rate of 70 to 140 feet per mile, with the top of the formation being found at approximately 2,000 feet in southern Lee County. However, most Queen City wells are located in or near the outcrop area, with most being less than 1,400 feet deep. The Queen City is generally between 200 and 600 feet thick within the District.

The Queen City yields small to moderate quantities of fresh to slightly saline water to wells in and near the outcrop. Non-exempt Queen City wells in the District area typically yield between 130 and 250 gpm, although one Queen City well produced more than 450 gpm.

Sparta Aquifer

The Sparta Aquifer is defined as a minor aquifer by the state of Texas. It is located stratigraphically above the Queen City aquifer, between the Weches and Cook Mountain formations. The Sparta is used by exempt wells within the District for domestic and livestock purposes, and for municipal purposes by the Lee County Fresh Water Supply District and Lee County Water Supply Corporation.

The Sparta is primarily a loosely cemented, sand-rich unit, with some interbedded silt and clay. The Sparta crops out in a band one to ten miles wide from southern Bastrop County to northeastern Lee County. From the outcrop the Sparta dips at a rate of approximately 100 feet per mile, with the top of the formation being found at approximately 1,500 feet in southern Lee County. Most Sparta wells are located in or near the outcrop and are less than approximately 500 feet deep. However, one well (59-50-706) is nearly 1,500 feet deep. The Sparta is up to 170 feet thick within the District, and yields small to moderate quantities of fresh to slightly saline water to wells. Yields of non-exempt wells in the District typically range from 100 to 250 gpm. Water quality of groundwater produced from the Sparta is generally good, although, as with other dipping aquifers in the District, water quality deteriorates farther downdip from the outcrop area.

Other Aquifers

Colorado River Alluvium Aquifer In addition to the major and minor aquifers described above, the alluvium along the Colorado River also yields significant quantities of water to wells. The Colorado River Alluvium is not defined as a major or a minor aquifer by the State, and a DFC was not established for this aquifer. But this aquifer is used for water for municipal supply by the City of Bastrop, as well as for irrigation purposes, from several non-exempt wells.

The Colorado River Alluvium includes alluvial deposits in river bottom land along the Colorado River. The alluvium generally consists of sand, with some small gravel and disconnected layers of silt and clay. The alluvium can be on one side of the river or on both sides. It is not always connected beneath the river, and the maximum thickness is less than 100 feet. The alluvium along the Colorado River generally yields small to moderate quantities of fresh to slightly saline water.

In addition to the alluvium along the Colorado River, most other streams have some alluvium associated with them. Small, exempt wells may be installed in these very localized alluvial aquifers.

Trinity Aquifer The Trinity Aquifer, classified as a major aquifer by the state of Texas, underlies the District. However, it is virtually unused because of the extreme depth and poor water quality of this aquifer with the District. No known wells are completed in the Trinity Aquifer within the District.

Yegua-Jackson Aquifer The Yegua-Jackson Aquifer is classified as a minor aquifer by the state of Texas, and is found in the southeastern third of Lee County and a very small part of Bastrop County. The Yegua-Jackson Aquifer is comprised of the Yegua Formation and the Jackson Group. These units consist of interbedded sand, silt, and clay, with some lignite beds. The thickness of the Yegua-Jackson Aquifer in the District is as much as 900 feet. A few exempt wells are completed in the Yegua-Jackson Aquifer, primarily in Lee County. Within the District, no non-exempt wells are completed in this aquifer, and it is not expected to yield significant quantities of water to wells within the District.

Midway Group The Midway Group is located stratigraphically beneath the Wilcox Group. The Midway consists of clay, silt, glauconitic sand, and thin beds of limestone and sandstone and can be more than 800 feet thick. Wells drilled into the Midway outcrop may yield small quantities of slightly to moderately saline water, and a few wells within the District have been installed into the Midway.

Reklaw Formation The Reklaw Formation is located stratigraphically between the overlying Carrizo and underlying Queen City Formations. The Reklaw is composed primarily of glauconitic sand and silt, and is about 100 feet thick. It is not considered to be an aquifer by the state of Texas, however a few exempt wells have been completed in the Reklaw within the District, mostly in the outcrop area.

Weches Formation The Weches Formation, sometimes referred to as the Weches Greensand, is located between the Queen City and Sparta Formations. The Weches consists of glauconitic shale, some sandstone, and some thin limestone beds, and is about 100 feet thick. It is not considered to be an aquifer by the state of Texas, however a few exempt wells have been completed in the Weches within the District, mostly in the outcrop area.

Cook Mountain Formation The Cook Mountain Formation is located stratigraphically above the Sparta Formation and below the Yegua Formation. The Cook Mountain consists primarily of clay, with some lenses of sand, sandstone, limestone, glauconite, and gypsum, and can be as much as 400 feet thick within the District. It is not considered to be an aquifer by the state of Texas, however exempt wells producing very small quantities of fresh to moderately saline groundwater have been completed in the Cook Mountain within the District, mostly in the outcrop area.

RECHARGE, DISCHARGE, AND GROUNDWATER FLOW

Recharge is the addition of water to an aquifer. Recharge to aquifers occurs from direct precipitation on aquifer outcrop at ground surface, from losses from surface water bodies to the underlying aquifer, and from inter-formational leakage between aquifers. Recharge estimates for the major and minor aquifers present within the District are included in **Table 4**.

The amount of recharge that occurs due to direct precipitation appears to be more a function of the specific soils in an area than the amount of precipitation. Recharge of direct precipitation where sandy aquifer units crop out is higher than where the soils and formations at ground surface are clay-dominated. Effective recharge from precipitation, i.e. recharge that moves down dip into the deeper portions of the aquifer and is not discharged to surface streams, is typically only a few percent of average annual rainfall. Leakage between formations accounts for a large component of total recharge to an individual aquifer. Losses from surface water bodies to the underlying aquifers appear to be a minimal source of recharge for most of the aquifers in the District.

Discharge is the loss of water from an aquifer. Before the development of aquifers for groundwater supply purposes, all discharge was natural. This includes discharge to surface water sources such as springs, streams, rivers, and lakes, as well as the removal of groundwater from an aquifer by evapotranspiration and inter-formational leakage. Discharge to surface water bodies is shown in **Table 5**. After the development of District aquifers for supply purposes, most discharge that occurs is to wells. Other sources of anthropogenic discharge may include gravel pits, mining operations, or other activities that intersect the water table.

Groundwater moves from areas of higher hydraulic head to areas of lower hydraulic head, which is from areas of recharge to areas of discharge. Under normal conditions within the District, the movement of water is in a downdip direction. However, these normal, undeveloped conditions are altered by pumpage that occurs in the aquifer. Because pumpage has become the dominant form of discharge from many of the aquifers in the District, groundwater tends to flow towards areas of pumpage. These natural and altered flow patterns result in not only the movement of groundwater across District boundaries, but also between aquifers within the District. **Tables 6 and 7** summarize the amount of water that flows laterally into and out of the District to adjacent districts or counties, and the amount of water that moves vertically between aquifers, respectively. These values do not distinguish between fresh, brackish, and saline water, and therefore all flows include all of these water types.

Table 4 - Estimated precipitation recharge totals for major and minor aquifers

	Precipitation Recharge (acre- feet/year)
Sparta	10,142
Queen City	7,255
Carrizo- Wilcox	29,602
Trinity	0
Yegua- Jackson	38,860
Total	85,859

Source: TWDB GAM Run 16-014

Table 5 - Estimated discharge to surface water bodies from major and minor aquifers

	Surface Water Discharge (acre- feet/year)
Sparta	4,564
Queen City	5,488
Carrizo- Wilcox	32,781
Trinity	0
Yegua- Jackson	35,781
Total	78,614

Source: TWDB GAM Run 16-014

Table 6 - Estimated flow into and out of District in major and minor aquifers

	Flow Into District (acre- feet/year)	Flow Out Of District (acre- feet/year)
Sparta	915	593
Queen City	516	2,610
Carrizo- Wilcox	12,660	17,538
Trinity	355	136
Yegua- Jackson	5,882	10,154
Total	20,328	31,031

Source: TWDB GAM Run 16-014

Table 7 - Estimated flow between major/minor and adjacent aquifers

	Flow to/from Overlying Aquifer (acre-feet/year)	Flow to/from Underlying Aquifer (acre-feet/year)
Sparta	883	957
Queen City	934	167
Carrizo- Wilcox	1,313	NA
Trinity	2	NA
Yegua- Jackson	NA	NA
Total	363	791

Source: TWDB GAM Run 16-014. NA= Not applicable per GAM Run 16-014 report.

Note: Figure 1, Stratigraphic Section, lists the overlying and underlying aquifers.

B. SURFACE WATER RESOURCES

Bastrop and Lee counties lie along the inner edge of the Texas Gulf Coastal Plain. The topography is flat to gently rolling, with elevations ranging from slightly less than 400 feet where the Colorado River exits Bastrop County to slightly more than 650 feet along the Bastrop-Lee county line just north of the upper reaches of West Yegua Creek.

The District lies within three river basins: the Guadalupe, Colorado, and Brazos. The Colorado River bisects Bastrop County, and a majority of Bastrop County and the southern quarter of Lee County lie within the Colorado River Basin and its tributaries, including Cummins, Rabbs, Pin

Oak, Big Sandy, Wilbarger, and Cedar Creeks. The remainder of Lee County lies within the Brazos River basin, with the significant tributaries to the Brazos River within Lee County being the Middle and West Yegua Creeks. In addition to the Colorado and Brazos River basins, the extreme southern portion of Bastrop County lies within the Guadalupe River basin, an area drained by Peach Creek.

Currently surface water resources are little used in Bastrop and Lee counties because of lack of availability and because what is available has already been appropriated. Surface water from the Colorado River is used as make-up water for Lake Bastrop (which functions as a cooling pond for the LCRA Sim Gideon power plant), for cooling water for another privately owned power plant in Bastrop County, for some irrigation, and for livestock watering in Lee County. No other District uses of surface water are known. The current availability of surface water within Bastrop and Lee counties is summarized in **Table 8**.

Table 8 - Projected Surface Water Supplies - 2017 State Water Plan

All values are in acre-feet/year

RWPG	Entity Name	County	Source Name	2020	2030	2040	2050	2060	2070
K	COUNTY-OTHER	BASTROP	HIGHLAND LAKES LAKE/RESERVOIR SYSTEM	744	744	744	744	744	744
K	IRRIGATION	BASTROP	HIGHLAND LAKES LAKE/RESERVOIR SYSTEM	852	742	649	565	492	443
K	LIVESTOCK	BASTROP	LOCAL SURFACE WATER SUPPLY	862	862	862	862	862	862
K	MANUFACTURING	BASTROP	LOCAL SURFACE WATER SUPPLY	48	48	48	48	48	48
K	MINING	BASTROP	LOCAL SURFACE WATER SUPPLY	8	7	7	9	9	9
K	STEAM ELECTRIC POWER	BASTROP	HIGHLAND LAKES LAKE/RESERVOIR SYSTEM	12,220	11,834	11,026	10,571	10,571	10,571
G	IRRIGATION	LEE	BRAZOS RUN-OF-RIVER	20	20	20	20	20	20
G	LIVESTOCK	Lee	LOCAL SURFACE WATER SUPPLY	1,935	1,935	1,935	1,935	1,935	1,935

C. DISTRICT WATER DEMANDS, NEEDS AND STRATEGIES

Based on data from the 2017 State Water Plan, over the planning horizon, regional water planning data from Region G and Region K shows population is expected to increase from 95,487 in 2020 in Bastrop County to 382,244 in 2070 (an increase of 302%), and from 19,131 in 2020 in Lee County to 23,889 in 2070 (an increase of 25%). In addition, over the planning horizon, total water demands are projected to increase in Bastrop County from 35,184 acre-feet/year in 2020 to 89,084 acre-feet/year in 2070, and to increase in Lee County from 8,566 acre-feet/year in 2020 to 15,507 acre-feet/year in 2070. Demands within the District are shown in **Table 9**, and a summary by county is shown in **Table 10**. Needs within the District are shown in **Table 11**. Water management strategies included in the State Water Plan within the District are shown in **Table 12**.

Groundwater currently meets virtually all District demand for municipal, manufacturing, mining, livestock, and irrigation purposes, with surface water used principally to meet some irrigation and all steam-electric demand (cooling water). Currently, the two largest uses are mining and municipal purposes, including rural-domestic use. Almost all mining water use is from the Simsboro Aquifer.

It is important to note that the 2017 State Water Plan Projected Net Water Demands below:

- do not distinguish between projected demands met by surface water and those met by groundwater;
- do not include out-of-District demand for District groundwater;
- do not account for groundwater pumpage within the District that is exported out-of-District (such as demand represented by the District's current export of groundwater to Fayette County) (demand estimates from Regions G and K submitted to TWDB are for in-District demands only);
- do not account for demand in areas outside the District which are served by pumpage within the District by retail rural water sellers or other special utility districts whose "Certificate of Convenience and Necessity" (CCN) extends beyond District boundaries.

Such demands must be separately evaluated.

The District expects that improvements to the applicable GAM and expanded data from the Monitoring Well Program will allow better understanding of District groundwater resources and better future estimates of groundwater availability as the District seeks to manage the District's groundwater resources consistently with the DFCs and its mission.

Municipal demands are expected to nearly quadruple in Bastrop County by 2070. Mining demands are also expected to increase significantly in both Bastrop and Lee counties by 2070.

Table 9 - 2017 State Water Plan Projected Net Water Demands

All values are in acre-feet/year

Region	Entity Name	County	WUG Type	2020	2030	2040	2050	2060	2070
K	AQUA WSC	Bastrop	MUNICIPAL	9,228	11,837	15,313	20,116	26,683	35,432
K	BASTROP	Bastrop	MUNICIPAL	1,957	2,598	3,446	4,612	6,201	8,317
K	BASTROP COUNTY WCID #2	Bastrop	MUNICIPAL	378	544	765	1,069	1,482	2,033
K	COUNTY-OTHER, BASTROP	Bastrop	MUNICIPAL	1,873	2,250	2,753	3,444	4,382	5,634
K	CREEDMOOR- MAHA WSC	Bastrop	MUNICIPAL	24	28	35	44	57	74
K	ELGIN	Bastrop	MUNICIPAL	1,298	1,651	2,125	2,782	3,681	4,880
K	IRRIGATION, BASTROP	Bastrop	IRRIGATION	852	742	649	565	492	443
K	LEE COUNTY WSC	Bastrop	MUNICIPAL	103	131	169	221	293	388
K	LIVESTOCK, BASTROP	Bastrop	LIVESTOCK	1,522	1,522	1,522	1,522	1,522	1,522
K	MANUFACTURING, BASTROP	Bastrop	MANUFACTURING	194	227	262	295	319	345
K	MINING, BASTROP	Bastrop	MINING	2,884	6,813	7,498	8,263	9,085	9,996
K	POLONIA WSC	Bastrop	MUNICIPAL	29	36	45	58	75	99
K	SMITHVILLE	Bastrop	MUNICIPAL	842	1,074	1,385	1,817	2,410	3,201
K	STEAM ELECTRIC POWER, BASTROP	Bastrop	STEAM ELECTRIC POWER	14,000	16,720	16,720	16,720	16,720	16,720
G	AQUA WSC	Lee	MUNICIPAL	466	511	536	544	551	555
G	COUNTY-OTHER, LEE	Lee	MUNICIPAL	195	207	218	222	224	226
G	GIDDINGS	Lee	MUNICIPAL	1,120	1,231	1,289	1,307	1,324	1,334
G	IRRIGATION, LEE	Lee	IRRIGATION	459	446	434	421	409	398
G	LEE COUNTY WSC	Lee	MUNICIPAL	908	991	1,035	1,048	1,060	1,067
G	LEXINGTON	Lee	MUNICIPAL	242	265	277	281	284	286
G	LIVESTOCK, LEE	Lee	LIVESTOCK	1,935	1,935	1,935	1,935	1,935	1,935
G	MANUFACTURING, LEE	Lee	MANUFACTURING	13	14	15	16	17	18
G	MINING, LEE	Lee	MINING	3,180	7,289	7,767	8,304	8,904	9,631
G	SOUTHWEST MILAM WSC	Lee	MUNICIPAL	48	53	55	56	56	57

Table 10 - Projected Demands by County

All values are in acre-feet/year

TYPE	County	2020	2030	2040	2050	2060	2070
MINING	Bastrop	2,884	6,813	7,498	8,263	9,085	9,996
STEAM-ELECTRIC	Bastrop	14,000	16,720	16,720	16,720	16,720	16,720
MANUFACTURING	Bastrop	194	227	262	295	319	345
MUNICIPAL	Bastrop	15,732	20,149	26,036	34,163	45,264	60,058
IRRIGATION	Bastrop	852	742	649	565	492	443
LIVESTOCK	Bastrop	1,522	1,522	1,522	1,522	1,522	1,522
MINING	Lee	3,180	7,289	7,767	8,304	8,904	9,631
STEAM-ELECTRIC	Lee	0	0	0	0	0	0
MANUFACTURING	Lee	13	14	15	16	17	18
MUNICIPAL	Lee	2,979	3,258	3,410	3,458	3,499	3,525
IRRIGATION	Lee	459	446	434	421	409	398
LIVESTOCK	Lee	1,935	1,935	1,935	1,935	1,935	1,935

Table 11 - 2017 State Water Plan Projected Water Needs

All values are in acre-feet/year

Region	Entity Name	County	WUG Type	2020	2030	2040	2050	2060	2070
K	AQUA WSC	Bastrop	MUNICIPAL	2,534	4,656	7,145	11,210	17,667	26,269
K	BASTROP	Bastrop	MUNICIPAL	30	671	1,519	2,685	4,274	6,390
K	BASTROP COUNTY WCID #2	Bastrop	MUNICIPAL	0	0	0	0	93	644
K	COUNTY-OTHER	Bastrop	MUNICIPAL	361	519	739	907	1,158	1,490
K	CREEDMOOR-MAHA WSC	Bastrop	MUNICIPAL	0	0	0	0	0	0
K	ELGIN	Bastrop	MUNICIPAL	472	732	1,013	1,533	2,432	3,631
K	IRRIGATION	Bastrop	IRRIGATION	0	0	0	0	0	0
K	LEE COUNTY WSC	Bastrop	MUNICIPAL	0	0	0	0	0	0
K	LIVESTOCK	Bastrop	LIVESTOCK	0	0	0	0	0	0
K	MANUFACTURING	Bastrop	MANUFACTURING	55	87	120	151	174	199
K	MINING	Bastrop	MINING	732	4,662	5,347	6,110	6,932	7,843
K	POLONIA WSC	Bastrop	MUNICIPAL	0	0	0	0	0	0
K	SMITHVILLE	Bastrop	MUNICIPAL	0	0	0	0	0	721
K	STEAM ELECTRIC POWER	Bastrop	STEAM ELECTRIC POWER	0	0	0	0	0	0
G	AQUA WSC	Lee	MUNICIPAL	0	0	0	0	0	0
G	COUNTY-OTHER	Lee	MUNICIPAL	0	0	0	0	0	0
G	GIDDINGS	Lee	MUNICIPAL	0	0	0	0	0	0

G	IRRIGATION	Lee	IRRIGATION	0	0	0	0	0	0
G	LEE COUNTY WSC	Lee	MUNICIPAL	0	0	0	0	0	0
G	LEXINGTON	Lee	MUNICIPAL	0	0	0	0	0	0
G	LIVESTOCK	Lee	LIVESTOCK	0	0	0	0	0	0
G	MANUFACTURING	Lee	MANUFACTURING	0	0	0	0	0	0
G	MINING	Lee	MINING	3,180	7,289	7,767	8,304	8,904	9,631
G	SOUTHWEST MILAM WSC	Lee	MUNICIPAL	0	0	0	0	0	0

Table 12 - Projected Water Management Strategies - 2012 State Water Plan Data

All values are in acre-feet/year

Water Management Strategy	Source Name	2020	2030	2040	2050	2060	2070
AQUA WSC, BASTROP COUNTY (K)							
DROUGHT MANAGEMENT	DEMAND REDUCTION	1,385	1,775	2,297	3,018	4,002	5,366
MUNICIPAL CONSERVATION - AQUA WSC	DEMAND REDUCTION	630	911	978	1,148	1,526	2,026
EXPANSION OF CURRENT GROUNDWATER SUPPLIES - CARRIZO-WILCOX AQUIFER	CARRIZO-WILCOX AQUIFER, BASTROP	2,500	2,500	4,000	4,000	4,000	4,000
LCRA - PRAIRIE SITE RESERVOIR	LCRA NEW OFF-CHANNEL RESERVOIR	0	0	5,000	5,000	10,000	15,000
BASTROP, BASTROP COUNTY (K)							
DROUGHT MANAGEMENT	DEMAND REDUCTION	294	390	517	692	930	1,248
MUNICIPAL CONSERVATION - BASTROP	DEMAND REDUCTION	195	440	688	1,084	1,459	1,958
DEVELOPMENT OF NEW GROUNDWATER SUPPLIES - CARRIZO-WILCOX AQUIFER	GROUNDWATER	300	300	300	300	300	0
DIRECT REUSE - BASTROP	REUSE	0	0	300	600	1,120	1,120
LCRA - LANE CITY RESERVOIR	SURFACE WATER	0	0	0	2,500	2,500	2,500
BASTROP COUNTY WCID #2							
DROUGHT MANAGEMENT	DEMAND REDUCTION	19	27	38	53	74	102
EXPANSION OF CURRENT GROUNDWATER SUPPLIES - CARRIZO-WILCOX AQUIFER	GROUNDWATER	0	0	0	0	550	550
COUNTY-OTHER, BASTROP COUNTY (K)							
DROUGHT MANAGEMENT	DEMAND REDUCTION	281	338	413	517	657	845

MUNICIPAL CONSERVATION - BASTROP COUNTY-OTHER	DEMAND REDUCTION	92	196	344	414	527	677
EXPANSION OF CURRENT GROUNDWATER SUPPLIES - CARRIZO-WILCOX AQUIFER	GROUNDWATER	60	60	60	60	60	0
CREEDMOOR-MAHA WSC, BASTROP COUNTY (K)							
DROUGHT MANAGEMENT	DEMAND REDUCTION	1	1	2	2	3	4
ELGIN, BASTROP COUNTY (K)							
DROUGHT MANAGEMENT	DEMAND REDUCTION	195	248	319	417	552	732
EXPANSION OF CURRENT GROUNDWATER SUPPLIES - CARRIZO-WILCOX AQUIFER	GROUNDWATER	300	300	0	0	0	0
LCRA - LANE CITY RESERVOIR	SURFACE WATER	0	3,452	3,371	3,278	3,196	3,119
MANUFACTURING, BASTROP COUNTY (K)							
EXPANSION OF CURRENT GROUNDWATER SUPPLIES - CARRIZO-WILCOX AQUIFER	GROUNDWATER	55	87	120	151	174	199
MINING, BASTROP COUNTY (K)							
DEVELOPMENT OF NEW GROUNDWATER SUPPLIES - CARRIZO-WILCOX AQUIFER	GROUNDWATER	0	0	466	466	466	466
DEVELOPMENT OF NEW GROUNDWATER SUPPLIES - QUEEN CITY AQUIFER	GROUNDWATER	110	306	0	0	0	0
POLONIA WSC, BASTROP COUNTY (K)							
LOCAL CARRIZO AQUIFER WITH CONVERSION	GROUNDWATER	0	0	0	0	0	0
SMITHVILLE, BASTROP COUNTY (K)							
DROUGHT MANAGEMENT	DEMAND REDUCTION	126	161	208	273	362	480
MUNICIPAL CONSERVATION - SMITHVILLE	DEMAND REDUCTION	44	72	76	88	117	155
DEVELOPMENT OF NEW GROUNDWATER SUPPLIES - QUEEN CITY AQUIFER	GROUNDWATER	0	0	0	0	0	150
STEAM ELECTRIC POWER, BASTROP COUNTY (K)							
LCRA - EXPAND USE OF GROUNDWATER (CARRIZO-WILCOX AQUIFER)	GROUNDWATER	300	300	300	300	300	300
GIDDINGS, LEE COUNTY (G)							
MUNICIPAL WATER CONSERVATION (RURAL) - GIDDINGS	DEMAND REDUCTION	39	131	231	230	232	233
LEXINGTON, LEE COUNTY (G)							

MUNICIPAL WATER CONSERVATION (RURAL) - LEXINGTON	DEMAND REDUCTION	8	26	23	21	21	21
MINING, LEE COUNTY (G)							
INDUSTRIAL WATER CONSERVATION	DEMAND REDUCTION	95	364	544	581	623	674
SOUTHWEST MILAM WSC, LEE COUNTY (G)							
MUNICIPAL WATER CONSERVATION (RURAL) - SOUTHWEST MILAM WSC	DEMAND REDUCTION	1	0	0	0	0	0

Section 8. MANAGEMENT GOALS, OBJECTIVES, AND PERFORMANCE STANDARDS

A. Statutory Goals.

GOAL 1: Provide the most efficient use of groundwater.

Management Objective 1.1: The District will develop and evaluate a schedule for expanding the monitoring well network in the Monitoring Well Program and will measure and record water levels in the monitoring wells.

Performance Standard: The District will annually evaluate and report to the Board on the monitoring well network.

Management Objective 1.2: The District will make available to the public information on efficient use of groundwater, at the District office, on the District website, and/or by public workshops or other presentations.

Performance Standard: The General Manager will report annually to the Board, in the Annual Report or otherwise, on information on efficient use of groundwater which has been made available, identifying the publications and the number and dates of any public workshops or other presentations.

GOAL 2: Controlling and preventing waste of groundwater.

Management Objective 2.1: The District will make available to the public information on controlling and preventing waste of groundwater, at the District office, on the District website, or by public workshops or other presentations.

Performance Standard: The General Manager will report annually to the Board, in the Annual Report or otherwise, on information on efficient use of groundwater which has been made available, identifying the publications and the number and dates of any public workshops or other presentations.

Management Objective 2.2: The District will document and promptly report to the relevant water supply entity any water leaks from pipelines or distribution systems which are noted or reported to the District.

Performance Standard: The District will report annually to the Board, in the Annual Report or otherwise, any leaks noted and reported.

GOAL 3: Controlling and preventing subsidence: Under current conditions this goal is not applicable to the District.

GOAL 4: Address conjunctive surface water management issues.

Management Objective 4.1: The District will encourage the use of surface water supplies, where available and practical, to meet the needs of specific user groups within the District.

Performance Standard: The District will participate at least annually in the Region G and Region K Regional Water Planning processes, encourage the development of surface water supplies where appropriate, and document any such activity in the Annual Report.

GOAL 5: Address natural resource issues that impact the use and availability of groundwater and which are impacted by the use of groundwater.

Management Objective 5.1: The District will make available to the public at the District Office and/or on the District website or at public meetings or presentations information on issues that impact use and availability of groundwater and are impacted by groundwater use, which may include without limitation such issues as drought, mining, endangered species, District hydrologic data, out-of-District export of groundwater, protection of endangered species, and the spread of phreatophytic vegetation.

Performance Standard: The General Manager will report annually to the Board, in the Annual Report or otherwise, information made available on natural resource issues that impact the use and availability of groundwater and are impacted by the use of groundwater, identifying the publications and the number and dates of any public workshops or other presentations.

GOAL 6: Address drought conditions.

Management Objective 6.1: The District will monitor information on drought severity and provide a link to the drought information on the District website.

Performance Standard: The District will monitor a public source on local drought conditions, such as <https://waterdatafortexas.org/drought>, make the information available to the public on the District website, and report annually to the Board on the status of this objective in the Annual Report or otherwise.

Management Objective 6.2. The District will monitor District monitoring wells at specified intervals.

Performance Standard: A summary of water levels in District monitoring wells will be provided at least annually to the Board.

GOAL 7: Address conservation, recharge enhancement, rainwater harvesting, precipitation enhancement, or brush control, where appropriate and cost-effective.

Recharge enhancement: The District does not currently have the financial resources to buy property and construct recharge structures. Therefore, based on current conditions, this goal is not currently applicable.

Precipitation enhancement: The District does not know of any precipitation enhancement activity currently applicable to the District. Therefore, this goal is not currently applicable.

Management Objective 7.1: The District will make available to the public at the District office and/or on the District website information on water conservation on topics such as advances in plumbing fixtures that conserve water, xeriscaping, and other related subjects, where appropriate and cost-effective, identified by the District.

Performance Standard: The General Manager will report annually to the Board, in the Annual Report or otherwise, on information on conservation which has been made available, identifying the information and the number and dates of any public workshops or other presentations.

Management Objective 7.2. The District will make available to the public at the District office and/or on the District website information concerning rainwater harvesting where appropriate and cost effective, including one or more publications related to advances in rainwater harvesting or any other related subject identified by the District.

Performance Standard: The General Manager will report annually to the Board, in the Annual Report or otherwise, on information on rainwater harvesting which has been made available, identifying the information and the number and dates of any public workshops or other presentations.

Management Objective 7.3. The District will make available to the public information concerning brush control where appropriate and cost effective, including on topics related to brush control or any other related subject identified by the District.

Performance Standard: The General Manager will report annually to the Board, in the Annual Report or otherwise, on information on brush control which has been made available, identifying the information and the number and dates of any public workshops or other presentations.

GOAL 8: Address desired future conditions (DFCs) of the groundwater resources established pursuant to § 36.108.

Management Objective 8.1: The District will report information on the consistency of water levels with DFCs at least annually.

Performance Standard: Water levels will be reported at least annually to the Board by the General Manager, and will include information on the consistency of water levels with DFCs, including by county, and upon review and acceptance by the Board, made available to the public.

Management Objective 8.2: The District will regularly assess whether or not management zones should be established within its counties, or, if established, modified.

Performance Standard: The General Manager will at least every five years assess and report to the Board whether management zones should be established within its counties, or, if established, modified.

B. District-Specific Goals

GOAL: Provide public education on groundwater resources.

Management Objective: The District will make available to the public, with a focus on children, information related to the occurrence, distribution, behavior, and use of groundwater.

Performance Standard: At least once each year in each county of the District, the District will present a program dealing with the above matters at a public school.

GOAL: Register all wells within District boundaries.

Management Objective: The District will register all exempt wells drilled since the District Rules became effective and work towards registering all pre-existing exempt wells.

Performance Standard: The District will encourage registration of newly drilled exempt wells by refunding the drilling permit fee upon submittal of completion reports, well logs, and well registration materials. Because registration of exempt wells existing prior to the effective date of District rules is voluntary, the General Manager or the General Manager's designated representative will note the existence of unregistered wells, locate such wells on a map as best possible, and visit with the landowner, if possible, to encourage registration of the wells. The District will document such attempts at the District office.

GOAL: Publicize operating permit requirements

Management Objective: The District will publicize the requirement for operating permits for non-exempt wells, not otherwise excluded, and notify operating permit holders of the need to renew their operating permit at least sixty days prior to expiration.

Performance Standard: At least annually, the District will notify all known water-well drillers and pump installers operating in the District of the requirement for owners of non-exempt wells, not otherwise excluded, to obtain an operating permit and the requirement that the driller and/or pump installer insure that no non-exempt well, not otherwise excluded, is placed into service within the District without an operating permit. Such notice may be by publication in one or more newspapers of general circulation in Bastrop and Lee counties.

GOAL: Publicize transport permit requirements

Management Objective: The District will publicize the requirement for transport permits and to notify holders of transport permits of the need to renew their transfer permit prior to expiration.

Performance Standard: At least annually, the District shall cause to be published in one or more newspapers of general circulation in Bastrop and Lee counties a publication including or related to the requirement to obtain a transport permit to transport groundwater out of the District.

GOAL: Timely process operating permits and transport permits.

Management Objective: The District will endeavor to set an application on the agenda for a Board meeting within sixty (60) days of the date on which the General Manager determines that an application is Administratively Complete as defined by District rules.

Performance Standard: On an annual basis the District will track the dates on which applications and components of requested information are received, the dates on which (following technical review) an application is determined to be administratively complete, and the dates on which the Board considers applications. For any permit application taking longer than sixty days to process, the General Manager will cause a brief comment to be included in the files as to the reason for the delay. The General Manager will include an annual summary of permit application tracking in the Annual Report. Upon review and approval of the Annual Report, the District will make it available for public review at the District office.

GOAL: Maintain a database of registration of exempt wells, operating permits of non-exempt wells, and transport permits, permitting development of spacing and completion information for District wells and other information which facilitates management of groundwater consistent with DFCs.

Management Objective: The District will maintain a database of each registration of an exempt well, each operating permit for a non-exempt well, and each transport permit, such that the District can generate plots of the locations of each registered and permitted well, access available completion and other relevant information for wells, and compute distances between the wells.

Performance Standard: Data on each registration of an exempt well, each operating permit for a non-exempt well, and each transport permit shall be entered in the database within sixty (60) days of issuance of the operating permit or registration. A summary of exempt wells will be provided in the annual hydrological data report.

Section 9. DISTRICT CERTIFICATIONS

A. Regional Cooperation and Coordination

Evidence of coordination by the District with the relevant surface water entities in its boundaries is provided in **Appendix B**. In addition:

Lower Colorado River Regional Planning Group (Region K). The District regularly coordinates with Region K by participating at regional planning meetings and by written and verbal communication as needed.

Brazos River Regional Planning Group (Region G). The District regularly coordinates and communicates with Region G. A District representative commonly attends Region G planning meetings.

Lower Colorado River Authority (LCRA). The District communicates with LCRA through the Region K planning group and directly as needed. The District will participate when regular communication begins on conjunctive use of surface and groundwater (which has not occurred to date in Bastrop and Lee counties).

Brazos River Authority (BRA). The District communicates with BRA through the Region G planning group and directly as needed. BRA representatives commonly attend District Board meetings. The District will participate when regular communication begins on conjunctive use of surface and groundwater (which has not occurred to date in Bastrop and Lee counties).

B. District's Resolution Adopting Management Plan

Appendix C contains a certified copy of the District resolution adopting this Management Plan.

C. Evidence of Public Notice and Hearing of Management Plan

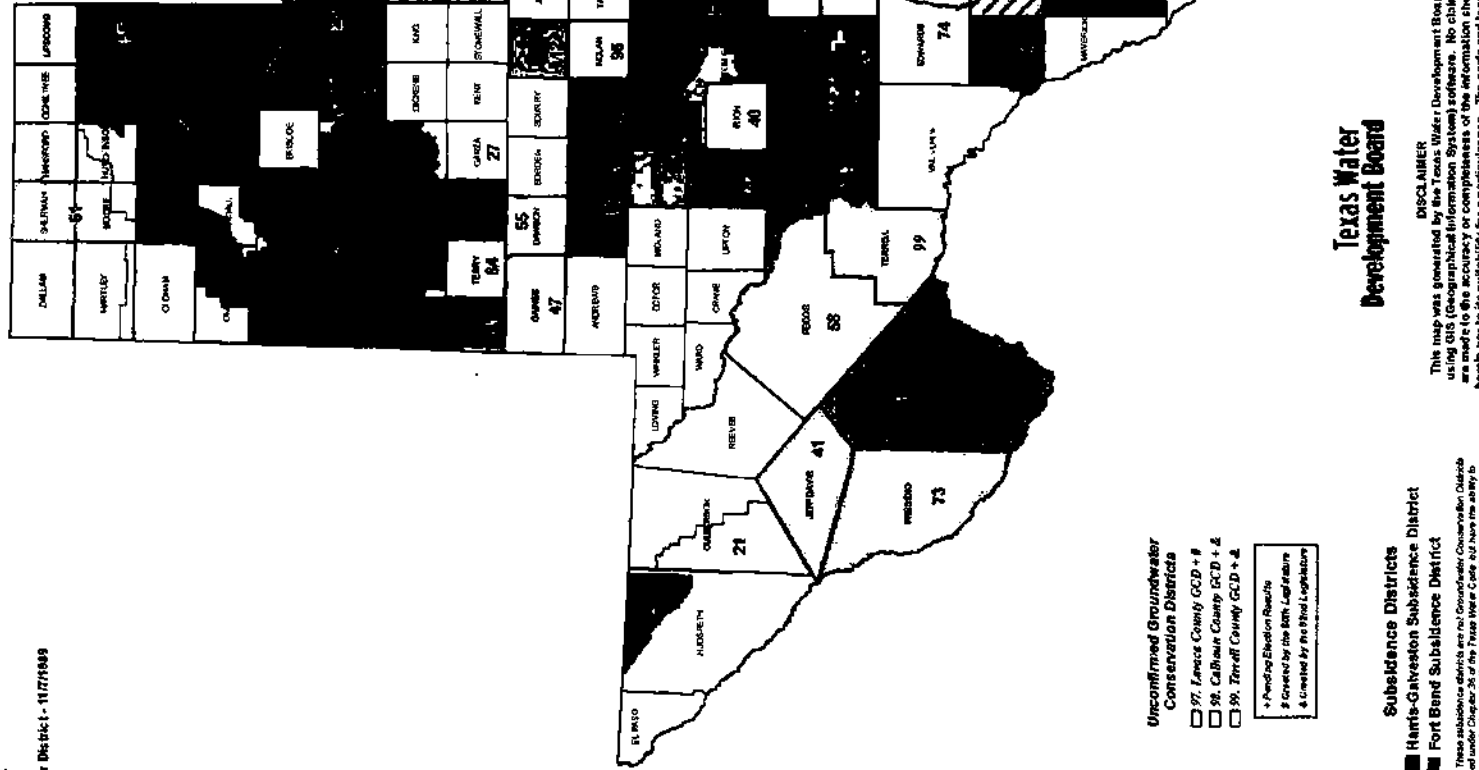
Appendix D contains evidence of public notice and hearing prior to adoption of this Management Plan.

D. Site-Specific Information Provided to the TWDB

No site-specific information is available to provide to the Executive Administrator regarding the estimates required in subsections 31 TAC §356.52(a)(5)(C), (D), and (E).

Maps

GROUNDWATER CONSERVATION DISTRICTS*, (Confirmed and Pending Confirmation)



Unconfirmed Groundwater Conservation Districts

- ☐ 97. Tarrant County GCD + 9
- ☐ 98. Calhoun County GCD + 4
- ☐ 99. Tarrant County GCD + 4

* Pending Districts
Created by the 8th Legislature
4 Created by the 9th Legislature

Substantive Districts

- ☒ Harris-Galveston Substantive District
- ☒ Fort Bend Substantive District

NOTE: These substantive districts are not Groundwater Conservation Districts as defined under Chapter 36 of the Texas Water Code and have the ability to regulate groundwater production for a particular area. The scale and location are approximate.

Texas Water Development Board

DISCLAIMER

This map was generated by the Texas Water Development Board using GIS (Geographical Information System) software. No claims are made to the accuracy or completeness of the information shown herein for its suitability for a particular use. The scale and location

* Districts that have, in whole or part, authority as assigned by Chapter 36 of the Texas Water Code. Please refer questions pertaining to individual districts to the district themselves.

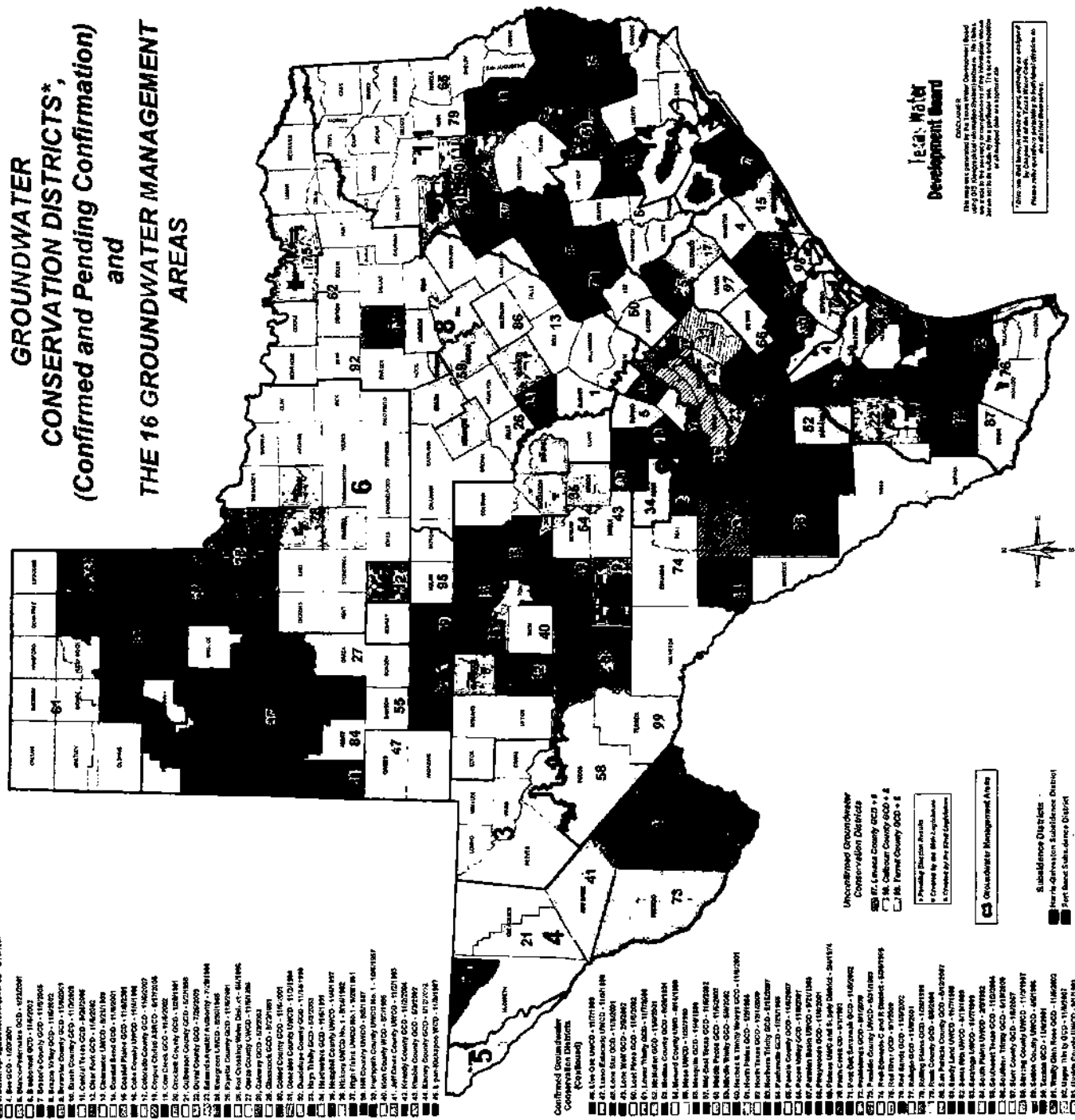
GCD Data Source: Texas Commission on Environmental Quality (TCEQ) 11/23/2010

MAP 1



- Confirmed Groundwater Conservation Districts
1. Anderson County UWCD - 10/17/1987
 2. Bandera County River Authority & Groundwater District - 11/17/1989
 3. Barton Springs Edwards Aquifer GCD - 8/13/1997
 4. Bee GCD - 1/20/2001
 5. Blanco-Pedernales GCD - 1/23/2001
 6. Blumington GCD - 11/5/2002
 7. Brazos Valley GCD - 11/8/2005
 8. Brazos Valley GCD - 11/8/2005
 9. Brewster County GCD - 11/8/2001
 10. Brush County GCD - 11/8/2001
 11. Central Texas GCD - 8/24/2005
 12. Clear Fork GCD - 11/8/2002
 13. Clearwater UWCD - 8/27/1993
 14. Coastal Bend GCD - 11/8/2001
 15. Comal County GCD - 11/8/2001
 16. Comal County GCD - 11/8/2001
 17. Colorado County GCD - 11/8/2007
 18. Corpus Christi ASRCB - 6/12/2005
 19. Cow Creek GCD - 11/8/2002
 20. Crockett County GCD - 11/8/1991
 21. Culberson County GCD - 8/21/1993
 22. Duval County GCD - 7/18/2003
 23. Edwards Aquifer Authority - 7/18/1994
 24. Edwards UWCD - 8/20/1985
 25. Fayette County GCD - 11/8/2001
 26. Fox Crossing Water District - 4/4/1984
 27. Garza County UWCD - 11/8/1996
 28. Gateway GCD - 5/22/2003
 29. Gillespie GCD - 8/22/1981
 30. Guadalupe County GCD - 11/8/2001
 31. Guadalupe County UWCD - 11/21/1984
 32. Guadalupe County GCD - 11/14/1999
 33. Hays Trinity GCD - 8/3/2003
 34. Headquarters GCD - 11/8/1991
 35. Hemphill County UWCD - 11/14/1987
 36. Hickory UWCD No. 1 - 8/14/1982
 37. High Plains UWCD No. 1 - 8/29/1985
 38. Hill Country UWCD - 8/18/1987
 39. Hudspeth County UWCD No. 1 - 10/15/1987
 40. Iron County WCD - 8/21/1985
 41. Jeff Davis County UWCD - 11/27/1983
 42. Kinney County GCD - 11/22/2001
 43. Kinney County GCD - 5/22/2002
 44. Kinney County GCD - 11/22/2002
 45. Llanito-Alamo WCD - 11/8/1987
 46. Live Oak UWCD - 11/27/1983
 47. Live Oak WCD - 11/27/1983
 48. Live Oak WCD - 11/27/1983
 49. Live Oak WCD - 11/27/1983
 50. Live Oak WCD - 11/27/1983
 51. Lower Trinity GCD - 11/7/2004
 52. McLennan GCD - 11/8/2001
 53. Medina County GCD - 8/28/1991
 54. Menard County UWCD - 8/14/1999
 55. Mesa UWCD - 1/28/1990
 56. Mesquite GCD - 11/14/1996
 57. Mid-East Texas GCD - 11/8/2002
 58. Middle Frio GCD - 11/8/2002
 59. Middle Trinity GCD - 8/2/2002
 60. Neches & Trinity Valleys GCD - 11/8/1986
 61. North Plains GCD - 12/1/2009
 62. North Texas GCD - 12/1/2009
 63. Northern Trinity GCD - 8/15/2007
 64. Panhandle GCD - 12/1/1994
 65. Parole County GCD - 11/8/2007
 66. Pecan Valley GCD - 11/6/2001
 67. Permian Basin UWCD - 8/27/1985
 68. Pineywoods GCD - 11/8/2001
 69. Plateau WCD and Supply District - 3/4/1974
 70. Plom Creek CD - 6/1/1993
 71. Post Oak Savannah GCD - 11/8/2002
 72. Presidio GCD - 8/12/2004
 73. Presidio County UWCD - 8/21/1999
 74. Rockwell GCD - 11/8/2001
 75. Rockwell GCD - 11/8/2001
 76. Rockwell GCD - 11/8/2001
 77. Rockwell GCD - 11/8/2001
 78. Rolling Plains GCD - 11/8/1999
 79. Rockwell GCD - 11/8/2001
 80. San Antonio County GCD - 8/12/2007
 81. Sandy Land UWCD - 11/7/1999
 82. Santa Rita UWCD - 8/19/1983
 83. Sanluis GCD - 11/7/1985
 84. South Plains UWCD - 2/9/1992
 85. Southwest Texas GCD - 11/22/2004
 86. Southern Trinity GCD - 8/19/2009
 87. Starr County GCD - 11/8/2007
 88. Sterling County UWCD - 11/3/1987
 89. Sutton County UWCD - 4/6/1986
 90. Tarrant County GCD - 11/8/2001
 91. Trinity Glen Rose GCD - 11/8/2002
 92. Upper Trinity GCD - 11/8/2007
 93. Victoria County UWCD - 8/1/1993
 94. Victoria County GCD - 8/2/2006
 95. Webb County GCD - 11/8/2002

GROUNDWATER CONSERVATION DISTRICTS*, (Confirmed and Pending Confirmation) and THE 16 GROUNDWATER MANAGEMENT AREAS

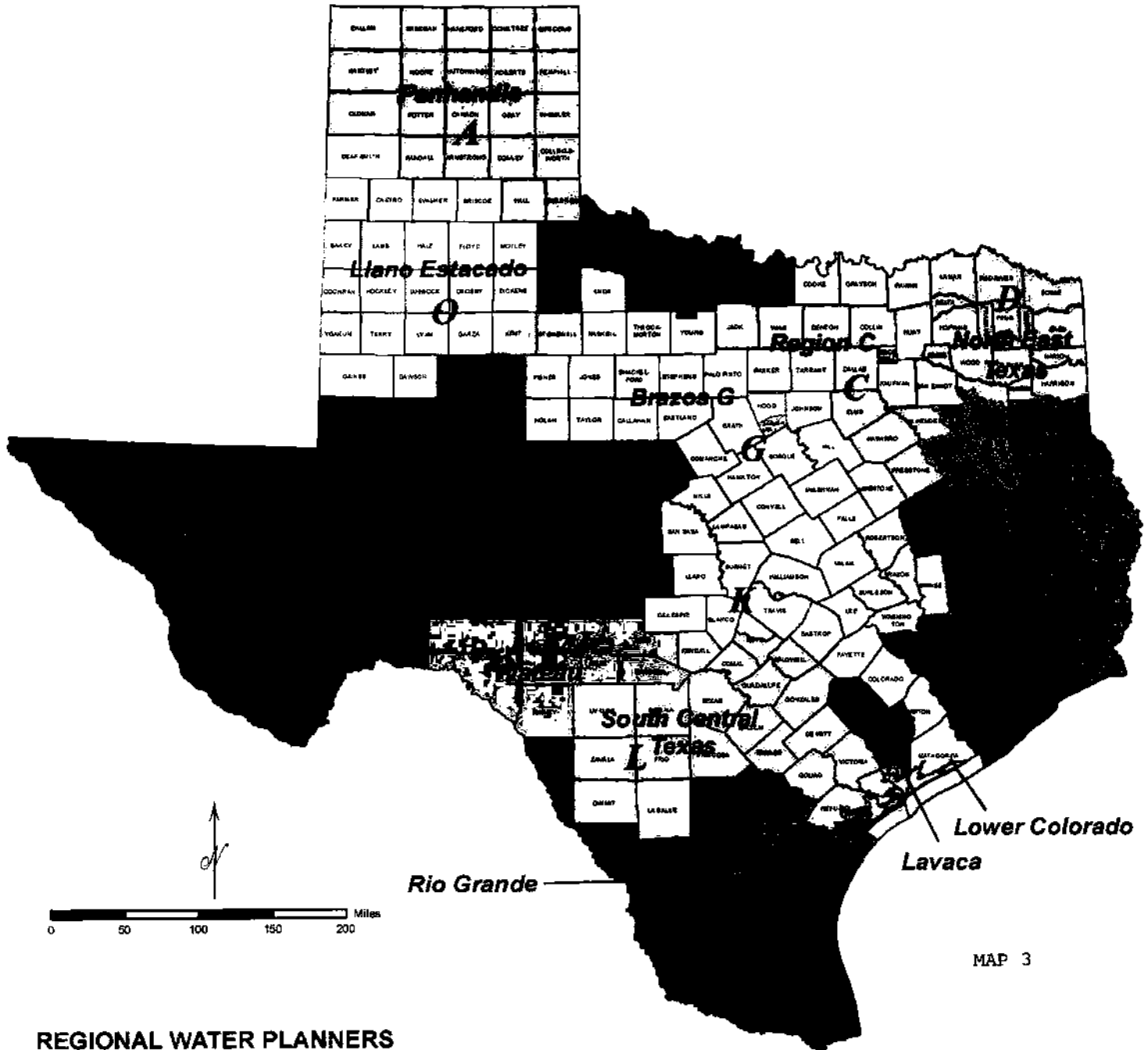


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Map updated August 2000

Regional Water Planning Areas



REGIONAL WATER PLANNERS

Lann Bookout (512) 936 - 9439: Regions G, I & P
 Angela Kennedy (512) 463 - 1437: Regions C, N, & O
 Temple McKinnon (512) 475 - 2057: Regions D & H
 David Meeseey (512) 936 - 0852: Region K
 Matt Nelson (512) 936 - 3550: Region L
 Doug Shaw (512) 463 - 1711: Regions A, B, & F
 Connie Townsend (512) 463 - 8290: Regions E, J & M

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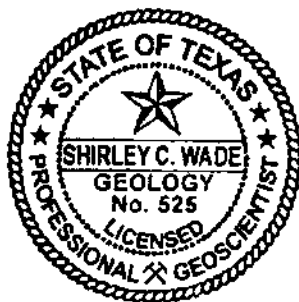
Updated by Erik O'Brian
 Mapping Coordinator
 11/07/2011

Attachment A

GAM Run 16-014: Lost Pines GCD Groundwater Management Plan

GAM RUN 16-014: LOST PINES GROUNDWATER CONSERVATION DISTRICT GROUNDWATER MANAGEMENT PLAN

Shirley C. Wade, Ph.D., P.G.
Texas Water Development Board
Groundwater Division
Groundwater Availability Modeling Section
(512) 936-0883
March 6, 2017



Shirley C. Wade
3/6/17

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GAM RUN 16-014: LOST PINES GROUNDWATER CONSERVATION DISTRICT GROUNDWATER MANAGEMENT PLAN

Shirley C. Wade, Ph.D., P.G.
Texas Water Development Board
Groundwater Division
Groundwater Availability Modeling Section
(512) 936-0883
March 6, 2017

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.

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

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

The groundwater management plan for the Lost Pines Groundwater Conservation District should be adopted by the district on or before August 9, 2017, and submitted to the Executive Administrator of the TWDB on or before September 8, 2017. The current

management plan for the Lost Pines Groundwater Conservation District expires on November 7, 2017.

We used three groundwater availability models to estimate the management plan information for the aquifers within the Lost Pines Groundwater Conservation District. Information for the Trinity Aquifer is from the groundwater availability model (version 2.01) for the northern portion of the Trinity and Woodbine aquifers (Kelley and others, 2014). Information for the Carrizo-Wilcox, Queen City, and Sparta aquifers is from version 2.02 of the groundwater availability model for the central part of the Carrizo-Wilcox, Queen City, and Sparta aquifers (Kelley and others, 2004). Information for the Yegua-Jackson Aquifer is from version 1.01 of the groundwater availability model for the Yegua-Jackson Aquifer (Deeds and others, 2010).

This report replaces the results of GAM Run 10-014 (Hassan, 2010). GAM Run 16-014 meets current standards set after the release of GAM Run 10-014 and includes results from the recently released groundwater availability model for the northern portion of the Trinity and Woodbine aquifers (Kelley and others, 2014). Tables 1 through 5 summarize the groundwater availability model data required by statute and Figures 1 through 5 show the area of the models from which the values in the tables were extracted. If after review of the figures, the Lost Pines 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 three groundwater availability models mentioned above were used to estimate information for the Lost Pines Groundwater Conservation District management plan. Water budgets were extracted for the historical model periods (Trinity Aquifer—1980 through 2012, Carrizo-Wilcox, Queen City, and Sparta aquifers—1980 through 1999, and Yegua-Jackson Aquifer—1980 through 1997) using ZONEBUDGET Version 3.01 (Harbaugh, 2009). The average annual water budget values for recharge, surface-water outflow, inflow to the district, and outflow from the district for the aquifers within the district are summarized in this report.

PARAMETERS AND ASSUMPTIONS:

Trinity Aquifer

- We used version 2.01 of the groundwater availability model for the northern portion of the Trinity and Woodbine aquifers. See Kelley and others (2014) for assumptions and limitations of the model.
- The groundwater availability model for the northern portion of the Trinity and Woodbine aquifers contains eight layers: Layer 1 (the surficial outcrop area of the units in layers 2 through 8 and units younger than Woodbine Aquifer), Layer 2 (Woodbine Aquifer and pass-through cells), Layer 3 (Washita and Fredericksburg, Edwards (Balcones Fault Zone), and pass-through cells), and Layers 4 through 8 (Trinity Aquifer).
- The Woodbine Aquifer does not exist within the Lost Pines Groundwater Conservation District and thus water budgets for this aquifer were not calculated or included for this report.
- The model was run with MODFLOW-NWT (Niswonger and others, 2011).

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 Formation confining unit (Layer 2), the Queen City Aquifer (Layer 3), the Reklaw Formation confining unit (Layer 4), the Carrizo Formation (Layer 5), the Calvert Bluff Formation (Layer 6), the Simsboro Formation (Layer 7), and the 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).
- 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 of the Yegua-Jackson Aquifer and younger overlying units—the Catahoula Formation (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 three groundwater availability models covering the aquifers within Lost Pines Groundwater Conservation District and averaged over the historical calibration periods.

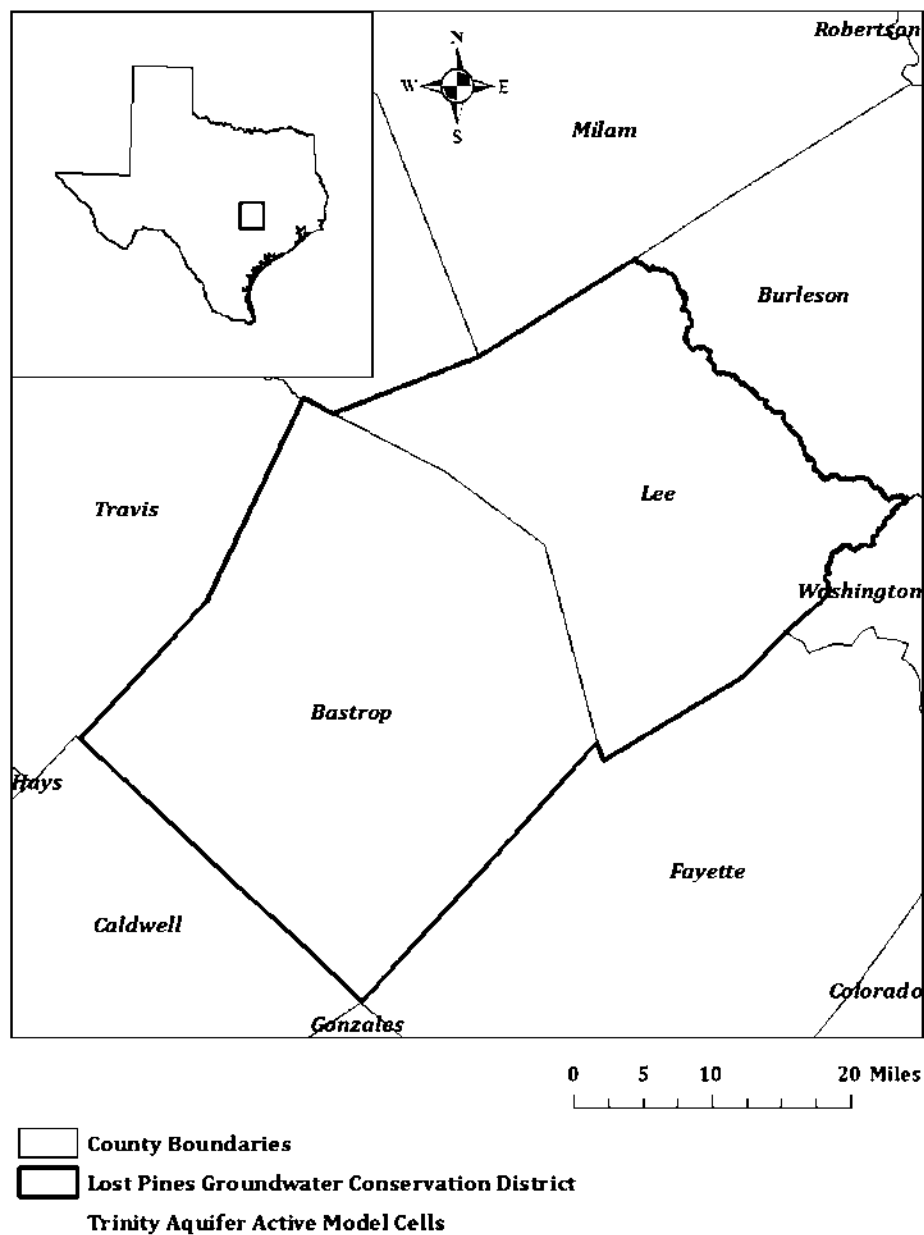
1. Precipitation recharge—the areally distributed recharge sourced from precipitation falling on the outcrop areas of the aquifers (where the aquifer is exposed at land surface) within the district.
2. Surface-water outflow—the total water discharging from the aquifer (outflow) to surface-water features such as streams, reservoirs, and springs.
3. Flow into and out of district—the lateral flow within the aquifer between the district and adjacent counties.
4. Flow between aquifers—the net vertical flow between the aquifer and adjacent aquifers or confining units. This flow is controlled by the relative water levels in each aquifer and aquifer properties of each aquifer or confining unit that define the amount of leakage that occurs.

The information needed for the district's management plan is summarized in Tables 1 through 5. 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 TRINITY AQUIFER FOR THE LOST PINES 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	Trinity Aquifer	0
Estimated annual volume of water that discharges from the aquifer to springs and any surface-water body including lakes, streams, and rivers	Trinity Aquifer	0
Estimated annual volume of flow into the district within each aquifer in the district	Trinity Aquifer	355
Estimated annual volume of flow out of the district within each aquifer in the district	Trinity Aquifer	136
Estimated net annual volume of flow between each aquifer in the district	Flow from the Trinity Aquifer into overlying units	2
	Flow to underlying formations	NA ¹

¹ Not available because the model assumes a no-flow boundary condition at the base.



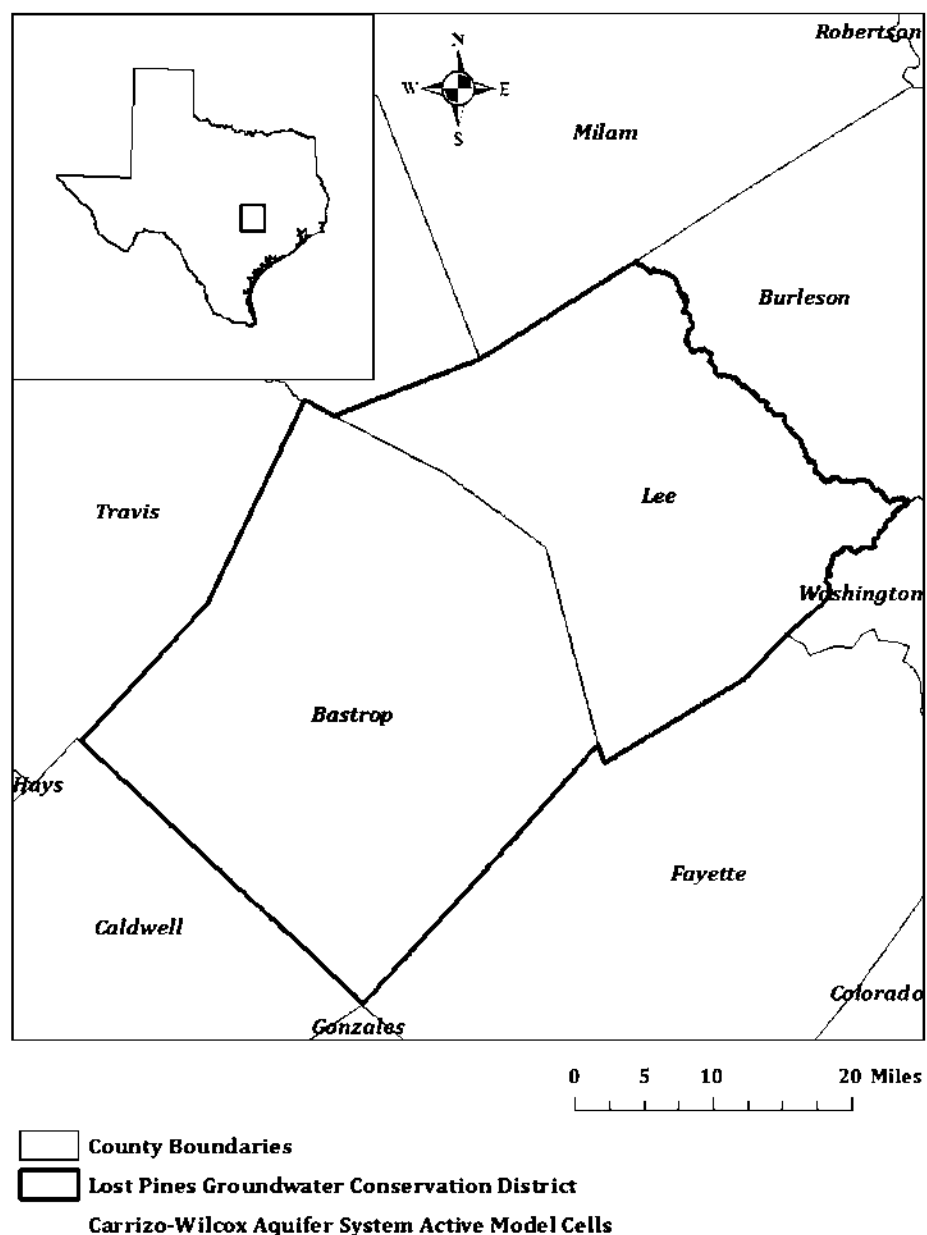
gcd boundary date = 11.28.16. county boundary date = 02.02.11. trnt_n model grid date = 08.26.15

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

TABLE 2: SUMMARIZED INFORMATION FOR THE CARRIZO-WILCOX AQUIFER FOR THE LOST PINES 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	Carrizo-Wilcox Aquifer	29,602
Estimated annual volume of water that discharges from the aquifer to springs and any surface-water body including lakes, streams, and rivers	Carrizo-Wilcox Aquifer	32,781
Estimated annual volume of flow into the district within each aquifer in the district	Carrizo-Wilcox Aquifer	12,660
Estimated annual volume of flow out of the district within each aquifer in the district	Carrizo-Wilcox Aquifer	17,538
Estimated net annual volume of flow between each aquifer in the district	Flow into the Carrizo-Wilcox Aquifer from overlying units	1,313
	Flow to underlying formations	NA ²

² Not available because the model assumes a no-flow boundary condition at the base.

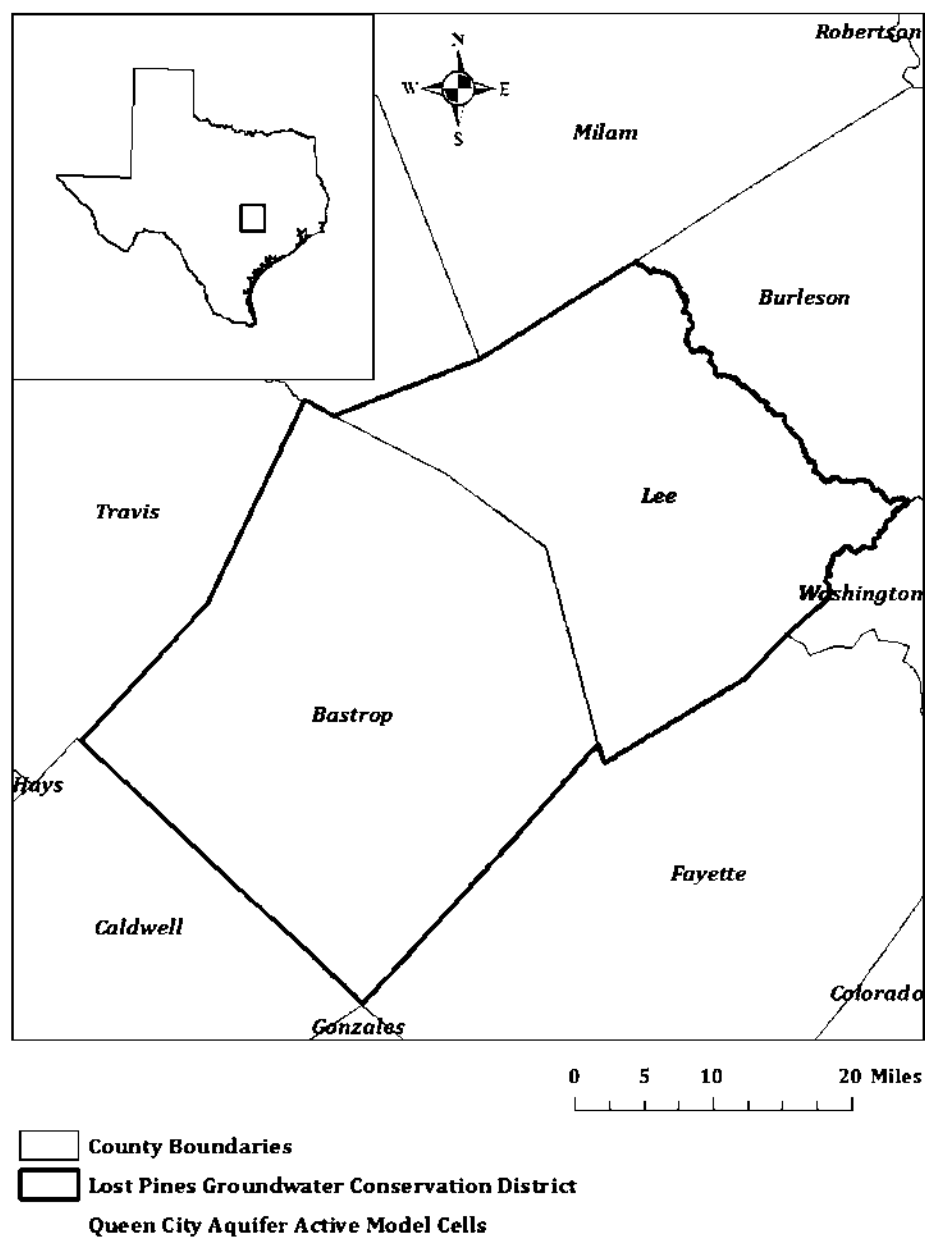


gcd boundary date = 11.28.16, county boundary date = 02.02.11, qcsp_c model grid date = 12.30.15

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

TABLE 3: SUMMARIZED INFORMATION FOR THE QUEEN CITY AQUIFER FOR THE LOST PINES 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	Queen City Aquifer	7,255
Estimated annual volume of water that discharges from the aquifer to springs and any surface-water body including lakes, streams, and rivers	Queen City Aquifer	5,488
Estimated annual volume of flow into the district within each aquifer in the district	Queen City Aquifer	516
Estimated annual volume of flow out of the district within each aquifer in the district	Queen City Aquifer	2,610
Estimated net annual volume of flow between each aquifer in the district	Flow from the Queen City Aquifer into overlying units	934
	From Queen City Aquifer into underlying formations	167

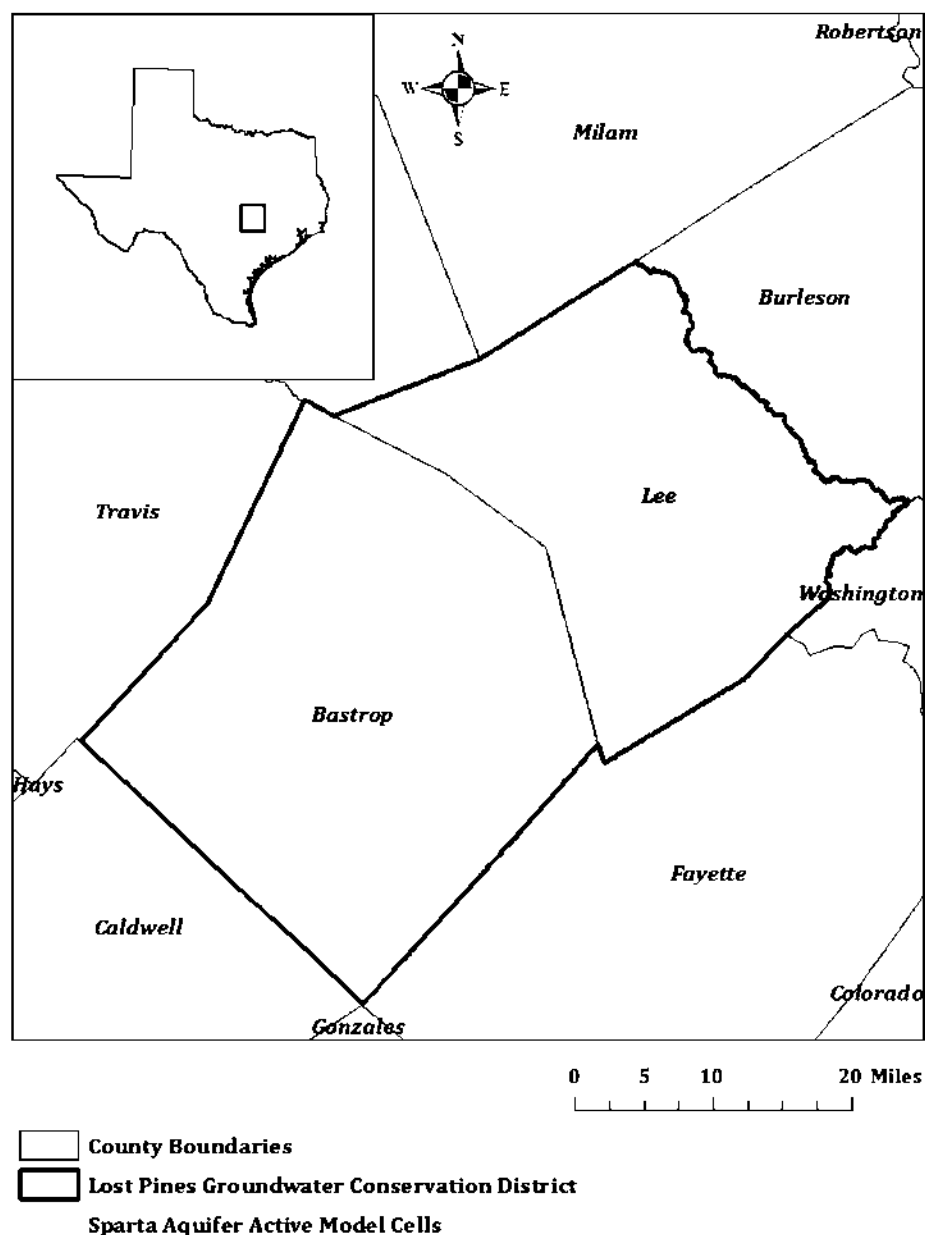


gcd boundary date = 11.28.16. county boundary date = 02.02.11. qcsp_c model grid date = 12.30.15

FIGURE 3: AREA OF THE GROUNDWATER AVAILABILITY MODEL FOR THE QUEEN CITY AQUIFER FROM WHICH THE INFORMATION IN TABLE 3 WAS EXTRACTED (THE AQUIFER EXTENT WITHIN THE DISTRICT BOUNDARY).

TABLE 4: SUMMARIZED INFORMATION FOR THE SPARTA AQUIFER FOR THE LOST PINES 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	Sparta Aquifer	10,142
Estimated annual volume of water that discharges from the aquifer to springs and any surface-water body including lakes, streams, and rivers	Sparta Aquifer	4,564
Estimated annual volume of flow into the district within each aquifer in the district	Sparta Aquifer	915
Estimated annual volume of flow out of the district within each aquifer in the district	Sparta Aquifer	593
Estimated net annual volume of flow between each aquifer in the district	Flow into the Sparta Aquifer from underlying units	957
	Flow from the Sparta Aquifer into overlying units	883



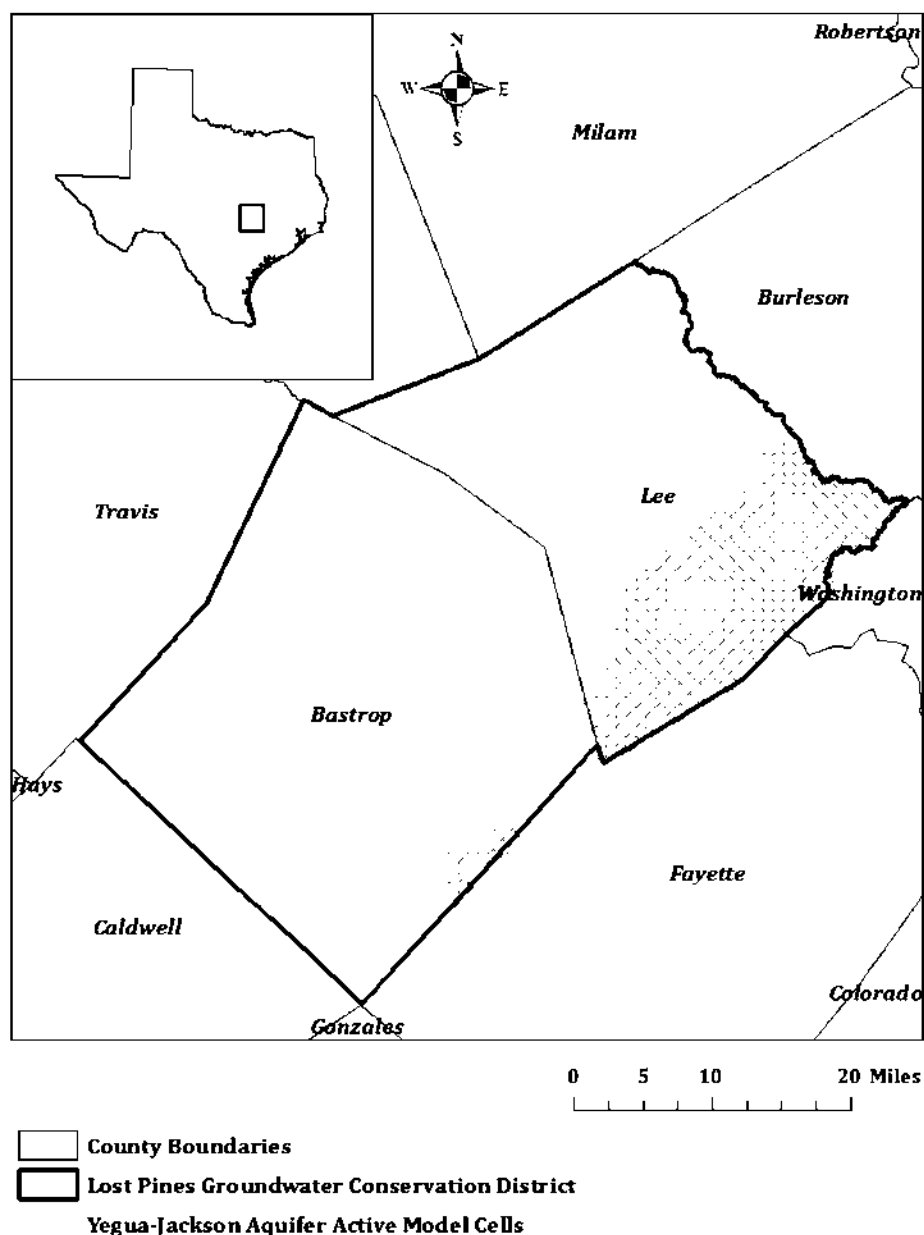
gcd boundary date = 11.28.16, county boundary date = 02.02.11, qcsp_c model grid date = 12.30.15

FIGURE 4: AREA OF THE GROUNDWATER AVAILABILITY MODEL FOR THE SPARTA AQUIFER FROM WHICH THE INFORMATION IN TABLE 4 WAS EXTRACTED (THE AQUIFER EXTENT WITHIN THE DISTRICT BOUNDARY).

TABLE 5: SUMMARIZED INFORMATION FOR THE YEGUA-JACKSON AQUIFER FOR THE LOST PINES GROUNDWATER CONSERVATION DISTRICT'S GROUNDWATER MANAGEMENT PLAN. ALL VALUES ARE REPORTED IN ACRE-FEET PER YEAR AND ROUNDED TO THE NEAREST 1 ACRE-FOOT.

Management Plan requirement	Aquifer or confining unit	Results
Estimated annual amount of recharge from precipitation to the district	Yegua-Jackson Aquifer	38,860
Estimated annual volume of water that discharges from the aquifer to springs and any surface-water body including lakes, streams, and rivers	Yegua-Jackson Aquifer	35,781
Estimated annual volume of flow into the district within each aquifer in the district	Yegua-Jackson Aquifer	5,882
Estimated annual volume of flow out of the district within each aquifer in the district	Yegua-Jackson Aquifer	10,154
Estimated net annual volume of flow between each aquifer in the district	Flow to underlying formations	NA ³

³ Not available because the model assumes a no-flow boundary condition at the base.



gcd boundary date = 11.28.16, county boundary date = 02.02.11, ygjk model grid date = 12.30.15

FIGURE 5: AREA OF THE GROUNDWATER AVAILABILITY MODEL FOR THE YEGUA-JACKSON AQUIFER FROM WHICH THE INFORMATION IN TABLE 5 WAS EXTRACTED (THE AQUIFER EXTENT WITHIN THE DISTRICT BOUNDARY).

LIMITATIONS:

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

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

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

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

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

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- Niswonger, R.G., Panday, S., and Ibaraki, M., 2011, MODFLOW-NWT, a Newton formulation for MODFLOW-2005: USGS, Techniques and Methods 6-A37, 44 p.

GAM Run 16-014: Lost Pines Groundwater Conservation District Groundwater Management Plan

March 6, 2017

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

Attachment B

Estimated Historical Water Use and 2017 State Water Plan Datasets: Lost Pines Groundwater Conservation District

Estimated Historical Water Use And 2017 State Water Plan Datasets:

Lost Pines Groundwater Conservation District

by Stephen Allen
Texas Water Development Board
Groundwater Division
Groundwater Technical Assistance Section
stephen.allen@twdb.texas.gov
(512) 463-7317
May 17, 2017

GROUNDWATER MANAGEMENT PLAN DATA:

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

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

The five reports included in this part are:

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

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

DISCLAIMER:

The data presented in this report represents the most up-to-date WUS and 2017 SWP data available as of 5/17/2017. Although it does not happen frequently, either of these datasets are subject to change pending the availability of more accurate WUS data or an amendment to the 2017 SWP. District personnel must review these datasets and correct any discrepancies in order to ensure approval of their groundwater management plan.

The WUS dataset can be verified at this web address:

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

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

For additional questions regarding this data, please contact Stephen Allen (stephen.allen@twdb.texas.gov or 512-463-7317) 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 2016. TWDB staff anticipates the calculation and posting of these estimates at a later date.

BASTROP COUNTY

All values are in acre-feet

Year	Source	Municipal	Manufacturing	Mining	Steam Electric	Irrigation	Livestock	Total
2015	GW	10,466	98	44	5,519	3,204	211	19,542
	SW	0	0	0	2,245	0	839	3,084
2014	GW	9,771	93	34	3,400	2,444	206	15,948
	SW	0	0	3	3,389	0	825	4,217
2013	GW	10,611	81	44	0	2,533	191	13,460
	SW	0	2	0	5,549	531	768	6,850
2012	GW	11,010	60	45	0	2,829	215	14,159
	SW	0	22	0	6,426	952	859	8,259
2011	GW	12,129	81	2,110	0	3,861	260	18,441
	SW	0	23	47	7,646	1,200	1,041	9,957
2010	GW	10,473	74	2,130	0	6,299	261	19,237
	SW	0	5	48	3,491	750	1,046	5,340
2009	GW	11,256	79	2,117	0	2,915	257	16,624
	SW	0	10	48	4,535	0	1,027	5,620
2008	GW	11,075	70	2,105	0	371	267	13,888
	SW	8	12	47	7,306	0	1,065	8,438
2007	GW	9,303	66	0	0	365	232	9,966
	SW	2	30	0	2,019	0	924	2,975
2006	GW	11,021	66	0	0	596	325	12,008
	SW	3	8	0	3,514	0	1,300	4,825
2005	GW	10,071	30	0	0	627	325	11,053
	SW	11	31	0	3,514	0	1,300	4,856
2004	GW	8,741	36	0	0	539	441	9,757
	SW	1	29	0	2,944	0	1,242	4,216
2003	GW	9,663	40	0	0	400	437	10,540
	SW	1	62	0	2,944	0	1,231	4,238
2002	GW	9,169	40	0	0	834	402	10,445
	SW	1	19	0	2,944	869	1,135	4,968
2001	GW	8,593	47	0	0	834	403	9,877
	SW	1	0	0	3,417	869	1,136	5,423
2000	GW	8,689	56	0	0	904	609	10,258
	SW	1	15	0	2,814	942	913	4,685

LEE COUNTY

All values are in acre-feet

Year	Source	Municipal	Manufacturing	Mining	Steam Electric	Irrigation	Livestock	Total
2015	GW	2,316	7	6,889	0	519	324	10,055
	SW	0	0	26	0	0	755	781
2014	GW	2,327	6	439	0	802	316	3,890
	SW	0	0	35	0	2	736	773
2013	GW	2,538	6	6,081	0	837	305	9,767
	SW	0	0	9	0	0	712	721
2012	GW	2,503	6	5,677	0	1,017	357	9,560
	SW	0	0	2	0	0	832	834
2011	GW	2,895	7	7,707	0	1,609	422	12,640
	SW	0	0	0	0	0	983	983
2010	GW	2,328	6	6,966	0	1,575	425	11,300
	SW	0	0	0	0	0	993	993
2009	GW	2,371	6	6,895	0	966	464	10,702
	SW	0	0	0	0	0	1,084	1,084
2008	GW	2,305	7	6,705	0	319	439	9,775
	SW	0	0	0	0	0	1,025	1,025
2007	GW	1,996	11	0	0	116	704	2,827
	SW	1	0	0	0	56	1,643	1,700
2006	GW	2,436	15	0	0	426	628	3,505
	SW	1	0	0	0	0	1,465	1,466
2005	GW	2,494	13	0	0	470	667	3,644
	SW	2	0	0	0	0	1,556	1,558
2004	GW	2,307	13	0	0	579	481	3,380
	SW	0	0	0	0	3	1,172	1,175
2003	GW	2,426	12	0	0	571	471	3,480
	SW	0	0	0	0	8	1,148	1,156
2002	GW	2,420	16	0	0	688	467	3,591
	SW	0	0	0	0	634	1,140	1,774
2001	GW	2,462	13	0	0	661	454	3,590
	SW	0	0	0	0	610	1,107	1,717
2000	GW	2,721	11	0	0	495	619	3,846
	SW	0	0	0	0	470	928	1,398

Projected Surface Water Supplies

TWDB 2017 State Water Plan Data

BASTROP COUNTY

All values are in acre-feet

RWPG	WUG	WUG Basin	Source Name	2020	2030	2040	2050	2060	2070
K	COUNTY-OTHER, BASTROP	COLORADO	HIGHLAND LAKES LAKE/RESERVOIR SYSTEM	744	744	744	744	744	744
K	IRRIGATION, BASTROP	COLORADO	HIGHLAND LAKES LAKE/RESERVOIR SYSTEM	852	742	649	565	492	443
K	LIVESTOCK, BASTROP	BRAZOS	BRAZOS LIVESTOCK LOCAL SUPPLY	94	94	94	94	94	94
K	LIVESTOCK, BASTROP	COLORADO	COLORADO LIVESTOCK LOCAL SUPPLY	696	696	696	696	696	696
K	LIVESTOCK, BASTROP	GUADALUPE	GUADALUPE LIVESTOCK LOCAL SUPPLY	72	72	72	72	72	72
K	MANUFACTURING, BASTROP	COLORADO	COLORADO OTHER LOCAL SUPPLY	48	48	48	48	48	48
K	MINING, BASTROP	COLORADO	COLORADO OTHER LOCAL SUPPLY	8	7	7	9	9	9
K	STEAM ELECTRIC POWER, BASTROP	COLORADO	HIGHLAND LAKES LAKE/RESERVOIR SYSTEM	12,220	11,834	11,026	10,571	10,571	10,571
Sum of Projected Surface Water Supplies (acre-feet)				14,734	14,237	13,336	12,799	12,726	12,677

LEE COUNTY

All values are in acre-feet

RWPG	WUG	WUG Basin	Source Name	2020	2030	2040	2050	2060	2070
G	IRRIGATION, LEE	BRAZOS	BRAZOS RUN-OF-RIVER	20	20	20	20	20	20
G	LIVESTOCK, LEE	BRAZOS	BRAZOS LIVESTOCK LOCAL SUPPLY	1,623	1,623	1,623	1,623	1,623	1,623
G	LIVESTOCK, LEE	COLORADO	COLORADO LIVESTOCK LOCAL SUPPLY	312	312	312	312	312	312
Sum of Projected Surface Water Supplies (acre-feet)				1,955	1,955	1,955	1,955	1,955	1,955

Projected Water Demands

TWDB 2017 State Water Plan Data

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

BASTROP COUNTY

All values are in acre-feet

RWPG	WUG	WUG Basin	2020	2030	2040	2050	2060	2070
K	AQUA WSC	BRAZOS	90	116	150	197	261	348
K	AQUA WSC	COLORADO	9,073	11,638	15,056	19,779	26,236	34,838
K	AQUA WSC	GUADALUPE	65	83	107	140	186	246
K	BASTROP	COLORADO	1,957	2,598	3,446	4,612	6,201	8,317
K	BASTROP COUNTY WCID #2	COLORADO	378	544	765	1,069	1,482	2,033
K	COUNTY-OTHER, BASTROP	BRAZOS	24	31	40	53	69	91
K	COUNTY-OTHER, BASTROP	COLORADO	1,814	2,185	2,681	3,360	4,284	5,516
K	COUNTY-OTHER, BASTROP	GUADALUPE	35	34	32	31	29	27
K	CREEDMOOR-MAHA WSC	COLORADO	24	28	35	44	57	74
K	ELGIN	COLORADO	1,298	1,651	2,125	2,782	3,681	4,880
K	IRRIGATION, BASTROP	BRAZOS	50	44	38	33	29	26
K	IRRIGATION, BASTROP	COLORADO	761	663	580	505	439	396
K	IRRIGATION, BASTROP	GUADALUPE	41	35	31	27	24	21
K	LEE COUNTY WSC	BRAZOS	44	56	72	94	124	165
K	LEE COUNTY WSC	COLORADO	59	75	97	127	169	223
K	LIVESTOCK, BASTROP	BRAZOS	94	94	94	94	94	94
K	LIVESTOCK, BASTROP	COLORADO	1,356	1,356	1,356	1,356	1,356	1,356
K	LIVESTOCK, BASTROP	GUADALUPE	72	72	72	72	72	72
K	MANUFACTURING, BASTROP	COLORADO	184	216	249	280	303	328
K	MANUFACTURING, BASTROP	GUADALUPE	10	11	13	15	16	17
K	MINING, BASTROP	BRAZOS	173	409	450	496	545	600
K	MINING, BASTROP	COLORADO	2,567	6,064	6,673	7,354	8,086	8,896
K	MINING, BASTROP	GUADALUPE	144	340	375	413	454	500
K	POLONIA WSC	COLORADO	29	36	45	58	75	99
K	SMITHVILLE	COLORADO	842	1,074	1,385	1,817	2,410	3,201
K	STEAM ELECTRIC POWER, BASTROP	COLORADO	14,000	16,720	16,720	16,720	16,720	16,720
Sum of Projected Water Demands (acre-feet)			35,184	46,173	52,687	61,528	73,402	89,084

Projected Water Demands

TWDB 2017 State Water Plan Data

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

LEE COUNTY

All values are in acre-feet

RWPG	WUG	WUG Basin	2020	2030	2040	2050	2060	2070
G	AQUA WSC	BRAZOS	466	511	536	544	551	555
G	COUNTY-OTHER, LEE	BRAZOS	100	106	112	114	115	116
G	COUNTY-OTHER, LEE	COLORADO	95	101	106	108	109	110
G	GIDDINGS	BRAZOS	544	597	626	634	643	647
G	GIDDINGS	COLORADO	576	634	663	673	681	687
G	IRRIGATION, LEE	BRAZOS	449	436	424	412	400	389
G	IRRIGATION, LEE	COLORADO	10	10	10	9	9	9
G	LEE COUNTY WSC	BRAZOS	654	714	746	755	764	769
G	LEE COUNTY WSC	COLORADO	254	277	289	293	296	298
G	LEXINGTON	BRAZOS	242	265	277	281	284	286
G	LIVESTOCK, LEE	BRAZOS	1,623	1,623	1,623	1,623	1,623	1,623
G	LIVESTOCK, LEE	COLORADO	312	312	312	312	312	312
G	MANUFACTURING, LEE	COLORADO	13	14	15	16	17	18
G	MINING, LEE	BRAZOS	2,480	5,685	6,058	6,477	6,945	7,512
G	MINING, LEE	COLORADO	700	1,604	1,709	1,827	1,959	2,119
G	SOUTHWEST MILAM WSC	BRAZOS	48	53	55	56	56	57
Sum of Projected Water Demands (acre-feet)			8,566	12,942	13,561	14,134	14,764	15,507

Projected Water Supply Needs

TWDB 2017 State Water Plan Data

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

BASTROP COUNTY

All values are in acre-feet

RWPG	WUG	WUG Basin	2020	2030	2040	2050	2060	2070
K	AQUA WSC	BRAZOS	260	234	200	153	89	2
K	AQUA WSC	COLORADO	-2,534	-4,656	-7,145	-11,210	-17,667	-26,269
K	AQUA WSC	GUADALUPE	185	167	143	110	64	4
K	BASTROP	COLORADO	-30	-671	-1,519	-2,685	-4,274	-6,390
K	BASTROP COUNTY WCID #2	COLORADO	753	643	541	320	-93	-644
K	COUNTY-OTHER, BASTROP	BRAZOS	67	60	51	38	22	0
K	COUNTY-OTHER, BASTROP	COLORADO	-361	-519	-739	-907	-1,158	-1,490
K	COUNTY-OTHER, BASTROP	GUADALUPE	0	1	3	4	6	8
K	CREEDMOOR-MAHA WSC	COLORADO	16	12	5	0	0	0
K	ELGIN	COLORADO	-472	-732	-1,013	-1,533	-2,432	-3,631
K	IRRIGATION, BASTROP	BRAZOS	0	6	12	17	21	24
K	IRRIGATION, BASTROP	COLORADO	435	423	413	404	397	391
K	IRRIGATION, BASTROP	GUADALUPE	0	6	10	14	17	20
K	LEE COUNTY WSC	BRAZOS	102	111	128	152	182	217
K	LEE COUNTY WSC	COLORADO	137	148	172	207	248	291
K	LIVESTOCK, BASTROP	BRAZOS	0	0	0	0	0	0
K	LIVESTOCK, BASTROP	COLORADO	0	0	0	0	0	0
K	LIVESTOCK, BASTROP	GUADALUPE	0	0	0	0	0	0
K	MANUFACTURING, BASTROP	COLORADO	-55	-87	-120	-151	-174	-199
K	MANUFACTURING, BASTROP	GUADALUPE	7	6	4	2	1	0
K	MINING, BASTROP	BRAZOS	-173	-409	-450	-496	-545	-600
K	MINING, BASTROP	COLORADO	-449	-3,947	-4,556	-5,235	-5,967	-6,777
K	MINING, BASTROP	GUADALUPE	-110	-306	-341	-379	-420	-466
K	POLONIA WSC	COLORADO	0	0	0	0	0	0
K	SMITHVILLE	COLORADO	1,006	932	953	663	70	-721
K	STEAM ELECTRIC POWER, BASTROP	COLORADO	2,720	0	0	0	0	0
Sum of Projected Water Supply Needs (acre-feet)			-4,184	-11,327	-15,883	-22,596	-32,730	-47,187

Projected Water Supply Needs

TWDB 2017 State Water Plan Data

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

LEE COUNTY

All values are in acre-feet

RWPG	WUG	WUG Basin	2020	2030	2040	2050	2060	2070
G	AQUA WSC	BRAZOS	89	44	19	11	4	0
G	COUNTY-OTHER, LEE	BRAZOS	31	19	8	4	2	0
G	COUNTY-OTHER, LEE	COLORADO	0	0	0	0	0	0
G	GIDDINGS	BRAZOS	298	243	215	206	197	192
G	GIDDINGS	COLORADO	316	259	228	218	209	203
G	IRRIGATION, LEE	BRAZOS	0	0	0	0	0	0
G	IRRIGATION, LEE	COLORADO	37	50	62	75	87	98
G	LEE COUNTY WSC	BRAZOS	1,515	1,411	1,323	1,226	1,122	1,005
G	LEE COUNTY WSC	COLORADO	588	548	513	476	434	389
G	LEXINGTON	BRAZOS	425	402	390	386	383	381
G	LIVESTOCK, LEE	BRAZOS	0	0	0	0	0	0
G	LIVESTOCK, LEE	COLORADO	0	0	0	0	0	0
G	MANUFACTURING, LEE	COLORADO	0	0	0	0	0	0
G	MINING, LEE	BRAZOS	-2,480	-5,685	-6,058	-6,477	-6,945	-7,512
G	MINING, LEE	COLORADO	-700	-1,604	-1,709	-1,827	-1,959	-2,119
G	SOUTHWEST MILAM WSC	BRAZOS	28	20	6	9	7	3
Sum of Projected Water Supply Needs (acre-feet)			-3,180	-7,289	-7,767	-8,304	-8,904	-9,631

Projected Water Management Strategies

TWDB 2017 State Water Plan Data

BASTROP COUNTY

WUG, Basin (RWPG)

All values are in acre-feet

Water Management Strategy	Source Name [Origin]	2020	2030	2040	2050	2060	2070
AQUA WSC, BRAZOS (K)							
DROUGHT MANAGEMENT	DEMAND REDUCTION [BASTROP]	14	17	23	30	39	52
MUNICIPAL CONSERVATION - AQUA WSC	DEMAND REDUCTION [BASTROP]	6	9	10	11	15	20
		20	26	33	41	54	72
AQUA WSC, COLORADO (K)							
DROUGHT MANAGEMENT	DEMAND REDUCTION [BASTROP]	1,361	1,746	2,258	2,967	3,935	5,277
EXPANSION OF CURRENT GROUNDWATER SUPPLIES - CARRIZO-WILCOX AQUIFER	CARRIZO-WILCOX AQUIFER [BASTROP]	2,500	2,500	4,000	4,000	4,000	4,000
LCRA - PRAIRIE SITE RESERVOIR	LCRA NEW OFF-CHANNEL RESERVOIR (2030 DECADE) [RESERVOIR]	0	0	5,000	5,000	10,000	15,000
MUNICIPAL CONSERVATION - AQUA WSC	DEMAND REDUCTION [BASTROP]	619	895	960	1,128	1,499	1,992
		4,480	5,141	12,218	13,095	19,434	26,269
AQUA WSC, GUADALUPE (K)							
DROUGHT MANAGEMENT	DEMAND REDUCTION [BASTROP]	10	12	16	21	28	37
MUNICIPAL CONSERVATION - AQUA WSC	DEMAND REDUCTION [BASTROP]	5	7	8	9	12	14
		15	19	24	30	40	51
BASTROP, COLORADO (K)							
DEVELOPMENT OF NEW GROUNDWATER SUPPLIES - CARRIZO-WILCOX AQUIFER	CARRIZO-WILCOX AQUIFER [BASTROP]	300	300	300	300	300	0
DIRECT REUSE - BASTROP	DIRECT REUSE [BASTROP]	0	0	300	600	1,120	1,120
DROUGHT MANAGEMENT	DEMAND REDUCTION [BASTROP]	294	390	517	692	930	1,248
LCRA - LANE CITY RESERVOIR	LCRA NEW OFF-CHANNEL RESERVOIRS (2020 DECADE) [RESERVOIR]	0	0	0	2,500	2,500	2,500
MUNICIPAL CONSERVATION - BASTROP	DEMAND REDUCTION [BASTROP]	195	440	688	1,084	1,459	1,958
		789	1,130	1,805	5,176	6,309	6,826

Projected Water Management Strategies

TWDB 2017 State Water Plan Data

WUG, Basin (RWPG)				All values are in acre-feet			
Water Management Strategy	Source Name [Origin]	2020	2030	2040	2050	2060	2070
BASTROP COUNTY WCID #2, COLORADO (K)							
DROUGHT MANAGEMENT	DEMAND REDUCTION [BASTROP]	19	27	38	53	74	102
EXPANSION OF CURRENT GROUNDWATER SUPPLIES - CARRIZO-WILCOX AQUIFER	CARRIZO-WILCOX AQUIFER [BASTROP]	0	0	0	0	550	550
		19	27	38	53	624	652
COUNTY-OTHER, BASTROP, BRAZOS (K)							
DROUGHT MANAGEMENT	DEMAND REDUCTION [BASTROP]	4	5	6	8	10	14
MUNICIPAL CONSERVATION - BASTROP COUNTY-OTHER	DEMAND REDUCTION [BASTROP]	1	2	4	7	8	10
		5	7	10	15	18	24
COUNTY-OTHER, BASTROP, COLORADO (K)							
DROUGHT MANAGEMENT	DEMAND REDUCTION [BASTROP]	272	328	402	504	643	827
EXPANSION OF CURRENT GROUNDWATER SUPPLIES - CARRIZO-WILCOX AQUIFER	CARRIZO-WILCOX AQUIFER [BASTROP]	60	60	60	60	60	0
MUNICIPAL CONSERVATION - BASTROP COUNTY-OTHER	DEMAND REDUCTION [BASTROP]	89	191	337	403	515	663
		421	579	799	967	1,218	1,490
COUNTY-OTHER, BASTROP, GUADALUPE (K)							
DROUGHT MANAGEMENT	DEMAND REDUCTION [BASTROP]	5	5	5	5	4	4
MUNICIPAL CONSERVATION - BASTROP COUNTY-OTHER	DEMAND REDUCTION [BASTROP]	2	3	3	4	4	4
		7	8	8	9	8	8
CREEDMOOR-MAHA WSC, COLORADO (K)							
DROUGHT MANAGEMENT	DEMAND REDUCTION [BASTROP]	1	1	2	2	3	4
		1	1	2	2	3	4
ELGIN, COLORADO (K)							
DROUGHT MANAGEMENT	DEMAND REDUCTION [BASTROP]	195	248	319	417	552	732
EXPANSION OF CURRENT GROUNDWATER SUPPLIES - CARRIZO-WILCOX AQUIFER	CARRIZO-WILCOX AQUIFER [BASTROP]	300	300	0	0	0	0
LCRA - LANE CITY RESERVOIR	LCRA NEW OFF-CHANNEL RESERVOIRS (2020 DECADE) [RESERVOIR]	0	3,452	3,371	3,278	3,196	3,119
		495	4,000	3,690	3,695	3,748	3,851

Projected Water Management Strategies

TWDB 2017 State Water Plan Data

WUG, Basin (RWPG)		All values are in acre-feet						
Water Management Strategy	Source Name [Origin]	2020	2030	2040	2050	2060	2070	
MANUFACTURING, BASTROP, COLORADO (K)								
EXPANSION OF CURRENT GROUNDWATER SUPPLIES - CARRIZO-WILCOX AQUIFER	CARRIZO-WILCOX AQUIFER [BASTROP]	55	87	120	151	174	199	
		55	87	120	151	174	199	
MINING, BASTROP, GUADALUPE (K)								
DEVELOPMENT OF NEW GROUNDWATER SUPPLIES - CARRIZO-WILCOX AQUIFER	CARRIZO-WILCOX AQUIFER [BASTROP]	0	0	466	466	466	466	
DEVELOPMENT OF NEW GROUNDWATER SUPPLIES - QUEEN CITY AQUIFER	QUEEN CITY AQUIFER [BASTROP]	110	306	0	0	0	0	
		110	306	466	466	466	466	
POLONIA WSC, COLORADO (K)								
LOCAL CARRIZO AQUIFER WITH CONVERSION	CARRIZO-WILCOX AQUIFER [CALDWELL]	0	0	0	0	0	0	
		0	0	0	0	0	0	
SMITHVILLE, COLORADO (K)								
DEVELOPMENT OF NEW GROUNDWATER SUPPLIES - QUEEN CITY AQUIFER	QUEEN CITY AQUIFER [BASTROP]	0	0	0	0	0	150	
DROUGHT MANAGEMENT	DEMAND REDUCTION [BASTROP]	126	161	208	273	362	480	
MUNICIPAL CONSERVATION - SMITHVILLE	DEMAND REDUCTION [BASTROP]	44	72	76	88	117	155	
		170	233	284	361	479	785	
STEAM ELECTRIC POWER, BASTROP, COLORADO (K)								
LCRA - EXPAND USE OF GROUNDWATER (CARRIZO-WILCOX AQUIFER)	CARRIZO-WILCOX AQUIFER [BASTROP]	300	300	300	300	300	300	
		300	300	300	300	300	300	
Sum of Projected Water Management Strategies (acre-feet)		6,887	11,864	19,797	24,361	32,875	40,997	

Projected Water Management Strategies

TWDB 2017 State Water Plan Data

LEE COUNTY

WUG, Basin (RWPG)

All values are in acre-feet

Water Management Strategy	Source Name [Origin]	2020	2030	2040	2050	2060	2070
GIDDINGS, BRAZOS (G)							
MUNICIPAL WATER CONSERVATION (RURAL) - GIDDINGS	DEMAND REDUCTION [LEE]	19	64	112	112	113	113
		19	64	112	112	113	113
GIDDINGS, COLORADO (G)							
MUNICIPAL WATER CONSERVATION (RURAL) - GIDDINGS	DEMAND REDUCTION [LEE]	20	67	119	118	119	120
		20	67	119	118	119	120
LEXINGTON, BRAZOS (G)							
MUNICIPAL WATER CONSERVATION (RURAL) - LEXINGTON	DEMAND REDUCTION [LEE]	8	26	23	21	21	21
		8	26	23	21	21	21
MINING, LEE, BRAZOS (G)							
INDUSTRIAL WATER CONSERVATION	DEMAND REDUCTION [LEE]	74	284	424	453	486	526
		74	284	424	453	486	526
MINING, LEE, COLORADO (G)							
INDUSTRIAL WATER CONSERVATION	DEMAND REDUCTION [LEE]	21	80	120	128	137	148
		21	80	120	128	137	148
SOUTHWEST MILAM WSC, BRAZOS (G)							
MUNICIPAL WATER CONSERVATION (RURAL) - SOUTHWEST MILAM WSC	DEMAND REDUCTION [LEE]	1	0	0	0	0	0
		1	0	0	0	0	0
Sum of Projected Water Management Strategies (acre-feet)		143	521	798	832	876	928

Appendix A

Copy of GMA 12 Resolution and Submittal Adopting DFCs

RESOLUTION TO ADOPT DESIRED FUTURE CONDITIONS FOR AQUIFERS IN GROUNDWATER MANAGEMENT AREA 12

THE STATE OF TEXAS

GROUNDWATER MANAGEMENT AREA 12

GROUNDWATER CONSERVATION DISTRICTS

WHEREAS, Texas Water Code § 36.108 requires the groundwater conservation districts located in whole or in part in a groundwater management area (“GMA”) designated by the Texas Water Development Board to adopt desired future conditions for the relevant aquifers located within the management area;

WHEREAS, the groundwater conservation districts located wholly or partially within Groundwater Management Area 12 (“GMA 12”), as designated by the Texas Water Development Board, as of the date of this resolution are as follows: Brazos Valley Groundwater Conservation District, Fayette County Groundwater Conservation District, Lost Pines Groundwater Conservation District, Mid-East Texas Groundwater Conservation District, and Post Oak Savannah Groundwater Conservation District (collectively hereinafter “the GMA 12 Districts”);

WHEREAS, the GMA 12 Districts are each a local government operating under Chapter 36, Texas Water Code and their specific enabling act;

WHEREAS, the GMA 12 Districts desire to fulfill the requirements of Texas Water Code §36.108 through mutual cooperation and joint planning efforts;

WHEREAS, the GMA 12 Districts have had numerous public meetings, including stakeholder meetings for the specific purpose of receiving comments and input from stakeholders within GMA 12, and they have engaged in joint planning efforts to promote comprehensive management of the aquifers located in whole or in part in Groundwater Management Area 12;

WHEREAS, GMA 12 held meetings on July 25, 2013; December 19, 2013; June 6, 2014; June 27, 2014; December 4, 2014; February 26, 2015; March 27, 2015; April 30, 2015; May 28, 2015; June 25, 2015; August 13, 2015; September 24, 2015; October 22, 2015; December 17, 2015; February 4, 2016; March 24, 2016; April 15, 2016; October 11, 2016, December 1, 2016; April 27, 2017; May, 25, 2017; and September 20, 2017, in compliance with its statutory duty to publicly consider the desired future conditions considerations listed in § 36.108(d);

WHEREAS, the GMA 12 Districts have considered the following factors, listed in §36.108(d), in establishing the desired future conditions for the aquifer(s):

- (1) groundwater availability models and other data or information for the management area;
- (2) aquifer uses or conditions within the management area, including conditions that differ substantially from one geographic area to another;
- (3) the water supply needs and water management strategies included in the state water plan;
- (4) hydrological conditions, including for each aquifer in the management area the total estimated recoverable storage as provided by the Texas Water Development Board Executive Administrator and the average annual recharge inflows, and discharge;

- (5) other environmental impacts, including impacts on spring flow and other interactions between groundwater and surface water;
- (6) the impact of subsidence;
- (7) socioeconomic impacts reasonably expected to occur;
- (8) the impact on the interests and rights in private property, including ownership and the rights of management area landowners and their lessees and assigns in groundwater as recognized under Texas Water Code §36.002;
- (9) the feasibility of achieving the desired future conditions; and
- (10) any other information relevant to the specific desired future conditions, including comments received from the Texas Water Development Board regarding the initially submitted desired future conditions;

WHEREAS, the desired future conditions provide a balance between the highest practicable level of groundwater production and the conservation, preservation, protection, recharging, and prevention of waste of groundwater in the management area;

WHEREAS, after considering the factors listed in 36.108(d), Texas Water Code, the GMA 12 Districts may establish different desired future conditions for: (1) each aquifer, subdivision of an aquifer, or geologic strata located in whole or in part within the boundaries of GMA 12; or (2) each geographic area overlying an aquifer in whole or in part or subdivision of an aquifer within the boundaries of GMA 12;

WHEREAS, the GMA 12 Districts recognize that GMA 12 includes a geographically and hydrologically diverse area with a variety of land uses and a diverse mix of water users;

WHEREAS, at least two-thirds of the GMA 12 Districts had a voting representative in attendance at the April 15, 2016, meeting in accordance with Section 36.108, Texas Water Code; and the following districts had a voting representative in attendance at the meeting: Brazos Valley Groundwater Conservation District, Fayette County Groundwater Conservation District, Lost Pines Groundwater Conservation District, Mid-East Texas Groundwater Conservation District, and Post Oak Savannah Groundwater Conservation District, and;

WHEREAS, the member GCDs in which the Carrizo-Wilcox, Queen City, Sparta, Yegua Jackson and Brazos River Alluvium aquifers are relevant for joint planning purposes held open meetings within each said district between April 18, 2016 and July 20, 2016 to take public comment on the proposed DFCs for that district during the minimum ninety (90) day public comment period of April 18, 2016 through July 20, 2016, and;

WHEREAS, on December 1, 2016, the district representatives reconvened to review the reports and consider any district-suggested revisions to the proposed desired future conditions.

WHEREAS, on September 20, 2017, the district representatives reconvened to review the comments made by the Texas Water Development Board staff concerning calculated drawdowns in the Sparta, Queen City, Carrizo, Simsboro and Hooper aquifers and consider any district-suggested revisions to the proposed desired future conditions;

WHEREAS, on this day of September 20, 2017, at an open meeting duly noticed and held in accordance with law at the Post Oak Savannah Groundwater Conservation District's office located at 310 East Avenue C, Milano, Texas, the GCDs within GMA 12, having considered at this meeting comments submitted to the individual districts during the comment period and at this meeting, have voted, 5 districts in favor, 0 districts opposed, to adopt


the following DFCs for in the following counties and districts through the year 2070 as follows:

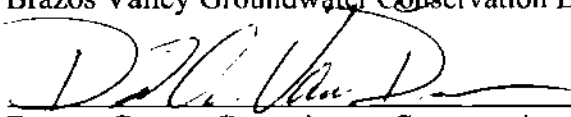
NOW, THEREFORE, BE IT RESOLVED BY THE AUTHORIZED VOTING REPRESENTATIVES OF THE GMA 12 DISTRICTS AS FOLLOWS:

1. The above recitals are true and correct.
2. The authorized voting representatives of the GMA 12 Districts hereby establish the desired future conditions of the aquifer(s) as set forth in Attachment B by the vote reflected in the above recitals.
3. The authorized voting representatives of the GMA 12 Districts declare that the following aquifers are non-relevant for the purpose of adopting Desired Future Conditions in Groundwater Management Area 12, as the districts determined that aquifer characteristics, groundwater demands, and current groundwater uses do not warrant adoption of a desired future condition for the: the Gulf Coast Aquifer in Brazos County; the Trinity Aquifer in Bastrop, Lee, and Williamson counties; the Yegua-Jackson Aquifer in Bastrop and Lee counties; and the Wilcox portion of the Carrizo-Wilcox Aquifer in Fayette County. Technical justifications of the non-relevant aquifers, as required by 31 Tex. Admin. Code §356.31, is set forth in Attachment C.
4. The GMA 12 Districts and their agents and representatives, individually and collectively, are further authorized to take all actions necessary to implement this resolution.
5. The desired future conditions of the aquifer(s) adopted by the GMA 12 Districts and attached hereto, along with the explanatory report, and proof of the notice of the meeting in which desired future conditions adoption occurred, shall be submitted to the Texas Water Development Board and sent to the GMA 12 Districts, as required by Section 36.108(d-3), Texas Water Code.

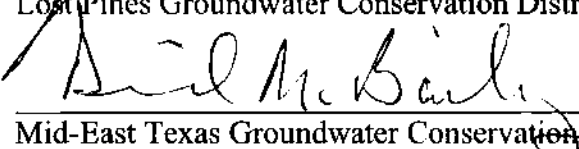
AND IT IS SO ORDERED. PASSED AND ADOPTED on this 20th day of September, 2017.

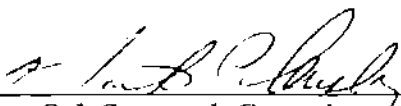
ATTEST:


Brazos Valley Groundwater Conservation District


Fayette County Groundwater Conservation District


Lost Pines Groundwater Conservation District

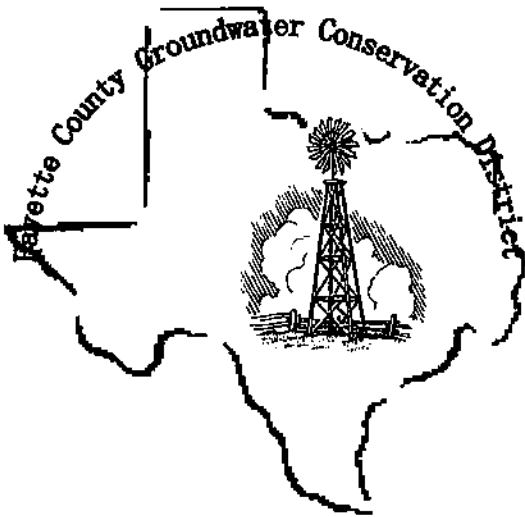

Mid-East Texas Groundwater Conservation District


Post Oak Savannah Groundwater Conservation

ATTACHMENTS

- A: Copies of notices of September 20, 2017, meeting
- B: Desired Future Conditions
- C: Non-relevant Aquifers

Attachment A
Notice for September 20, 2017 GMA 12 Meeting



255 Svoboda Lane, Room 115
La Grange, Texas 78945
Telephone: (979) 968-3135
Fax: (979) 968-3194

COPY
THE ORIGINAL INSTRUMENT WAS
FILED IN FAYETTE COUNTY TEXAS ON

9-6-17 1:45pm MK

**NOTICE OF MEETING
GROUNDWATER MANAGEMENT AREA 12**

**September 20, 2017 – 10:00 a.m.
Post Oak Savannah GCD Offices
310 East Ave. C (Highway 79)
Milano, Texas**

AGENDA

Notice is hereby given that the groundwater conservation districts located wholly or partially within Groundwater Management Area (GMA) 12, as designated by the Texas Water Development Board, consisting of the Post Oak Savannah Groundwater Conservation District (GCD), Fayette County GCD, Lost Pines GCD, Mid-East Texas GCD, and Brazos Valley GCD, will hold a **Joint Planning meeting at 10:00 a.m. on Wednesday, September 20, 2017,** in the Post Oak Savannah GCD Offices, located at 310 East Ave. C (Highway 79), Milano, Texas. The meeting will be open to the public.

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

1. Invocation
2. Call meeting to order and establish quorum
3. Welcome and introductions
4. Minutes of May 25, 2017 GMA 12 Meeting
5. Response from Texas Water Development Board to GMA 12 concerning submission of Desired Future Conditions and Explanatory Report for GMA 12
6. Re-adoption of Desired Future Conditions for GMA 12
7. Re-adoption of resolution of Desired Future Conditions for relevant aquifers of GMA 12 and identification of non-relevant aquifers of GMA 12
8. Explanatory Report for GMA 12
9. Public Comment
10. Agenda items and Date for next meeting
11. Adjourn

Signed this 6th day of September, 2017.

David A. Van Dresar, General Manager, FCGCD
255 Svoboda Ln., Rm. 115, La Grange, Texas 76556
Phone: 979-968-3135

NOTICE OF MEETING
GROUNDWATER MANAGEMENT AREA 12
September 20, 2017 – 10:00 a.m.
Post Oak Savannah GCD Offices
310 East Ave. C (Highway 79)
Milano, Texas

AGENDA

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1. Invocation
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3. Welcome and introductions
4. Minutes of May 25, 2017 GMA 12 Meeting
5. Response from Texas Water Development Board to GMA 12 concerning submission of Desired Future Conditions and Explanatory Report for GMA 12
6. Re-adoption of Desired Future Conditions for GMA 12
7. Re-adoption of resolution of Desired Future Conditions for relevant aquifers of GMA 12 and identification of non-relevant aquifers of GMA 12
8. Explanatory Report for GMA 12
9. Public Comment
10. Agenda items and Date for next meeting
11. Adjourn

Signed this 6th day of September, 2017.



Gary Westbrook, General Manager, POSGCD
310 East Avenue C, Milano, Texas 76556
Phone: 512-455-9900

***Questions, requests for additional information, or comments concerning the subjects listed above may be submitted to the person posting this notice.*

RECEIVED

SEP 14 2017

Post Oak Savannah

Filed 11th day of September
in 1055, At A M.
BARBARA VANS
County Clerk, Milam County, Texas
By [Signature]
Deputy

NOTICE OF MEETING
GROUNDWATER MANAGEMENT AREA 12
September 20, 2017 – 10:00 a.m.
Post Oak Savannah GCD Offices
310 East Ave. C (Highway 79)
Milano, Texas

AGENDA

Notice is hereby given that the groundwater conservation districts located wholly or partially within Groundwater Management Area (GMA) 12, as designated by the Texas Water Development Board, consisting of the Post Oak Savannah Groundwater Conservation District (GCD), Fayette County GCD, Lost Pines GCD, Mid-East Texas GCD, and Brazos Valley GCD, will hold a Joint Planning meeting at 10:00 a.m. on Wednesday, September 20, 2017, in the Post Oak Savannah GCD Offices, located at 310 East Ave. C (Highway 79), Milano, Texas. The meeting will be open to the public.

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

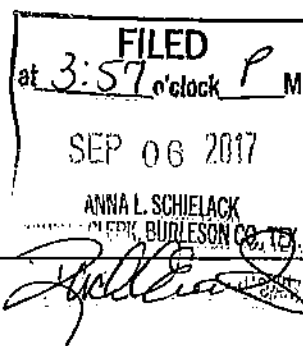
1. Invocation
2. Call meeting to order and establish quorum
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7. Re-adoption of resolution of Desired Future Conditions for relevant aquifers of GMA 12 and identification of non-relevant aquifers of GMA 12
8. Explanatory Report for GMA 12
9. Public Comment
10. Agenda items and Date for next meeting
11. Adjourn

Signed this 6th day of September, 2017.



Gary Westbrook, General Manager, POSGCD
310 East Avenue C, Milano, Texas 76556
Phone: 512-455-9900

*****Questions, requests for additional information, or comments concerning the subjects listed above may be submitted to the person posting this notice.***





BRAZOS VALLEY GROUNDWATER CONSERVATION DISTRICT

P.O. BOX 528 · HEARNE, TX 77859 · (979)279-9350 · FAX: (979)279-0035
WWW.BRAZOSVALLEYGCD.ORG

NOTICE OF MEETING GROUNDWATER MANAGEMENT AREA 12

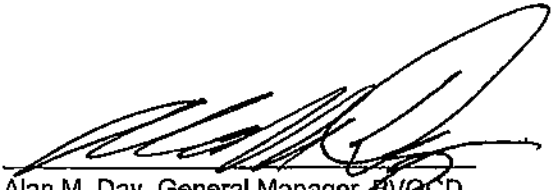
September 20, 2017 – 10:00 a.m.
Post Oak Savannah GCD Offices
310 East Ave. C (Highway 79)
Milano, Texas
AGENDA

Notice is hereby given that the groundwater conservation districts located wholly or partially within Groundwater Management Area (GMA) 12, as designated by the Texas Water Development Board, consisting of the Post Oak Savannah Groundwater Conservation District (GCD), Fayette County GCD, Lost Pines GCD, Mid-East Texas GCD, and Brazos Valley GCD, will hold a Joint Planning meeting at 10:00 a.m. on Wednesday, September 20, 2017, in the Post Oak Savannah GCD Offices, located at 310 East Ave. C (Highway 79), Milano, Texas. The meeting will be open to the public. The subjects to be discussed or considered, or upon which any formal action may be taken, are as listed below. Items may or may not be taken in the same order as shown on this meeting notice.

1. Invocation
2. Call meeting to order and establish quorum
3. Welcome and introductions
4. Minutes of May 25, 2017 GMA 12 Meeting
5. Response from Texas Water Development Board to GMA 12 concerning submission of Desired Future Conditions and Explanatory Report for GMA 12
6. Re-adoption of Desired Future Conditions for GMA 12
7. Re-adoption of resolution of Desired Future Conditions for relevant aquifers of GMA 12 and identification of non-relevant aquifers of GMA 12
8. Explanatory Report for GMA 12
9. Public Comment
10. Agenda items and date for next meeting
11. Adjourn

Accepted for Filing in:
Robertson County
On: Sep 06, 2017 at 04:06P
By: Maxine Lattimore

Signed this 6th day of September, 2017.


Alan M. Day, General Manager, BVGCD
112 W. 3rd Street, Hearne, Texas 77859
Phone: 979-279-9350

****Questions, requests for additional information, or comments concerning the subjects listed above may be submitted to the person posting this notice.**



BRAZOS VALLEY GROUNDWATER CONSERVATION DISTRICT

P.O. Box 528 · HEARNE, TX 77859 · (979)279-9350 · FAX: (979)279-0035
WWW.BRAZOSVALLEYGCD.ORG

FILED FOR RECORD

DATE 9-6-17
AT 4:10 O'CLOCK P M
KAREN MCQUEEN
BRAZOS COUNTY CLERK
By [Signature]

NOTICE OF MEETING
GROUNDWATER MANAGEMENT AREA 12
September 20, 2017 – 10:00 a.m.
Post Oak Savannah GCD Offices
310 East Ave. C (Highway 79)
Milano, Texas
AGENDA

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Signed this 6th day of September, 2017.

[Signature]
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112 W. 3rd Street, Hearne, Texas 77859
Phone: 979-279-9350

**Questions, requests for additional information, or comments concerning the subjects listed above may be submitted to the person posting this notice.

09/07/2017 09:57 9795422623
SEP/07/2017/PRU 09:56 AM

LEE COUNTY CLERK
FAX No.

PAGE 01/01
P. 002

NOTICE OF MEETING
GROUNDWATER MANAGEMENT AREA 12

September 20, 2017 - 10:00 a.m.
Post Oak Savannah GCD Offices
310 East Ave. C (Highway 79)
Milano, Texas

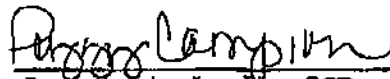
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Signed this 7th day of September, 2017.


Peggy Campion, Lost Pines GCD
P O Box 1027 Smithville, TX 78957
512-360-5088

***Questions, requests for additional information, or comments concerning the subjects listed above may be submitted to the person posting this notice.*

FILED AND RECORDED

SEP 07 2017




SHARON BLASIG
COUNTY CLERK, LEE COUNTY TEXAS

FILED

SEP 07 2017

Rose Pietsch
Bastrop County Clerk

NOTICE OF MEETING GROUNDWATER MANAGEMENT AREA 12

September 20, 2017 – 10:00 a.m.
Post Oak Savannah GCD Office
310 East Ave. C (Highway 79)
Milano, Texas

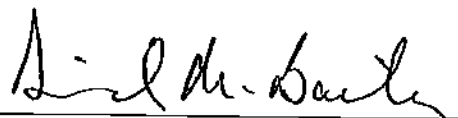
Agenda

Notice is hereby given that the groundwater conservation districts located wholly or partially within Groundwater Management Area (GMA) 12, as designated by the Texas Water Development Board, consisting of the Mid-East Texas Groundwater Conservation District (METGCD), Fayette County GCD, Lost Pines GCD, Post Oak Savannah GCD, and Brazos Valley GCD, will hold a Joint Planning meeting at 10:00 a.m. on Wednesday, September 20, 2017, in the Post Oak Savannah GCD Offices, located at 310 East Ave C. (Highway 79), Milano, Texas. The meeting will be open to the public.

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Signed this 6th day of September 2017.

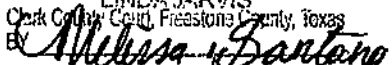


David M. Bailey, General Manager, METGCD
101 W. Main Rm B22, Madisonville, TX 77864
Phone: 936-348-3212

Questions, requests for additional information, or comments concerning the subjects listed above may be submitted to the person posting this notice.

FILED FOR RECORD
At 3:15 o'clock P M

SEP 6 - 2017

LINDA JARVIS
Clerk County Court, Freestonia County, Texas


NOTICE OF MEETING GROUNDWATER MANAGEMENT AREA 12

September 20, 2017 – 10:00 a.m.
Post Oak Savannah GCD Office
310 East Ave. C (Highway 79)
Milano, Texas

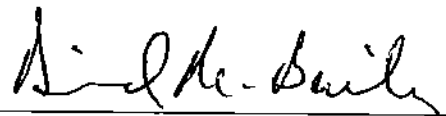
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11. Adjourn

Signed this 6th day of September 2017.



David M. Bailey, General Manager, METGCD
101 W. Main Rm B22, Madisonville, TX 77864
Phone: 936-348-3212

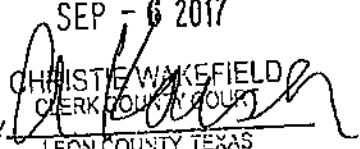
Questions, requests for additional information, or comments concerning the subjects listed above may be submitted to the person posting this notice.

FILED

2:30 PM

SEP - 6 2017

CHRISTIE WAKEFIELD
CLERK COUNTY CLERK

BY: 
LEON COUNTY, TEXAS

**NOTICE OF MEETING
GROUNDWATER MANAGEMENT AREA 12**

September 20, 2017 – 10:00 a.m.
Post Oak Savannah GCD Office
310 East Ave. C (Highway 79)
Milano, Texas

COPY
Original Filed 1:40
O'CLOCK PM

SEP 06 2017

Agenda


SUSANNE MORRIS, Madison County Clerk
BY Heidi Ellis
DEPUTY
Copies NOT Compared

Notice is hereby given that the groundwater conservation districts located wholly or partially within Groundwater Management Area (GMA) 12, as designated by the Texas Water Development Board, consisting of the Mid-East Texas Groundwater Conservation District (METGCD), Fayette County GCD, Lost Pines GCD, Post Oak Savannah GCD, and Brazos Valley GCD, will hold a Joint Planning meeting at 10:00 a.m. on Wednesday, September 20, 2017, in the Post Oak Savannah GCD Offices, located at 310 East Ave C. (Highway 79), Milano, Texas. The meeting will be open to the public.

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Signed this 6th day of September 2017.


David M. Bailey, General Manager, METGCD
101 W. Main Rm B22, Madisonville, TX 77864
Phone: 936-348-3212

Questions, requests for additional information, or comments concerning the subjects listed above may be submitted to the person posting this notice.

Subject: S.O.S. Acknowledgment of Receipt

Date: Friday, September 8, 2017 at 2:49:11 PM Central Daylight Time

From: TexReg@sos.texas.gov

To: gwestbrook@posgcd.org

Acknowledgment of Receipt

Agency: Groundwater Management Area 12

Liaison: Gary Westbrook

The Office of the Secretary of State has posted

notice of the following meeting:

Board: GROUNDWATER MANAGEMENT AREA 12

Committee: GROUNDWATER MANAGEMENT AREA 12

Date: 09/20/2017 10:00 AM "TRD# 2017007675"

Notice posted: 09/08/17 02:49 PM

Proofread your current open meeting notice at:

[http://texreg.sos.state.tx.us/public/pub_om_lookup\\$.startup?Z_TRD=2017007675](http://texreg.sos.state.tx.us/public/pub_om_lookup$.startup?Z_TRD=2017007675)



Gary Westbrook

[Log Off](#)

Open Meeting Submission

TRD: 2017007675
Date Posted: 09/08/2017
Status: Accepted
Agency Id: 1116
Date of Submission: 09/08/2017
Agency Name: Groundwater Management Area 12
Board: GROUNDWATER MANAGEMENT AREA 12
Committee: GROUNDWATER MANAGEMENT AREA 12
Date of Meeting: 09/20/2017
Time of Meeting: 10:00 AM (##:## AM Local Time)
Street Location: 310 East Ave. C (Highway 79)
City: Milano
State: TX
Liaison Name: Gary Westbrook
Liaison Id: 1
Additional Information Gary Westbrook, General Manager, POSGCD
Obtained From: 310 East Avenue C, Milano, Texas 76556
Phone: 512-455-9900

1. Invocation
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Agenda:

11. Adjourn

New Submission :

[HOME](#) | [TEXAS REGISTER](#) | [TEXAS ADMINISTRATIVE CODE](#) | [OPEN MEETINGS](#)

Attachment B GMA 12 DESIRED FUTURE CONDITIONS

A. Sparta, Queen City, Carrizo, Calvert Bluff, Simsboro, and Hooper Aquifers

The Sparta, Queen City, and Carrizo aquifers are present and used in all GCDs within GMA 12. Therefore, all GCDs submitted DFCs for these aquifers. The Calvert Bluff, Simsboro, and Hooper aquifers are present in all GCDs but not used in Fayette County. Therefore, GMA 12 declared these aquifers not relevant for Fayette County, and Fayette County GCD did not submit a DFC for these aquifers. For the purpose of establishing DFCs, the Groundwater Availability Model (GAM) for the Queen City and Sparta Aquifers (Kelley and others, 2004) was used to determine the compatibility and physical possibility of the DFCs proposed by each GCD. Note that this GAM also includes the Carrizo-Wilcox Aquifer. The DFCs proposed by each GCD for these six aquifers are provided in **Table 2-1**, as well as the DFC adopted by GMA 12 as a whole. The DFC is based on the average drawdown from January 2000 through December 2069. Note that the DFCs for Fayette County GCD in the Sparta, Queen City, and Carrizo aquifers are for all of Fayette County, and not just the portion of Fayette County within GMA 12. This is because GMA 15 has declared these aquifers not relevant for Fayette County, and all joint groundwater planning for these aquifers is done through GMA 12.

Table 2-1 Adopted DFCs for the Sparta, Queen City, Carrizo, Calvert Bluff, Simsboro, and Hooper Aquifers

GCD or County	Average Aquifer Drawdown (ft) measured from January 2000 through December 2069					
	Sparta	Queen City	Carrizo	Calvert Bluff	Simsboro	Hooper
Brazos Valley GCD	12	12	61	125	295	207
Fayette County GCD	47*	64*	110*	--	--	--
Lost Pines GCD	5	15	62	100	240	165
Mid-East Texas GCD	5	2	80	90	138	125
Post Oak Savannah GCD	28	30	67	149	318	205
Falls County	--	--	--	--	-2	27
Limestone County	--	--	--	11	50	50
Navarro County	--	--	--	-1	3	3
Williamson County	--	--	--	-11	47	69
GMA-12	16	16	75	114	228	168

* Fayette County GCD DFCs are for all of Fayette County.

Based on the principle of using the GAM as a joint planning tool and the fact that the GAM predictions contain uncertainty, GMA 12 considered the DFCs to be compatible and physically possible if the difference between modeled drawdown results and the DFC drawdown targets are within a 10 percent or 5-foot variance, whichever is greater, for all aquifers in the Queen City-Sparta/Carrizo-Wilcox GAM with the exception of the Simsboro, which would be held within a 5

percent or 5-foot variance, whichever is greater, of the GAM simulation. Factors considered for determining tolerance criteria include:

- model calibration results and statistics;
- information used to calibrate the GAM;
- aquifer and recharge information collected since the GAM was developed;
- sensitivity of the GAM calibration and GAM predictions to change in the model parameters; and
- range of uncertainty in the model parameters including historical and future pumping, temporal variation in recharge distribution and magnitude.

Reference:

Kelley, V.A., Deeds, N.E. Fryar, D.G., and Nicot, J.P., 2004. Groundwater Availability Models for the Queen City and Sparta Aquifers, prepared for the Texas Water Development Board, Austin, Texas.

B. Yegua-Jackson Aquifer

The Yegua-Jackson Aquifer is present in all GCDs in GMA 12. All GCDs except Brazos Valley GCD manage the Yegua-Jackson Aquifer as a single unit. Consequently, the Brazos Valley GCD adopted two DFCs for the Yegua-Jackson Aquifer: a DFC for the Jackson Aquifer and separate DFC for the Yegua Aquifer. The DFCs proposed by each GCD for the Yegua-Jackson Aquifer are provided in **Table 2-2**, as well as the DFC adopted by GMA 12 as a whole. Lost Pines GCD did not propose a DFC because the district has declared the Yegua-Jackson Aquifer as a non-relevant aquifer. For the purpose of establishing and evaluating DFCs, the GAM for the Yegua-Jackson Aquifer (Deeds and others, 2010) was used to determine the compatibility and physical possibility of the DFCs submitted by each GCD. The DFC is based on the average drawdown from January 2010 through December 2069.

Table 2-2 Adopted DFCs for the Yegua and Jackson Aquifers

GCD	Average Aquifer Drawdown (ft) measured from January 2010 through December 2069		
	Yegua	Jackson	Yegua-Jackson
Brazos Valley GCD	70	114	--
Fayette County GCD	--	--	77
Lost Pines GCD	--	--	--
Mid-East Texas GCD	--	--	7
Post Oak Savannah GCD	--	--	100
GMA-12	--	--	65

Based on the principle of using the GAM as a joint planning tool and the fact that the GAM predictions contain uncertainty, GMA 12 considered the DFCs to be compatible and physically possible if the difference between modeled drawdown results and the DFC drawdown targets are

within a 10 percent or 5-foot variance, whichever is greater, for both aquifers in the Yegua-Jackson GAM simulation. Factors considered for determining tolerance criteria include:

- model calibration results and statistics;
- information used to calibrate the GAM;
- aquifer and recharge information collected since the GAM was developed;
- sensitivity of the GAM calibration and GAM predictions to change in the model parameters; and
- range of uncertainty in the model parameters including historical and future pumping, temporal variation in recharge distribution and magnitude.

Reference:

Deeds, N.E., Yan, T., Sungh, A., Jones, T.L., Kelley, V.A., Knox, P.R., and Young, S.C., 2010, Groundwater Availability Model for the Yegua-Jackson Aquifer, final report prepared for the Texas Water Development Board, March, 2010, 582 pp.

C. Brazos Alluvium Aquifer

In GMA 12, the Brazos River Alluvium Aquifer is only present in Post Oak Savannah GCD and the Brazos Valley GCD. For this reason, GMA 12 adopted DFCs at a county level in these two GCDs, as shown in **Table 2-3**. DFCs for the Brazos River Alluvium Aquifer were not adopted for GMA 12 as a whole.

Table 2-3 Adopted DFCs for the Brazos River Alluvium Aquifer

GCD	County	Brazos River Alluvium Aquifer
Brazos Valley	Brazos & Robertson	North of State Highway 21: Percent saturation shall average at least 30% of total well depth.
		South of State Highway 21: Percent saturation shall average at least 40% of total well depth.
Post Oak Savannah	Burleson	A decrease in 6 feet in the average saturated thickness over the period from 2010 to 2070.
	Milam	A decrease of 5 feet in average saturated thickness over the period from 2010 to 2070

D. Non-relevant Areas of Aquifers

There are four areas where aquifers were declared non-relevant during the current cycle of joint groundwater planning. The Trinity Aquifer was declared non-relevant in Bastrop, Lee and Williamson counties because of its small areal coverage, great depth and poor water quality. The Yegua-Jackson Aquifer was declared non-relevant in Lost Pines GCD because it has a minimal amount of pumpage within the district. The Gulf Coast Aquifer was declared non-relevant in Brazos Valley GCD within GMA 12 since the small outcrop in the southernmost part of Brazos County is thin, can only provide water in small quantities and is very limited in areal extent. Also, the Wilcox portion of the Carrizo-Wilcox Aquifer in Fayette County was declared non-relevant because of the great depth to these units and the poor water quality.

Attachment C
NON-RELEVANT AQUIFER: GULF COAST AQUIFER IN BRAZOS COUNTY

I. INTRODUCTION

The Texas Water Development Board, in its July 2013 document, Explanatory Report for Submittal of Desired Future Conditions to the Texas Water Development Board, offers the following guidance regarding documentation for aquifers that are to be classified not relevant for purposes of joint planning:

Districts in a groundwater management area may, as part of the process for adopting and submitting desired future conditions, propose classification of a portion or portions of a relevant aquifer as non-relevant (31 Texas Administrative Code 356.31 (b)). This proposed classification of an aquifer may be made if the districts determine that aquifer characteristics, groundwater demands, and current groundwater uses do not warrant adoption of a desired future condition.

The districts must submit to the TWDB the following documentation for the portion of the aquifer proposed to be classified as non-relevant:

- 1. A description, location, and/or map of the aquifer or portion of the aquifer;*
- 2. A summary of aquifer characteristics, groundwater demands, and current groundwater uses, including the total estimated recoverable storage as provided by the TWDB, that support the conclusion that desired future conditions in adjacent or hydraulically connected relevant aquifer(s) will not be affected; and*
- 3. An explanation of why the aquifer or portion of the aquifer is non-relevant for joint planning purposes.*

This technical memorandum provides the required documentation to classify the Gulf Coast Aquifer as not relevant for purposes of joint planning.

II. AQUIFER DESCRIPTION AND LOCATION

As described in George and others (2011):

The Gulf Coast Aquifer is a major aquifer paralleling the Gulf of Mexico coastline from the Louisiana border to the border of Mexico. It consists of several aquifers, including the Jasper, Evangeline, and Chicot aquifers, which are composed of discontinuous sand, silt, clay, and gravel beds. The maximum total sand thickness of the Gulf Coast Aquifer ranges from 700 feet in the south to 1,300 feet in the north. Freshwater saturated thickness averages about 1,000 feet. Water quality varies with depth and locality: it is generally good in the central and northeastern parts of the aquifer, where the water contains less than 500 milligrams per liter of total dissolved solids, but declines to the south, where it typically contains 1,000 to more than 10,000 milligrams per liter of total dissolved solids and where the productivity of the aquifer decreases. High levels of radionuclides, thought mainly to be naturally occurring, are found in some wells

in Harris County in the outcrop and in South Texas. The aquifer is used for municipal, industrial, and irrigation purposes. In Harris, Galveston, Fort Bend, Jasper, and Wharton counties, water level declines of as much as 350 feet have led to land subsidence. The regional water planning groups, in their 2006 Regional Water Plans, recommended several water management strategies that use the Gulf Coast Aquifer, including drilling more wells, pumping more water from existing wells, temporary overdrafting, constructing new or expanded treatment plants, desalinating brackish groundwater, developing conjunctive use projects, and reallocating supplies.

Figure 1 (taken from Wade and others, 2014) shows the limited extent of the Gulf Coast Aquifer in GMA 12. Note that it occurs only in a small portion of Brazos County.

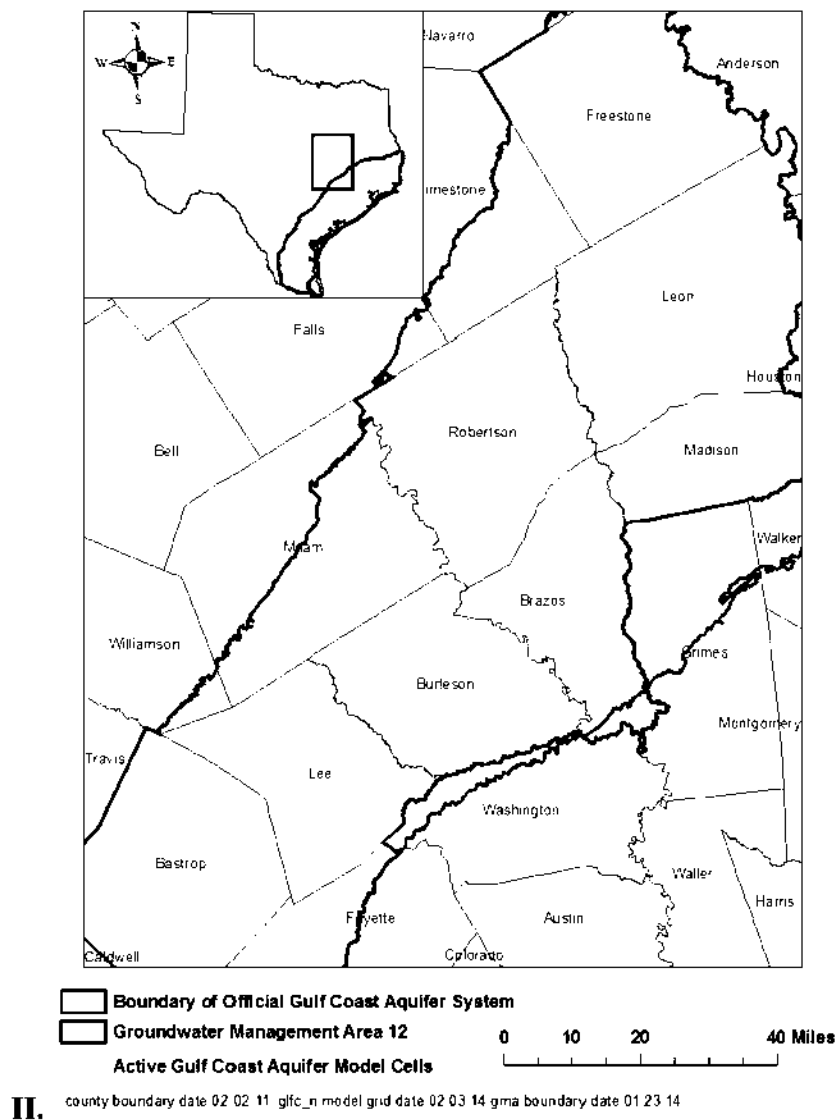


Figure 1. Location of Gulf Coast Aquifer in GMA 12

III. AQUIFER CHARACTERISTICS

The Catahoula Sandstone, the very basal unit to the Gulf Coast Aquifer, occurs in the very south part of Brazos County with the outcrop covering the upper part of low rolling hills with the Jackson Group below the Catahoula Sandstone. The Catahoula Sandstone is described as clay, tuff, sand, sandstone in interbedded layers with a capacity to yield small quantities of fresh to slightly saline water. The aquifer covers about 1.3 percent of the Brazos Valley Groundwater Conservation District and is less than 250 feet in thickness.

IV. GROUNDWATER DEMANDS AND CURRENT GROUNDWATER USES

The Texas Water Development Board pumping database lists limited pumping from the Gulf Coast Aquifer in Brazos County that ranged from 6 to 23 acre-feet/year between 2007 and 2012.

V. TOTAL ESTIMATED RECOVERABLE STORAGE

Wade and others (2014) developed total estimated recoverable storage for the Gulf Coast Aquifer in GMA 12 as follows:

<i>County</i>	<i>Total Storage (acre-feet)</i>	<i>25 percent of Total Storage (acre-feet)</i>	<i>75 percent of Total Storage (acre-feet)</i>
Brazos	450,000	112,500	337,500
Total	450,000	112,500	337,500

Total storage is given in the first column. Lower percentages of storage are given in the next two columns.

VI. EXPLANATION OF NON-RELEVANCE

Due to its very limited areal extent, shallow depth and low use, the Gulf Coast Aquifer is classified as not relevant for purposes of joint planning in Groundwater Management Area 12.

VII. REFERENCES

George, P.G., Mace, R.E., and Petrossian, R., 2011. Aquifers of Texas. Texas Water Development Board Report 380, July 2011, 182p.

Wade, S. and Shi, J., 2014. GAM Task 13-035 Version 2: Total Estimated Recoverable Storage for Aquifers in Groundwater Management Area 12. Texas Water Development Board, Groundwater Resources Division, May 16, 2014, 43p.

NON-RELEVANT AQUIFER: THE TRINITY AQUIFER IN BASTROP, LEE AND WILLIAMSON COUNTIES

I. INTRODUCTION

The Texas Water Development Board, in its July 2013 document, Explanatory Report for Submittal of Desired Future Conditions to the Texas Water Development Board, offers the following guidance regarding documentation for aquifers that are to be classified not relevant for purposes of joint planning:

Districts in a groundwater management area may, as part of the process for adopting and submitting desired future conditions, propose classification of a portion or portions of a relevant aquifer as non-relevant (31 Texas Administrative Code 356.31 (b)). This proposed classification of an aquifer may be made if the districts determine that aquifer characteristics, groundwater demands, and current groundwater uses do not warrant adoption of a desired future condition.

The districts must submit to the TWDB the following documentation for the portion of the aquifer proposed to be classified as non-relevant:

- 1. A description, location, and/or map of the aquifer or portion of the aquifer;*
- 2. A summary of aquifer characteristics, groundwater demands, and current groundwater uses, including the total estimated recoverable storage as provided by the TWDB, that support the conclusion that desired future conditions in adjacent or hydraulically connected relevant aquifer(s) will not be affected; and*
- 3. An explanation of why the aquifer or portion of the aquifer is non-relevant for joint planning purposes.*

This technical memorandum provides the required documentation to classify the Trinity Aquifer as not relevant for purposes of joint planning.

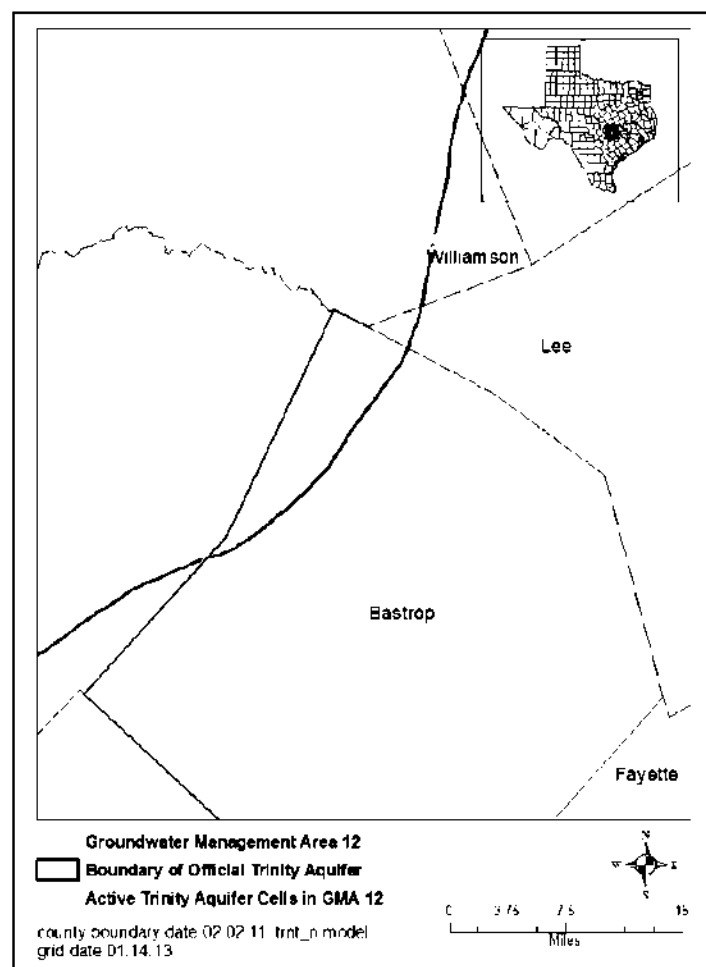
II. AQUIFER DESCRIPTION AND LOCATION

As described in George and others (2011):

The Trinity Aquifer extends across much of the central and northeastern part of the state. It is composed of several smaller aquifers contained within the Trinity Group. Although referred to differently in different parts of the state, they include the Antlers, Glen Rose, Paluxy, Twin Mountains, Travis Peak, Hensell, and Hosston aquifers. These aquifers consist of limestones, sands, clays, gravels, and conglomerates. Their combined freshwater saturated thickness averages about 600 feet in North Texas and about 1,900 feet in Central Texas. In general, groundwater is fresh but very hard in the outcrop of the aquifer. Total dissolved solids increase from less than 1,000 milligrams per liter in the east and southeast to between 1,000 and 5,000 milligrams per liter, or slightly to moderately saline, as the depth to the aquifer increases. Sulfate and chloride concentrations also tend

to increase with depth. The Trinity Aquifer discharges to a large number of springs, with most discharging less than 10 cubic feet per second. The aquifer is one of the most extensive and highly used groundwater resources in Texas. Although its primary use is for municipalities, it is also used for irrigation, livestock, and other domestic purposes. Some of the state's largest water level declines, ranging from 350 to more than 1,000 feet, have occurred in counties along the IH-35 corridor from McLennan County to Grayson County. These declines are primarily attributed to municipal pumping, but they have slowed over the past decade as a result of increasing reliance on surface water. The regional water planning groups, in their 2006 Regional Water Plans, recommended numerous water management strategies for the Trinity Aquifer, including developing new wells and well fields, pumping more water from existing wells, overdrafting, reallocating supplies, and using surface water and groundwater conjunctively.

Figure 1 (taken from Wade and others, 2014) shows the limited extent of the Trinity Aquifer in GMA 12. Note that it occurs only in a small portion of Bastrop, Lee, and Williamson Counties.



I.

Figure 1. Location of Trinity Aquifer in GMA 12

III. AQUIFER CHARACTERISTICS

The Trinity Aquifer is a highly prolific aquifer across much of the northern part of the state. However, within GMA 12 it is only found at extreme depths in a very small portion of the GMA. There are no known wells in this area that produce from the Trinity, and therefore the aquifer characteristics within GMA 12 are unknown.

IV. GROUNDWATER DEMANDS AND CURRENT GROUNDWATER USES

The Texas Water Development Board pumping database lists limited pumping from the Trinity Aquifer in Williamson County that ranged from 1,353 and 3,116 acre-feet/year between 2007 and 2014. However, all of this is from the portion of Williamson County that lies outside of GMA 12. As noted above, there are no known wells producing from the Trinity Aquifer within GMA 12. The Texas Water Development Board pumping database shows no production from the Trinity Aquifer in Bastrop or Lee Counties.

V. TOTAL ESTIMATED RECOVERABLE STORAGE

Wade and others (2014) developed total estimated recoverable storage for the Trinity Aquifer in GMA 12 as follows:

<i>County</i>	<i>Total Storage (acre-feet)</i>	<i>25 percent of Total Storage (acre-feet)</i>	<i>75 percent of Total Storage (acre-feet)</i>
Bastrop	9,000,000	2,250,000	6,750,000
Lee	500,000	125,000	375,000
Williamson	1,600,000	400,000	1,200,000
Total	11,100,000	2,775,000	8,325,000

Total storage is given in the first column. Lower percentages of storage are given in the next two columns.

VI. EXPLANATION OF NON-RELEVANCE

Due to its very limited areal extent, extreme depth and no known use within GMA 12, the Trinity Aquifer is classified as not relevant for purposes of joint planning in Groundwater Management Area 12.

VII. REFERENCES

George, P.G., Mace, R.E., and Petrossian, R., 2011. Aquifers of Texas. Texas Water Development Board Report 380, July 2011, 182p.

Wade, S. and Shi, J., 2014. GAM Task 13-035 Version 2: Total Estimated Recoverable Storage for Aquifers in Groundwater Management Area 12. Texas Water Development Board, Groundwater Resources Division, May 16, 2014, 43p.

NON-RELEVANT AQUIFER: THE YEGUA-JACKSON AQUIFER IN BASTROP AND LEE COUNTIES

I. INTRODUCTION

The Texas Water Development Board, in its July 2013 document, Explanatory Report for Submittal of Desired Future Conditions to the Texas Water Development Board, offers the following guidance regarding documentation for aquifers that are to be classified not relevant for purposes of joint planning:

Districts in a groundwater management area may, as part of the process for adopting and submitting desired future conditions, propose classification of a portion or portions of a relevant aquifer as non-relevant (31 Texas Administrative Code 356.31 (b)). This proposed classification of an aquifer may be made if the districts determine that aquifer characteristics, groundwater demands, and current groundwater uses do not warrant adoption of a desired future condition.

The districts must submit to the TWDB the following documentation for the portion of the aquifer proposed to be classified as non-relevant:

- 1. A description, location, and/or map of the aquifer or portion of the aquifer;*
- 2. A summary of aquifer characteristics, groundwater demands, and current groundwater uses, including the total estimated recoverable storage as provided by the TWDB, that support the conclusion that desired future conditions in adjacent or hydraulically connected relevant aquifer(s) will not be affected; and*
- 3. An explanation of why the aquifer or portion of the aquifer is non-relevant for joint planning purposes.*

This technical memorandum provides the required documentation to classify the Yegua-Jackson Aquifer as not relevant for purposes of joint planning in Bastrop and Lee Counties (the Lost Pines GCD).

II. AQUIFER DESCRIPTION AND LOCATION

As described in George and others (2011):

The Yegua-Jackson Aquifer is a minor aquifer stretching across the southeast part of the state. It includes water-bearing parts of the Yegua Formation (part of the upper Claiborne Group) and the Jackson Group (comprising the Whitsett, Manning, Wellborn, and Caddell formations). These geologic units consist of interbedded sand, silt, and clay layers originally deposited as fluvial and deltaic sediments. Freshwater saturated thickness averages about 170 feet. Water quality varies greatly owing to sediment composition in the aquifer formations, and in all areas the aquifer becomes highly mineralized with depth. Most groundwater is produced from the sand units of the aquifer, where the water is fresh and ranges from less than 50 to 1,000 milligrams per liter of total dissolved solids. Some

slightly to moderately saline water, with concentrations of total dissolved solids ranging from 1,000 to 10,000 milligrams per liter, also occurs in the aquifer. No significant water level declines have occurred in wells measured by the TWDB. Groundwater for domestic and livestock purposes is available from shallow wells over most of the aquifer's extent. Water is also used for some municipal, industrial, and irrigation purposes. The regional water planning groups, in their 2006 Regional Water Plans, recommended several water management strategies that use the Yegua-Jackson Aquifer, including drilling more wells and desalinating the water.

Figure 1 (taken from Wade and others, 2014) shows the limited extent of the Yegua-Jackson Aquifer in GMA 12.

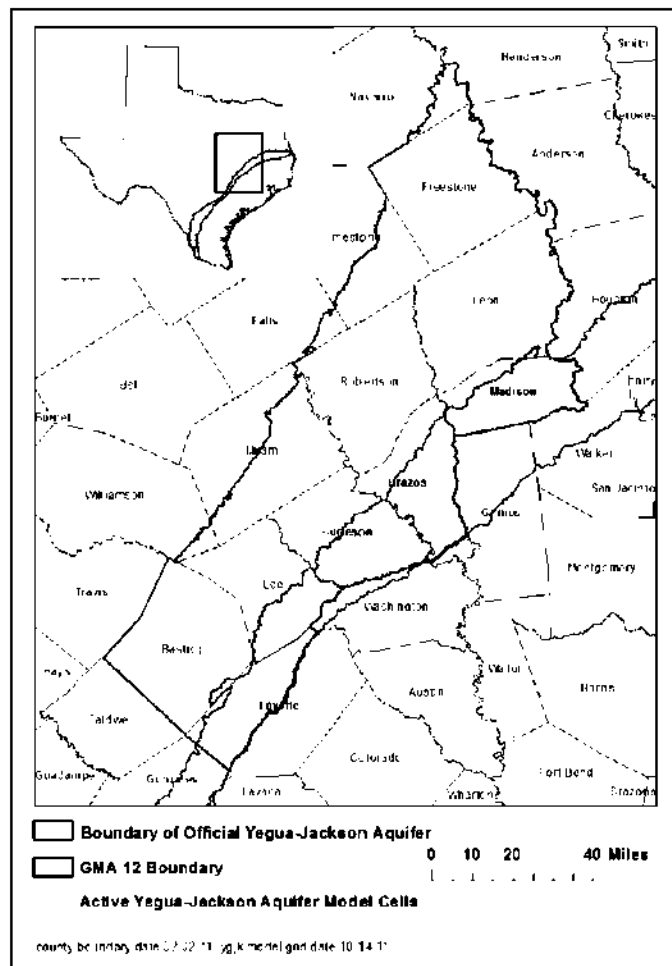


Figure 1. Location of Yegua-Jackson Aquifer in GMA 12

III. AQUIFER CHARACTERISTICS

The Yegua-Jackson Aquifer occurs in the very southern part of Bastrop County and the lower third of Lee County. The aquifer is described as interbedded layers of sand, silt, and clay with a capacity to yield small quantities of fresh to moderately saline water. Wells producing from the Yegua-Jackson Aquifer can produce as much as 500 gpm, although well capacities are typically much lower than that.

IV. GROUNDWATER DEMANDS AND CURRENT GROUNDWATER USES

The Texas Water Development Board pumping database lists limited pumping from the Yegua-Jackson Aquifer in Bastrop County that ranged from 2 to 3 acre-feet/year and 46 to 76 acre-feet/year in Lee County between 2007 and 2014. There is no permitted pumpage from the Yegua-Jackson Aquifer within the Lost Pines GCD and all use listed in the TWDB database is estimated to be rural domestic and livestock use.

V. TOTAL ESTIMATED RECOVERABLE STORAGE

Wade and others (2014) developed total estimated recoverable storage for the Yegua-Jackson Aquifer in the Lost Pines GCD as follows:

<i>County</i>	<i>Total Storage (acre-feet)</i>	<i>25 percent of Total Storage (acre-feet)</i>	<i>75 percent of Total Storage (acre-feet)</i>
Bastrop	290,000	72,500	217,500
Lee	10,000,000	2,500,000	7,500,000
Total	10,290,000	2,572,500	7,717,500

Total storage is given in the first column. Lower percentages of storage are given in the next two columns.

VI. EXPLANATION OF NON-RELEVANCE

Due to its very low use, lack of permitted production, and no anticipated permitted production in the future, the Yegua-Jackson Aquifer is classified as not relevant for purposes of joint planning in Bastrop and Lee Counties (the Lost Pines GCD) in Groundwater Management Area 12.

VII. REFERENCES

George, P.G., Mace, R.E., and Petrossian, R., 2011. Aquifers of Texas. Texas Water Development Board Report 380, July 2011, 182p.

Wade, S. and Shi, J., 2014. GAM Task 13-035 Version 2: Total Estimated Recoverable Storage for Aquifers in Groundwater Management Area 12. Texas Water Development Board, Groundwater Resources Division, May 16, 2014, 43p.

NON-RELEVANT AQUIFER: THE WILCOX PORTION OF THE CARRIZO-WILCOX AQUIFER IN FAYETTE COUNTY

I. INTRODUCTION

The Texas Water Development Board, in its July 2013 document, Explanatory Report for Submittal of Desired Future Conditions to the Texas Water Development Board, offers the following guidance regarding documentation for aquifers that are to be classified not relevant for purposes of joint planning:

Districts in a groundwater management area may, as part of the process for adopting and submitting desired future conditions, propose classification of a portion or portions of a relevant aquifer as non-relevant (31 Texas Administrative Code 356.31 (b)). This proposed classification of an aquifer may be made if the districts determine that aquifer characteristics, groundwater demands, and current groundwater uses do not warrant adoption of a desired future condition.

The districts must submit to the TWDB the following documentation for the portion of the aquifer proposed to be classified as non-relevant:

- 1. A description, location, and/or map of the aquifer or portion of the aquifer;*
- 2. A summary of aquifer characteristics, groundwater demands, and current groundwater uses, including the total estimated recoverable storage as provided by the TWDB, that support the conclusion that desired future conditions in adjacent or hydraulically connected relevant aquifer(s) will not be affected; and*
- 3. An explanation of why the aquifer or portion of the aquifer is non-relevant for joint planning purposes.*

This technical memorandum provides the required documentation to classify the Wilcox portion of the Carrizo-Wilcox Aquifer in Fayette County as not relevant for purposes of joint planning.

II. AQUIFER DESCRIPTION AND LOCATION

As described in George and others (2011):

The Carrizo-Wilcox Aquifer is a major aquifer extending from the Louisiana border to the border of Mexico in a wide band adjacent to and northwest of the Gulf Coast Aquifer. It consists of the Wilcox Group and the overlying Carrizo Formation of the Claiborne Group. The aquifer is primarily composed of sand locally interbedded with gravel, silt, clay, and lignite. Although the Carrizo-Wilcox Aquifer reaches 3,000 feet in thickness, the freshwater saturated thickness of the sands averages 670 feet. The groundwater, although hard, is generally fresh and typically contains less than 500 milligrams per liter of total dissolved solids in the outcrop, whereas softer groundwater with total dissolved solids of more than 1,000 milligrams per liter occurs in the subsurface. High iron and

manganese content in excess of secondary drinking water standards is characteristic of the deeper subsurface portions of the aquifer. Parts of the aquifer in the Winter Garden area are slightly to moderately saline, with total dissolved solids ranging from 1,000 to 7,000 milligrams per liter. Irrigation pumping accounts for slightly more than half the water pumped, and pumping for municipal supply accounts for another 40 percent. Water levels have declined in the Winter Garden area because of irrigation pumping and in the northeastern part of the aquifer because of municipal pumping. The regional water planning groups, in their 2006 Regional Water Plans, recommended several water management strategies that use the Carrizo-Wilcox Aquifer, including developing new wells and well fields, withdrawing additional water from existing wells, desalinating brackish water, using surface water and groundwater conjunctively, reallocating supplies, and transporting water over long distances.

Figure 1 (taken from Wade and others, 2014) shows the extent of the Carrizo-Wilcox Aquifer in GMA 12.

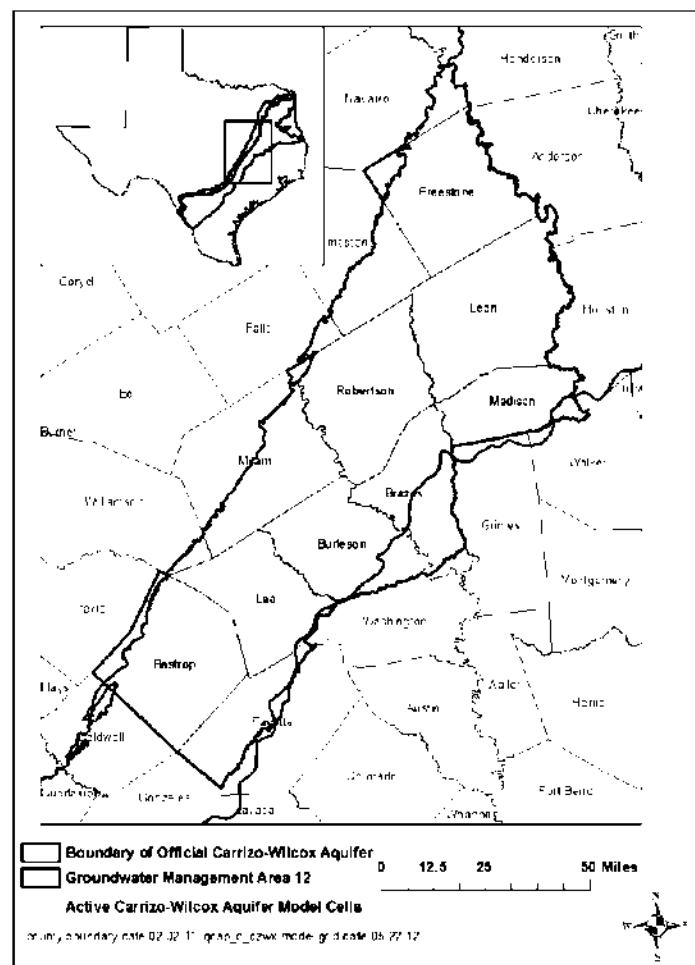


Figure 1. Location of Carrizo-Wilcox Aquifer in GMA 12

III. AQUIFER CHARACTERISTICS

The Wilcox portion of the Carrizo-Wilcox Aquifer occurs below the Carrizo Aquifer. In Fayette County, the depth of wells producing from the Carrizo Aquifer ranges from 1,700 to 3,200 feet. The Wilcox units (including the Calvert Bluff, Simsboro, and Hooper) occur below the Carrizo, and therefore wells producing from these units would be at least 2,000 feet deep. Water quality in these Wilcox units is estimated to be brackish to saline. There are no known wells in the Wilcox units within Fayette County, and therefore the aquifer characteristics within the county are unknown.

IV. GROUNDWATER DEMANDS AND CURRENT GROUNDWATER USES

The Texas Water Development Board pumping database lists limited pumping from the Carrizo-Wilcox Aquifer in Fayette County that ranged from 10 to 126 acre-feet/year between 2007 and 2014. However, this use is all from the Carrizo portion of the Carrizo-Wilcox Aquifer, as there are no known wells producing from the Wilcox units within Fayette County.

V. TOTAL ESTIMATED RECOVERABLE STORAGE

Wade and others (2014) developed total estimated recoverable storage for the Carrizo-Wilcox Aquifer in GMA 12 as follows:

<i>County</i>	<i>Total Storage (acre-feet)</i>	<i>25 percent of Total Storage (acre-feet)</i>	<i>75 percent of Total Storage (acre-feet)</i>
Fayette	95,000,000	23,750,000	71,250,000
Total	95,000,000	23,750,000	71,250,000

Total storage is given in the first column. Lower percentages of storage are given in the next two columns.

VI. EXPLANATION OF NON-RELEVANCE

Due to its extreme depth, poor water quality, lack of use and zero anticipated use in the future, the Wilcox portion of the Carrizo-Wilcox Aquifer is classified as not relevant for purposes of joint planning in Fayette County in Groundwater Management Area 12.

VII. REFERENCES

George, P.G., Mace, R.E., and Petrossian, R., 2011. Aquifers of Texas. Texas Water Development Board Report 380, July 2011, 182p.

Wade, S. and Shi, J., 2014. GAM Task 13-035 Version 2: Total Estimated Recoverable Storage for Aquifers in Groundwater Management Area 12. Texas Water Development Board, Groundwater Resources Division, May 16, 2014, 43p.

Appendix B

Evidence of Coordination with Surface Water Management Entities



Lost Pines Groundwater Conservation District
908 NE Loop 230
Post Office Box 1027
Smithville, TX 78957
Tax ID Number 74-2955722

512-360-5088
FAX: 512-360-5448
Email: lpgcd@lostpineswater.org
Web Site: www.lostpineswater.org

James Totten, General Manager

September 27, 2017

BY CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Region K Regional Water Planning Group
LCRA
Attn: Region K
Mailstop R325
P O Box 220
Austin, TX 78767-0220

RE: Notice of Adoption of Amended Management Plan by Lost Pines Groundwater Conservation District

Dear Sir or Madam:

Please take notice that on September 20, 2017, following notice and public hearing, the Board of Directors of the Lost Pines Groundwater Conservation District adopted an amended Management Plan. A copy of the amended and adopted Management Plan is enclosed for your review and comment, pursuant to 31 TAC §356.6(a)(4), concerning coordination with all surface water management entities in the District's boundaries.

Please do not hesitate to call if you have any questions.

Very truly yours,

James Totten
General Manager

Board of Directors
Michael Talbot President, Billy Sherrill Vice-President, Doug Prinz Secretary-Treasurer
Herbert Cook, David Fleming, Larry Schatte, Clifton Seidel, Michael Simmang, Sheril Smith, Carl Steinbach



Lost Pines Groundwater Conservation District
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James Totten, General Manager

September 27, 2017

BY CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Brazos G Regional Water Planning Group
Mr. Trey Buzbee, Administrative Agent
Brazos River Authority
Ms. Jennifer White
c/o Brazos G Regional Water Planning Group
P O Box 7555
Waco, TX 76714

RE: Notice of Adoption of Amended Management Plan by Lost Pines Groundwater Conservation District

Dear Sir or Madam:

Please take notice that on September 20, 2017, following notice and public hearing, the Board of Directors of the Lost Pines Groundwater Conservation District adopted an amended Management Plan. A copy of the amended and adopted Management Plan is enclosed for your review and comment, pursuant to 31 TAC §356.6(a)(4), concerning coordination with all surface water management entities in the District's boundaries.

Please do not hesitate to call if you have any questions.

Very truly yours,

James Totten
General Manager

Board of Directors
Michael Talbot President, Billy Sherrill Vice-President, Doug Prinz Secretary-Treasurer
Herbert Cook, David Fleming, Larry Schatte, Clifton Seidel, Michael Sinnang, Sheril Smith, Carl Steinbach



Lost Pines Groundwater Conservation District
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Email: lpgcd@lostpineswater.org
Web Site: www.lostpineswater.org

James Totten, General Manager

September 27, 2017

BY CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Brazos River Authority
P O Box 7555
Waco, TX 76714

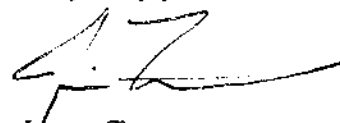
RE: Notice of Adoption of Amended Management Plan by Lost Pines Groundwater Conservation District

Dear Sir or Madam:

Please take notice that on September 20, 2017, following notice and public hearing, the Board of Directors of the Lost Pines Groundwater Conservation District adopted an amended Management Plan. A copy of the amended and adopted Management Plan is enclosed for your review and comment, pursuant to 31 TAC §356.6(a)(4), concerning coordination with all surface water management entities in the District's boundaries.

Please do not hesitate to call if you have any questions.

Very truly yours,



James Totten
General Manager

Board of Directors

Michael Talbot President, Billy Sherrill Vice-President, Doug Prinz Secretary-Treasurer
Herbert Cook, David Fleming, Larry Schatte, Clifton Seidel, Michael Simmang, Sheril Smith, Carl Steinbach



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James Totten, General Manager

September 27, 2017

BY CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Lower Colorado River Authority
P O Box 220
Austin, TX 78767-0220

RE: Notice of Adoption of Amended Management Plan by Lost Pines Groundwater Conservation District

Dear Sir or Madam:

Please take notice that on September 20, 2017, following notice and public hearing, the Board of Directors of the Lost Pines Groundwater Conservation District adopted an amended Management Plan. A copy of the amended and adopted Management Plan is enclosed for your review and comment, pursuant to 31 TAC §356.6(a)(4), concerning coordination with all surface water management entities in the District's boundaries.

Please do not hesitate to call if you have any questions.

Very truly yours,

James Totten
General Manager

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Herbert Cook, David Fleming, Larry Schatte, Clifton Seidel, Michael Simmang, Sheril Smith, Carl Steinbach



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James Totten, General Manager

September 27, 2017

BY CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Bastrop West Water Company
379 Highway 95 N
Bastrop, TX 78602

RE: Notice of Adoption of Amended Management Plan by Lost Pines Groundwater Conservation District

Dear Sir or Madam:

Please take notice that on September 20, 2017, following notice and public hearing, the Board of Directors of the Lost Pines Groundwater Conservation District adopted an amended Management Plan. A copy of the amended and adopted Management Plan is enclosed for your review and comment, pursuant to 31 TAC §356.6(a)(4), concerning coordination with all surface water management entities in the District's boundaries.

Please do not hesitate to call if you have any questions.

Very truly yours,

James Totten
General Manager

Board of Directors
Michael Talbot President, Billy Sherrill Vice-President, Doug Prinz Secretary-Treasurer
Herbert Cook, David Fleming, Larry Schatte, Clifton Seidel, Michael Simmang, Sheril Smith, Carl Steinbach



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Web Site: www.lostpineswater.org

James Totten, General Manager

September 27, 2017

BY CERTIFIED MAIL, RETURN RECEIPT REQUESTED

City of Austin
P O Box 1088
Austin, TX 78767-1088

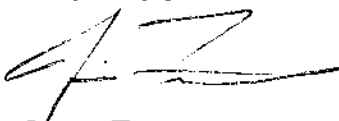
RE: Notice of Adoption of Amended Management Plan by Lost Pines Groundwater Conservation District

Dear Sir or Madam:

Please take notice that on September 20, 2017, following notice and public hearing, the Board of Directors of the Lost Pines Groundwater Conservation District adopted an amended Management Plan. A copy of the amended and adopted Management Plan is enclosed for your review and comment, pursuant to 31 TAC §356.6(a)(4), concerning coordination with all surface water management entities in the District's boundaries.

Please do not hesitate to call if you have any questions.

Very truly yours,



James Totten
General Manager

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James Totten, General Manager

September 27, 2017

BY CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Southwest Milam WSC
P O Box 232
Rockdale, TX 78567


RE: Notice of Adoption of Amended Management Plan by Lost Pines Groundwater Conservation District

Dear Sir or Madam:

Please take notice that on September 20, 2017, following notice and public hearing, the Board of Directors of the Lost Pines Groundwater Conservation District adopted an amended Management Plan. A copy of the amended and adopted Management Plan is enclosed for your review and comment, pursuant to 31 TAC §356.6(a)(4), concerning coordination with all surface water management entities in the District's boundaries.

Please do not hesitate to call if you have any questions.

Very truly yours,



James Totten
General Manager

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Herbert Cook, David Fleming, Larry Schatte, Clifton Seidel, Michael Simmang, Sheril Smith, Carl Steinbach



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Web Site: www.lostpineswater.org

James Totten, General Manager

September 27, 2017

BY CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Manville WSC
P O Box 248
Coupland, TX 78615-0248

RE: Notice of Adoption of Amended Management Plan by Lost Pines Groundwater Conservation District

Dear Sir or Madam:

Please take notice that on September 20, 2017, following notice and public hearing, the Board of Directors of the Lost Pines Groundwater Conservation District adopted an amended Management Plan. A copy of the amended and adopted Management Plan is enclosed for your review and comment, pursuant to 31 TAC §356.6(a)(4), concerning coordination with all surface water management entities in the District's boundaries.

Please do not hesitate to call if you have any questions.

Very truly yours,

James Totten
General Manager

Board of Directors

Michael Talbot President, Billy Sherrill Vice-President, Doug Prinz Secretary-Treasurer
Herbert Cook, David Fleming, Larry Schatte, Clifton Seidel, Michael Simmang, Sheril Smith, Carl Steinbach



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Web Site: www.lostpineswater.org

James Totten, General Manager

September 27, 2017

BY CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Lincoln WSC
P O Box 336
Lincoln, TX 78948-0336

RE: Notice of Adoption of Amended Management Plan by Lost Pines Groundwater Conservation District

Dear Sir or Madam:

Please take notice that on September 20, 2017, following notice and public hearing, the Board of Directors of the Lost Pines Groundwater Conservation District adopted an amended Management Plan. A copy of the amended and adopted Management Plan is enclosed for your review and comment, pursuant to 31 TAC §356.6(a)(4), concerning coordination with all surface water management entities in the District's boundaries.

Please do not hesitate to call if you have any questions.

Very truly yours,

James Totten
General Manager

Board of Directors
Michael Talbot President, Billy Sherrill Vice-President, Doug Prinz Secretary-Treasurer
Herbert Cook, David Fleming, Larry Schatte, Clifton Seidel, Michael Simmang, Sheril Smith, Carl Steinbach



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Email: lpgcd@lostpineswater.org
Web Site: www.lostpineswater.org

James Totten, General Manager

September 27, 2017

BY CERTIFIED MAIL, RETURN RECEIPT REQUESTED

City of Lexington
P O Box 56
Lexington, TX 78947

RE: Notice of Adoption of Amended Management Plan by Lost Pines Groundwater Conservation District

Dear Sir or Madam:

Please take notice that on September 20, 2017, following notice and public hearing, the Board of Directors of the Lost Pines Groundwater Conservation District adopted an amended Management Plan. A copy of the amended and adopted Management Plan is enclosed for your review and comment, pursuant to 31 TAC §356.6(a)(4), concerning coordination with all surface water management entities in the District's boundaries.

Please do not hesitate to call if you have any questions.

Very truly yours,

James Totten
General Manager

Board of Directors
Michael Talbot President, Billy Sherrill Vice-President, Doug Prinz Secretary-Treasurer
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Web Site: www.lostpineswater.org

James Totten, General Manager

September 27, 2017

BY CERTIFIED MAIL, RETURN RECEIPT REQUESTED

City of Giddings
118 E Richmond St.
Giddings, TX 78942

RE: Notice of Adoption of Amended Management Plan by Lost Pines Groundwater Conservation District

Dear Sir or Madam:

Please take notice that on September 20, 2017, following notice and public hearing, the Board of Directors of the Lost Pines Groundwater Conservation District adopted an amended Management Plan. A copy of the amended and adopted Management Plan is enclosed for your review and comment, pursuant to 31 TAC §356.6(a)(4), concerning coordination with all surface water management entities in the District's boundaries.

Please do not hesitate to call if you have any questions.

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General Manager

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Lost Pines Groundwater Conservation District
908 NE Loop 230
Post Office Box 1027
Smithville, TX 78957
Tax ID Number 74-2955722

512-360-5088
FAX: 512-360-5448
Email: lpgcd@lostpineswater.org
Web Site: www.lostpineswater.org

James Totten, General Manager

September 27, 2017

BY CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Polonia WSC
P O Box 778
Lockhart, TX 78644

RE: Notice of Adoption of Amended Management Plan by Lost Pines Groundwater Conservation District

Dear Sir or Madam:

Please take notice that on September 20, 2017, following notice and public hearing, the Board of Directors of the Lost Pines Groundwater Conservation District adopted an amended Management Plan. A copy of the amended and adopted Management Plan is enclosed for your review and comment, pursuant to 31 TAC §356.6(a)(4), concerning coordination with all surface water management entities in the District's boundaries.

Please do not hesitate to call if you have any questions.

Very truly yours,

James Totten
General Manager

Board of Directors
Michael Talbot President, Billy Sherrill Vice-President, Doug Prinz Secretary-Treasurer
Herbert Cook, David Fleming, Larry Schatte, Clifton Seidel, Michael Simmang, Sheril Smith, Carl Steinbach



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James Totten, General Manager

September 27, 2017

BY CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Lee County WSC
P O Box 8
Giddings, TX 78942

RE: Notice of Adoption of Amended Management Plan by Lost Pines Groundwater Conservation District

Dear Sir or Madam:

Please take notice that on September 20, 2017, following notice and public hearing, the Board of Directors of the Lost Pines Groundwater Conservation District adopted an amended Management Plan. A copy of the amended and adopted Management Plan is enclosed for your review and comment, pursuant to 31 TAC §356.6(a)(4), concerning coordination with all surface water management entities in the District's boundaries.

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James Totten, General Manager

September 27, 2017

BY CERTIFIED MAIL, RETURN RECEIPT REQUESTED

K & K Water Company
231 Mandy Lane
Red Rock, TX 78662

RE: Notice of Adoption of Amended Management Plan by Lost Pines Groundwater Conservation District

Dear Sir or Madam:

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James Totten, General Manager

September 27, 2017

BY CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Creedmoor-MAHA WSC
12100 Laws Road
Buda, TX 78610-9607

RE: Notice of Adoption of Amended Management Plan by Lost Pines Groundwater Conservation District

Dear Sir or Madam:

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James Totten, General Manager

September 27, 2017

BY CERTIFIED MAIL, RETURN RECEIPT REQUESTED

City of Elgin
P O Box 591
Elgin, TX 78621

RE: Notice of Adoption of Amended Management Plan by Lost Pines Groundwater Conservation District

Dear Sir or Madam:

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James Totten, General Manager

September 27, 2017

BY CERTIFIED MAIL, RETURN RECEIPT REQUESTED

City of Bastrop
P O Box 427
Bastrop, TX 78602

RE: Notice of Adoption of Amended Management Plan by Lost Pines Groundwater Conservation District

Dear Sir or Madam:

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James Totten, General Manager

September 27, 2017

BY CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Aqua WSC
P O Drawer P
Bastrop, TX 78602

RE: Notice of Adoption of Amended Management Plan by Lost Pines Groundwater Conservation District

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James Totten, General Manager

September 27, 2017

BY CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Lee-Fayette Counties Cummins Creek WCID 1
P O Box 1026
LaGrange, TX 78945

RE: Notice of Adoption of Amended Management Plan by Lost Pines Groundwater Conservation District

Dear Sir or Madam:

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James Totten, General Manager

September 27, 2017

BY CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Lee County FWSD 1
P O Box 74
Dime Box, TX 77853

RE: Notice of Adoption of Amended Management Plan by Lost Pines Groundwater Conservation District

Dear Sir or Madam:

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James Totten, General Manager

September 27, 2017

BY CERTIFIED MAIL, RETURN RECEIPT REQUESTED

XS Ranch MUD
8500 Bluffstone Cove, Suite B 104
Austin, TX 78759

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James Totten, General Manager

September 27, 2017

BY CERTIFIED MAIL, RETURN RECEIPT REQUESTED

The Colony MUD IF
100 Congress Ave., Suite 1300
Armbrust & Brown LLP
Austin, TX 78701

RE: Notice of Adoption of Amended Management Plan by Lost Pines Groundwater Conservation District

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James Totten, General Manager

September 27, 2017

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Austin, TX 78701

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James Totten, General Manager

September 27, 2017

BY CERTIFIED MAIL, RETURN RECEIPT REQUESTED

The Colony MUD IA
100 Congress Ave., Suite 1300
Armbrust & Brown LLP
Austin, TX 78701

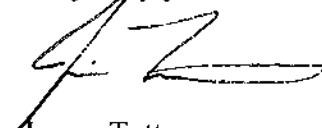
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James Totten, General Manager

September 27, 2017

BY CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Bastrop County WCID 3
P O Box 1627
Bastrop, TX 78602

RE: Notice of Adoption of Amended Management Plan by Lost Pines Groundwater Conservation District

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512-360-5088
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James Totten, General Manager

September 27, 2017

BY CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Bastrop County WCID 1
P O Box 814
McDade, TX 78650

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James Totten, General Manager

September 27, 2017

BY CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Bastrop County WCID 2
P O Box 708
Bastrop, TX 78602

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James Totten, General Manager

September 27, 2017

BY CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Bastrop County MUD 1
3200 Southwest Freeway Suite 2600
Allen Boone Humphries Robinson LLP
Houston, TX 77027-7597

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James Totten, General Manager

September 27, 2017

BY CERTIFIED MAIL, RETURN RECEIPT REQUESTED

City of Smithville
P O Box 449
Smithville, TX 78957

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James Totten, General Manager

September 27, 2017

BY CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Forestar Group
6300 Bee Caves Rd.
Bldg. 2, Suite 500
Austin, TX 78746

RE: Notice of Adoption of Amended Management Plan by Lost Pines Groundwater Conservation District

Dear Sir or Madam:

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James Totten, General Manager

September 27, 2017

BY CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Griffin Industries, LLC
264 FM 2336
Bastrop, TX 78602

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James Totten, General Manager

September 27, 2017

BY CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Heart of Texas Suppliers
4605 Post Oak Pl., Ste. 212
Houston, TX 77027

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James Totten, General Manager

September 27, 2017

BY CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Hunters Crossing, LGC
P O Box 427
Bastrop, TX 78602

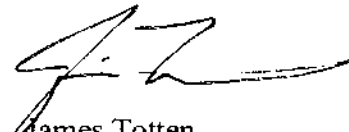
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James Totten, General Manager

September 27, 2017

BY CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Recharge Water LP
c/o Bryan Joiner
2104 Westridge Dr.
Plano, TX 75075

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Appendix C

Certified Copy of District Resolution Adopting Management Plan

No. 2017-09-01

**RESOLUTION ADOPTING AMENDMENTS TO LOST PINES GROUNDWATER
CONSERVATION DISTRICT'S MANAGEMENT PLAN**

WHEREAS, the Board of Directors of the Lost Pines Groundwater Conservation District ("District") proposes to amend the District's Management Plan to be consistent with data used in the most recently adopted Texas State Water Plan ("Proposed Amendments") as required by Texas Water Code § 36.1071; and

WHEREAS, after proper notice under District Rule 14.1, the Board of Directors of the District (the "Board") held a public hearing on the Proposed Amendments at 7:00 p.m. on September 20, 2017, at the Bastrop City Hall in Bastrop, Texas; and

WHEREAS, the Board received no comments related to the Proposed Amendments; and

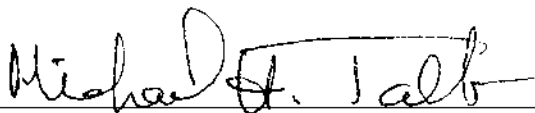
WHEREAS, at the same meeting on September 20, 2017, the Board closed the public hearing on the Proposed Amendments; and

WHEREAS, at the a Board meeting on September 20, 2017, upon considering the factors as set out in Chapter 36 of the Texas Water Code and the District Rules, the Board voted to approve the Proposed Amendments;

NOW, THEREFORE, BE IT RESOLVED by the Lost Pines Groundwater Conservation District that:

1. The District's Management Plan is amended to be consistent with the most recently adopted Texas State Water Plan and the Proposed Amendments attached hereto.
2. The General Manager is directed to update the District's Management Plan to reflect the revisions in the Proposed Amendments.

PASSED AND APPROVED ON September 20, 2017.


Mike Talbot, President

ATTEST:


Doug Prinz, Secretary-Treasurer

Appendix D

Evidence of Public Notice and Hearing on Management Plan

08/24/2017 11:16 9795422623
AUG/24/2017/THU 11:16 AM

LEE COUNTY CLERK
FAX No.

PAGE 01/01
P. 002

LOST PINES GROUNDWATER CONSERVATION DISTRICT
NOTICE OF HEARING ON MANAGEMENT PLAN

TIME, DATE AND LOCATION

The Board of Directors of the Lost Pines Groundwater Conservation District ("District") will conduct a hearing on proposed revision and amendment of the Management Plan at:

7:00 p.m., September 20, 2017
Bastrop City Hall
1311 Chestnut Street
Bastrop, Texas 78602

BRIEF EXPLANATION OF SUBJECT OF HEARING

The proposed amendments to the District's existing Management Plan are related to updating data in the plan to be consistent with data used in the most recently adopted State Water Plan.

COPIES OF PROPOSED MANAGEMENT PLAN

The proposed Management Plan is available for review and copying at the District offices, 908 Loop 230, Smithville, Texas 78957, or at the District's website, www.lostpineswater.org.

WRITTEN AND ORAL COMMENTS

The District will accept written comments on the proposed Management Plan filed before or at the hearing. In addition, the District will accept oral comments at the hearing.

For additional information, please contact the District by calling 512-360-5088 or e-mailing lpgcd@lostpineswater.org.

Date: Aug. 24, 2017

Peggy Campion
Assistant Secretary

FILED AND RECORDED

AUG 24 2017



Sharon Blasig
SHARON BLASIG
COUNTY CLERK, LEE COUNTY TEXAS

FILED

AUG 24 2017

Rose Pietsch
Bastrop County Clerk



PROOF OF PUBLICATION STATE OF TEXAS

PUBLIC NOTICE

Before me, the undersigned authority, a Notary Public in and for the County of Bastrop, State of Texas, on this day personally appeared Alejandro Cado, Advertising Agent of the Bastrop Advertiser, which is a newspaper of general circulation published in the county of Bastrop in the state of Texas, who being duly sworn by me, states that the attached advertisement was published at the lowest published rate for Classified advertising in said newspaper on the following date(s), to wit, and that the attached is a true copy of said advertisement: the following date(s), LOST PINES GROUNDWATER CONSERVATION DISTRICT NOTICE OF HEARING ON MANAGEMENT PLAN TIME, DATE AND LOCATION The Board of Directors of the Lost Pines Ground, first date of Publication 08/31/2017, last date of Publication 08/31/2017, web and print times Published 1.

LOST PINES GROUNDWATER
CONSERVATION DISTRICT
PO BOX 1027
SMITHVILLE, TX 78957

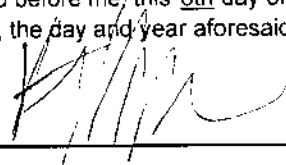
Invoice/Order Number:	0000206592
Ad Cost:	\$216.00
Paid:	\$216.00
Balance Due:	\$0.00

Signed

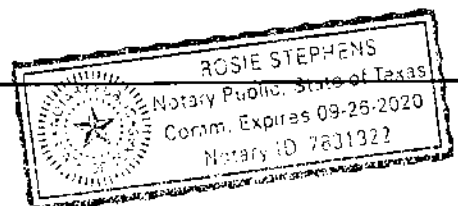

(Legal Advertising Agent)

Sworn or affirmed to, and subscribed before me, this 6th day of September, 2017 in Testimony whereof, I have hereunto set my hand and affixed my official seal, the day and year aforesaid.

Signed



(Notary)



Please see Ad on following page(s).

Invoice/Order Number	0000206592
Ad Cost	\$216.00
Paid	\$216.00
Balance Due	\$0.00

**LOST PINES GROUNDWATER
CONSERVATION DISTRICT**

**NOTICE OF HEARING ON
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Date: August 24, 2017
Peggy Campion
Assistant Secretary

8-31/2017
0000206592-01

STATE OF TEXAS
COUNTY OF LEE

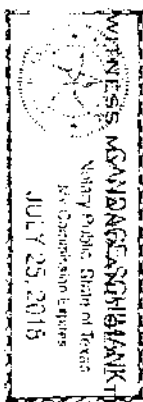
BEFORE ME, THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED

Lee County, PUBLISHER OF THE GIDDINGS TIMES & NEWS, A WEEKLY NEWSPAPER
PUBLISHED ON THURSDAY OF EACH WEEK AT GIDDINGS, LEE COUNTY, TEXAS WHO BEING BY ME DULY SWORN DECLARED
THAT THE ATTACHED Notice of Hearing on Motion WAS PUBLISHED 1 TIMES IN SAID NEWSPAPER. THE
DATES OF SAID PUBLICATION BEING AS FOLLOWS: 7/23/16

CLIPPING IS A TRUE COPY OF SAID PUBLICATION

AND THAT THE ATTACHED

Lee County



EDITOR PUBLISHER
DAY OF July 20 17

NOTARY PUBLIC, LEE COUNTY, TEXAS

LOST PINES GROUNDWATER CONSERVATION DISTRICT

NOTICE OF HEARING ON MANAGEMENT PLAN

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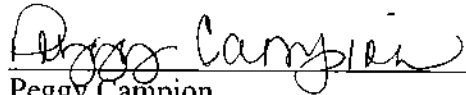
Lost Pines Groundwater

STATE OF TEXAS

COUNTY OF BASTROP

I, Peggy Champion, Assistant Secretary of the Lost Pines Groundwater Conservation District, do hereby certify that the attached documents appear to be true and correct copies of GM Exhibit 3, Administratively Complete Letter and Draft Permits, GM Exhibit 4, Andrew Donnelly's April 6, 2018 Report, GM Exhibit 5, Operating Permit issued to Forestar (USA) Real Estate Group, Inc. on July 18, 2013, GM Exhibit 6, Operating Permit issued to End Op (now Recharge Water LP) on September 21, 2016, GM Exhibit 8, End Op and Aqua Water Supply Corporation Settlement Agreement, GM Exhibit 9, District's Rules re-adopted April 20, 2016 and GM Exhibit 10, District's Management Plan re-adopted September 201, 2017 . I further certify that I am one of the custodians of the records of the District..

Signed this 26th day of July, 2019.


Peggy Champion
Assistant Secretary

LOST PINES GROUNDWATER
CONSERVATION DISTRICT