

**Lone Star Groundwater Conservation District  
Strategic Planning for  
Groundwater Management and Development**

**Addendum 2**

**Introduction**

There will be a new round of the GMA 14 planning process after the current plan is submitted in 2016. The next 5-year cycle of GMA 14 planning will begin after 2016 and is scheduled for completion by September 1, 2020. Proposed amendments to the DFCs may be considered by GMA 14 at any time from 2016 - 2020. As part of the ongoing effort regarding the Strategic Planning for Groundwater Management and Development Study, one product will be the development of estimates of the amounts of groundwater that could potentially be available in Montgomery County after the 2016 initial conversion to alternative water supplies. The estimates of the amounts of groundwater potentially available will be for the Chicot, Evangeline, and Jasper aquifers and the Catahoula Sandstone. Another product of the study will be estimates of the artesian head changes for the Chicot, Evangeline and Jasper aquifers projected to occur on a county-wide basis with the potential groundwater development patterns. Estimates of artesian head declines that could occur near areas of pumping will be provided for the Catahoula Sandstone. This information will assist in the Lone Star GCD and GMA 14 planning effort for 2020 regarding development of desired future conditions (DFCs) for three aquifers and potentially a fourth aquifer, the Catahoula Sandstone. While the current scope of work is, in large part, focused on developing datasets and performing analyses

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involved in evaluating potential groundwater availability, its location, and the aquifer head declines, additional work beyond our current scope of services will be required to provide the requested level of assistance for the evaluation of potential DFCs for the Montgomery County area of GMA 14.

### Scope of Work

The following provides a scope of services that will utilize results from the strategic planning study, with some additional effort, to address the Lone Star GCD and GMA 14 planning effort for 2020 for Montgomery County. The services will be completed by the end of 2017 and in time for consideration and adoption by GMA 14 so that any potential amendments to current DFCs and resulting estimates of modeled available groundwater may be included in the 2021 Region H Water Plan and the 2022 Texas State Water Plan.

1. Based on projected estimates of future pumping within the county developed during Task 3 – Future Groundwater Availability of the current study, estimates of modeled available groundwater in surrounding counties included in the GMA 14 planning effort for 2016, hydrologic and hydrochemical factors, and input from the Lone Star GCD, potential DFCs or average artesian head declines will be developed for the Chicot, Evangeline and Jasper aquifers over the county. If at the time this work is performed, there have been significant changes in estimates of future pumping in the counties surrounding Montgomery County over present estimates, we will utilize that data and the effects of the pumping when evaluating and developing potential DFCs and the resulting potential estimates of modeled available groundwater for Montgomery County. It is estimated that up to

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four (4) model simulations, in addition to the three (3) simulations in the current study, will be performed using the HAGM during this effort.

2. LBG-Guyton will attend meetings with the District staff, Rules Committee, Board of Directors, Stakeholders and GMA 14 as the potential DFCs are developed. Our budget includes attendance at six (6) meetings with some preparation of materials for each meeting.
3. For the next round of GMA 14 joint planning, it is possible that a potential DFC will be developed for the Catahoula Sandstone in Montgomery County. If this is the case, analytical tools can be utilized to estimate a potential DFC for the Catahoula Sandstone taking into consideration the estimated magnitude and areal distribution of future pumping. Analytical tools available at the time of the study will be used to estimate the artesian head changes and potential DFC for the Catahoula Sandstone for consideration by the Lone Star GCD Board of Directors.
4. Develop a technical memorandum documenting the process utilized to develop and evaluate potential DFCs for the four (4) aquifers. Also provide electronic copies of files with model simulation results and the well files used to develop the potential DFCs.

**Strategic Planning for Groundwater Management and Development**

**Addendum No. 2**

**Lone Star Groundwater Conservation District**

**LBG-GUYTON ASSOCIATES**

	<b>Principal</b>	<b>Project Manager</b>	<b>Senior Associate</b>	<b>Associate</b>	<b>Sr. Env. Eng./ Sr. Hydro</b>	<b>Env. Eng. II/ Hydro II</b>	<b>Env. Eng./ Hydro</b>	<b>Support</b>
<b>Hourly Rate</b>	\$195	\$195	\$175	\$156	\$125	\$110	\$92	\$75
1.a. Evaluate results of water availability estimate in current study		4	8		8			4
b. Check other counties plans for future pumping		8		16	4	8		
c. Four model simulations for Ch, Ev & Ju aquifers utilizing HAGM	4	20		60	20		8	8
2. Meetings (6) with Board, Rules Committee & Staff		32		24	30			12
3. Develop potential Catahoula DFC	4	20		40	24			12
4. Technical memorandum	4	16		16	20			10
<b>Total Manhours</b>	12	100	8	156	106	8	8	46
<b>Subtotal Raw Labor Costs</b>	\$2,340	\$19,500	\$1,400	\$24,336	\$13,250	\$880	\$736	\$3,450
Labor Costs	\$65,892							
2% Service Charge	\$1,318							
<b>Total Labor Costs</b>	<b>\$67,210</b>							
<i>Expenses</i>								
Field Supplies	\$0							
Office Expense:								
Copying/Printing	\$0							
Shipping of Samples								
Travel Expenses:								
Mileage @ .575	\$633							
Miscellaneous Expenses:								
Other	\$400							
Other								
Expense Costs	\$1,033							
5% Mark up	\$52							
<b>Total Expense Costs</b>	<b>\$1,084</b>							
<i>SubConsultant Fees</i>								
SubConsultant Costs	\$0							
10% Mark up	\$0							
<b>Total Subconsultant Costs</b>	<b>\$0</b>							
<b>TOTAL FEE FOR PROJECT</b>	<b>\$68,294</b>							