

Exhibit A
Scope of Work

REGION O WATER PLANNING GROUP

Task 1. Planning Area Description

Update Section 1, Planning Area Description of the 2006 Llano Estacado Regional Water Plan. This work includes attention to new industries that have located within the region since the adoption of the 2006 regional water plan, including, ethanol plants, and dairies (Results of Phase I, 2011 Regional Water Planning special study), and substantial changes to the following areas:

- 1) wholesale water providers, current water use, and identified water quality problems,
- 2) current water use,
- 3) identified water quality problems,
- 4) sources of groundwater and surface water including major springs that are important for water supplies or natural resource protection purposes,
- 5) major demand centers,
- 6) agricultural and natural resources,
- 7) social and economic aspects of the regional water planning area including information on current population and primary economic activities including businesses dependent on natural resources,
- 8) assessment of current preparations for drought within the regional water planning area,
- 9) summary of existing regional water plans,
- 10) recommendations in the state 2007 water plan,
- 11) summary of local water plans,
- 12) any identified threats to the agricultural and natural resources of the regional water planning area due to water quantity problems or water quality problems related to water supply; and
- 13) information compiled by the board from water loss audits performed by retail public utilities pursuant to §358.6 of this title (relating to Water Loss Audits).

With respect to the new ethanol plants and the markedly increased number of dairies, the results of the Round 3 Phase I Study, Section 2 entitled "Population

and Water Demand; The Ethanol Sector and The Dairy Sector” will be integrated into the updated and revised planning area description.

Task 2. Presentation of Current and Projected Population and Water Demands

Results shall be reported by:

- 1) water user groups
 - (i) city for cities with population greater than 500 people,
 - (ii) retail public utility for counties that have less than five retail public utilities which provide more than 280 acre-feet per year for municipal use,
 - (iii) individual retail public utility or collective data for all such retail public utilities that form a logical reporting unit, such as being served by a common wholesale water provider or having a common source or other association appropriate for the area, in the judgment of the regional water planning group, for counties with more than five retail public utilities which provide more than 208 acre-feet per year for municipal use, and
 - (iv) categories of water use (including municipal not otherwise reported, manufacturing, steam electric power generation, irrigation, mining, and livestock watering) for each county or portion of a county in the regional water planning area. If a county or portion of a county is in more than one river basin, data shall be reported for each river basin;
- 2) for each wholesale water provider by category of water use (municipal, manufacturing, irrigation, steam electric power generation, irrigation, mining, and livestock) for each county or portion of county in the regional water planning area. If a county or portion of a county is in more than one river basin, data will be reported for each river basin. The wholesale water provider’s current contractual obligations to supply water will be reported in addition to any demands projected for the wholesale water provider;
- 3) an adjustment will be included to each municipal demand due to water savings from using plumbing fixtures identified in Chapter 352 of the Texas Health and Safety Code. The regional water planning group will determine and report the extent to which such plumbing fixtures impact projected municipal water use using parameters approved by the executive administrator.

Primary data for the work of Task 2 will be the projections of population and water demands of Section 2 of the 2006 Llano Estacado Regional Water Plan, as

will be modified and updated using the results of the Round 3 Phase I Study, Section 2 entitled "Population and Water Demand; The Ethanol Sector and The Dairy Sector," and other modifications as may be requested and justified by WUGs of the Llano Estacado Water Planning Region, in accordance with TWDB Guidelines for Regional Water Plan Development. Specifically, the municipal, manufacturing, and dairy (livestock) WUGs will be modified as needed.

Task 3 Water Supply Analysis

Task 3A. Evaluation of Adequacy of Existing Water Supplies

The adequacy of existing water supplies legally and physically available to the regional water planning area for use during drought of record will be evaluated. The evaluation will consider surface water and groundwater data from the 2006 Llano Estacado Region Water Plan and the 2007 State Water Plan, existing water rights, contracts and option agreements, other planning and water supply studies, and analysis of water supplies existing in and available to the planning area.

Representatives of the LERWPG will identify methodology to calculate water availability during drought of record, in consultation with the Executive Administrator, who in turn will coordinate with TCEQ and Texas Parks and Wildlife Department (TPWD) upon such methodological determinations. The LERWPG expects the Executive Administrator to provide technical assistance in selecting appropriate methods and data to be used in the determination of water supply availability. Water supplies based on contracted agreements will be based on the terms of the contracts, which will be assumed to renew at the contract termination date if the contract provides for renewal or extensions.

- 1) For purposes of this subsection, "existing" means water supply available at the beginning of this task (September 1, 2008), and "firm yield" means the supply the reservoir can provide each year including during a drought of record using reasonable sedimentation rates and the assumption that all senior water rights will be totally utilized.
- 2) Analysis of surface water available during drought of record will be based on firm yield. At the request of regional entities, safe yield may be used for some reservoirs in order to ensure a dependable supply of water during a drought worse than the drought of record (1950s). If requested by a regional reservoir sponsor or owner, the LERWPG will request approval of the use of safe yield from the Executive Administrator. Firm yield will also be reported.
- 3) The available Texas Commission on Environmental Quality (TCEQ) water availability models will be used for evaluating the adequacy of surface water supplies, assuming full utilization of existing water rights and no return flows, and/or estimates of the projected amount(s) of surface water that would be available from existing water rights during

a drought of record until information is provided by the TCEQ. Once this information is available from TCEQ, the Llano Estacado Regional Water Planning Group (LERWPG) will incorporate it in its next planning cycle, unless better site-specific information is available.

- 4) The Ogallala Aquifer groundwater available amounts of the 2006 Llano Estacado (Region O) Regional Water Plan will be used in the 2011 Llano Estacado (Region O) Regional Water Plan, since these amounts were determined by the TWDB using the southern Ogallala GAM. In addition, if GAMs for other aquifers of the region become available, information from such models will be used, as relevant and appropriate.
- 5) The LERWPG will quantify quantities available for reuse and include these quantities in supply available, as appropriate.
- 6) Evaluations will be reported by:
 - i. city for cities with population greater than 500 people,
 - ii. retail public utility for counties that have less than five retail public utilities which provide more than 280 acre-feet per year for municipal use,
 - iii. individual retail public utility or collective data for all such retail public utilities that form a logical reporting unit, such as being served by a common wholesale water provider or having a common source or other association appropriate for the area, in the judgment of the regional water planning group, for counties with more than five retail public utilities which provide more than 208 acre-feet per year for municipal use, and
 - iv. categories of water use (including municipal not otherwise reported, manufacturing, steam electric power generation, irrigation, mining, and livestock watering) for each county or portion of a county in the regional water planning area. If a county or portion of a county is in more than one river basin, data shall be reported for each river basin;
- 7) For each wholesale water provider by category of water use (municipal, manufacturing, irrigation, steam electric power generation, irrigation, mining, and livestock) for each county or portion of county in the regional water planning area. If a county or portion of a county is in more than one river basin, data will be reported for each river basin. The wholesale water provider's current contractual obligations to supply water will be reported in addition to any demands projected for the wholesale water provider.

Task 3B. Water Supply and Water Demand Analysis Comparisons

- 1) Water demands as developed in Task 2 with current water supplies available to the regional water planning area as developed Task 3A to determine if the water users identified in Task 2 will experience a surplus of supply or a need for additional supplies. The social and economic impact of not meeting these needs will be evaluated and reported by river basin. The LERWPG will request the executive administrator to provide technical assistance to evaluate the social and economic impacts of not meeting needs. Other results will be reported as follows:
 - i. city for cities with population greater than 500 people,
 - ii. retail public utility for counties that have less than five retail public utilities which provide more than 280 acre-feet per year for municipal use,
 - iii. individual retail public utility or collective data for all such retail public utilities that form a logical reporting unit, such as being served by a common wholesale water provider or having a common source or other association appropriate for the area, in the judgment of the regional water planning group, for counties with more than five retail public utilities which provide more than 208 acre-feet per year for municipal use, and
 - iv. categories of water use (including municipal not otherwise reported, manufacturing, steam electric power generation, irrigation, mining, and livestock watering) for each county or portion of a county in the regional water planning area. If a county or portion of a county is in more than one river basin, data shall be reported for each river basin;
- 2) Water demands as developed in Task 2 with current water supplies available to the wholesale water provider as developed in Task 3 to determine if the wholesale water providers in the LERWPG water planning area will experience a surplus of supply or a need for additional supplies. Results will be reported for each wholesale water provider by categories of water use (including municipal, manufacturing, steam electric power generation, irrigation, mining, and livestock watering) for each county or portion of a county in the LERWPG area. If a county or portion of a county is in more than one river basin, data will be reported for each river basin.

Task 4. Identification of Water Needs and Selection of Water Management Strategies.

Task 4A. Water Management Strategies to Meet Projected Needs, as Determined in Task 3B.

The planning process focuses on ways of maximizing the total available supply through conservation, brush control, reuse, recycling, recharge and development of supplemental supplies to achieve the greatest value for the people of the region.

- 1) Water management strategies of the 2006 Regional Plan will be reevaluated and costs will be updated per Exhibit C of this contract for;
 - i. city for cities with population greater than 500 people,
 - ii. retail public utility for counties that have less than five retail public utilities which provide more than 280 acre-feet per year for municipal use,
 - iii. individual retail public utility or collective data for all such retail public utilities that form a logical reporting unit, such as being served by a common wholesale water provider or having a common source or other association appropriate for the area, in the judgment of the regional water planning group, for counties with more than five retail public utilities which provide more than 208 acre-feet per year for municipal use, and
 - iv. categories of water use (including municipal not otherwise reported, manufacturing, steam electric power generation, irrigation, mining, and livestock watering) for each county or portion of a county in the regional water planning area. If a county or portion of a county is in more than one river basin, data shall be reported for each river basin;
- 2) Reevaluate water management strategies for wholesale water providers. The water management strategies should meet the new water supply obligations necessary to implement recommended water management strategies of other wholesale water providers and water users for which plans are developed under this paragraph. Results are reported for each wholesale water provider by category of water use (including municipal, manufacturing, steam electric power generation, irrigation, mining, and livestock watering) for each county or portion of a county in the LERWPG area. If a county or portion of a county is in more than one river basin, data are reported for each river basin.

- 3) The plan to be used for water supply during drought of record will meet all needs for the water use categories of municipal, manufacturing, steam electric power generation, irrigation, mining, and livestock watering except:
 - (i) plans will identify those needs for which no water management strategy is feasible, including irrigation. Full evaluation of water management strategies will be presented and reasons given for why no water management strategies are feasible.
- 4) The LERWPG proposes to determine the extent of the implementation of municipal and irrigation water conservation water management strategies included in the 2006 Llano Estacado Regional Water Plan. (Method of Approach: for municipal water conservation, conduct a mail survey with follow up telephone calls to non respondents of municipalities of the Llano Estacado Water Planning Region to determine water conservation programs being used [Best Management Practices of the Regional Water Plan and Other methods in use]; for irrigation water conservation use aerial photographs to determine locations and acreages on which center pivot LEPA and other low application rates methods and furrow dikes are in use.

Task 4B. Update groundwater availability information for 43 of the 51 municipal water user groups of Region O.

This task involves a review and updating of assessments of municipal well fields that presently supply a part or all of the water supplies for these municipal WUGS. Such an assessment was made in the late 1990s for the 2001 regional plan, and was used for the 2006 plan. The assessment included a determination of the saturated thicknesses of the aquifer at and in the immediate vicinity of the locations of the operational well fields, well yields and trends of well yields as the water table declines, and an assessment of the capabilities of the wells and well fields to meet projected future water needs of each respective municipal WUG. The previous assessments are out of date and an updating of this information is essential to the identification, planning, sizing, and costing of water management strategies to meet projected future municipal needs, especially in view of the recent new water demands for dairies and crop irrigation being placed upon areas near to many of the municipal WUGs. (Method of Approach: review and update water level measurements of observation wells near municipal well fields, select representative GAM Runs for long term trends of water level changes in and near municipal well fields, prepare hydrographs of trends for 2010 through 2060, compare projected hydrographs with projected municipal water demands, estimate time of need of additional supplies, prepare Water Management Strategies to meet projected needs, and document results.)

Task 4C. Water Management Strategies for Confined Animal Feeding Enterprises (Beef, Dairy, and Other).

Although water demands and water supplies were included in the 2006 plan for beef feedlots, dairies, and other confined animal feeding enterprises, no specific water management strategies were developed to meet these specific livestock water needs. It was assumed that these WUGs would meet their own individual needs, as necessary. However, since the total size of the confined animal feeding enterprises is growing rapidly, and may soon impinge upon other water users of the region, including municipalities in the vicinity of these livestock operations, for the 2011 regional plan, it is proposed to develop water management strategies for confined animal feeding enterprises. The procedure is as follows:

- (1) The individual dairies (approximately 59) and beef feedlots (approximately 60) will be located on maps on which saturated thickness of the Ogallala Aquifer is also displayed;
- (2) Information about aquifer levels, water well depths, and well yields of TWDB and High Plains Underground Water District Observation Wells in the vicinities of the locations of the dairy and beef feedlots will be obtained;
- (3) Assessments will be made of wells and well fields that presently supply water supplies for these confined animal feeding WUGS, as follows:
 - a. Determination of the saturated thicknesses of the aquifer at and in the immediate vicinity of the locations of the operational wells and fields,
 - b. Well yields and trends of well yields as the water table declines,
 - c. Capabilities of the wells and well fields to meet projected future water needs of each respective animal feeding WUG,
- (4) Projected water demands of individual dairy and beef feedlots will be compared with projected water supplies, and projections will be made of dates in time at which additional wells will be needed in order to meet projected future water needs;
- (5) Water Management Strategies (WMSs) to meet projected needs will be identified and evaluated in accordance with TWDB Water Planning Procedures:

- a. Wells and/or well fields will be located in near-by saturated sections of the Ogallala Aquifer and will be identified and described,¹
 - b. The costs of land, rights-of-ways, wells, and conveyance facilities will be estimated, and
 - c. Environmental effects will be described; and
- (6) Water Management Strategies (WMSs) will be documented in accordance with TWDB Water Planning Requirements, and included in the 2011 Regional Water Plan as decided by the LERWPG.

Task 4D. Update Lubbock Water Management Strategies

The LERWPG proposes to update the Lubbock Water Management strategies, since there have been several significant changes to Lubbock's water development plans, including updated information about Lubbock's Bailey County aquifer conditions, removal of Lake 8 from the Lubbock Jim Bertram Lake System Strategy, and the addition of South Fork Reuse Project and Post Reservoir Project, as follows: (1) South Fork Reuse Project would extend Lubbock's 9 MGD reuse line 25 miles from the Hancock Land Application Site near the City of Wilson for discharge into the South Fork of the Double Mountain Fork of the Brazos River to directly supplement flows into Lake Alan Henry with reuse water; and (2) Post Reservoir Project in cooperation with White River Municipal Water District. The Post Reservoir Project is included in the 2006 Llano Estacado Regional Water Plan as a Region-Wide Water Management Strategy, and the city of Lubbock is negotiating with the White River Municipal Water District to cooperate in the development of the Post Reservoir to supply water to the White River Municipal Water District and Lubbock systems. The Lake Alan Henry Pipeline Project of the 2006 Llano Estacado Regional Water Plan, which is being implemented at this time (May 2008), will run just west of the planned Post Reservoir Project site, and is proposed to be sized to bring water from this site to Lubbock and surrounding communities. Reuse water as well as other developed and permitted water stored in Lake Alan Henry will be used by this project.

Task 4E. Update CRMWA Water Management Strategies

The LERWPG proposes to update the CRMWA Water Management Strategies since there have been major revisions to sources of supply, including expansion of groundwater sources in response to declining

¹ Locations for potential wells and well fields will be described in terms of distance and saturated thickness, only. Potential sites for wells and/or well fields will not be identified since such information is privileged to landowners and those who might be interested in obtaining such sites.

supplies from Lake Meredith. The Panhandle Planning Region (Region A) has indicated that additional review of the yield of Lake Meredith will be needed when the current drought, much more critical than the previous drought of record, has ended. In the meantime, water management strategies for CRMWA member cities need to be evaluated to determine whether additional expansion of CRMWA groundwater supplies is warranted. Because supplies available from Lake Meredith have fallen below the levels indicated by the Water Availability Model previously used, and because replacement supplies from CRMWA groundwater sources are not sufficient to completely replace the shortage of surface water, water management strategies to provide supplemental supplies to CRMWA member cities of Region O (Brownfield, Lamesa, Levelland, O'Donald, Plainview, Slaton, and Tahoka) need to be identified and evaluated. (Note: Lubbock is also a member of CRMWA, and obtains a part of its supply from CRMWA, but Lubbock's needs are addressed in Task 4.D. For the 7 CRMWA member cities listed above, the LERWPG proposes to identify locations of potentially available groundwater near each respective city, and conduct an analysis similar to that outlined in 4.B. (Method of Approach: review and update water level measurements of observation wells near each CRMWA member cities of Region O, except Lubbock, select representative GAM Runs for long term trends of water level changes in and near each city, estimate time of need of additional supplies for each city, prepare Water Management Strategies to meet projected needs, and document results.)

Task 5. Impacts of Water Management Strategies on Key Water Quality Parameters in the State and Impacts of Moving Water from Agricultural and Rural Areas

The LERWPG will describe how implementing recommended water management strategies could affect water quality in Texas. The LERWPG will also discuss how water management strategies could affect: 1) agricultural resources including analyses of third-party impacts of moving water from rural and agricultural areas; 2) water resources of the state including ground and surface water interrelationships; and 3) other factors deemed relevant by planning groups such as recreational impacts. The LERWPG will also consider statutory provisions regarding interbasin transfers of surface water [(TWC §11.085(k)(1))] for any water management strategies involving interbasin transfers, including a summation of water needs in basins of origin and receiving basins based on water needs in approved regional plans.

Task 6. Water Conservation and Drought Management Recommendations

The 2006 Llano Estacado Regional Water Plan includes "active" water conservation as a water management strategy for municipal and agricultural irrigation water user groups. Active water conservation strategies are those that conserve water over and beyond what would happen as result of "passive" water conservation measures that stem from federal and state legislation requiring

more efficient plumbing fixtures in new building construction. The LERWPG will review and updated these water conservation strategies, as needed. In addition, the LERWPG will include active water conservation strategies for water user groups or wholesale water providers that will obtain water from new interbasin transfers, if there any such water management strategies are recommended in the 2011 regional plan.

The LERWPG will also consider drought management strategies for identified water needs, and whenever applicable, drought management strategies will be consistent with guidance provided by the Texas Commission on Environmental Quality [TWC §11.1272]. (Note: Drought management strategies decrease short-term peak water requirements. Strategies for drought management are similar to those for water conservation, although there are some basic differences. For example, water conservation and drought management strategies differ in their longevity. Water conservation strategies are generally implemented on a permanent basis, whereas drought management practices are implemented during times of severe drought or other emergencies that can limit water supplies. If the LERWPG does not select drought management as a water management strategy, the reason will be documented.

Task 7. Description of how Regional Water Plan is consistent with the Long-Term Protection of the State's Water, Agricultural and Natural Resources

The LERWPG will describe how the 2011 water plan is consistent with the long-term protection of Texas' water, agricultural and natural resources including the requirement that planning analyses and recommendations honor all existing water rights and contracts. Given that much of the analysis pertaining to this task will be developed for other tasks including tasks associated with estimating the environmental and water quality impacts of water management strategies, the LERWPG will identify the specific resources important to the Llano Estacado water planning area and describe how these resources are protected through the regional water planning process.

Task 8. Unique Stream Segments and Reservoir Sites and Other Legislative Recommendations

The Llano Estacado Water Planning Region does not have unique stream segments or reservoir sites. Consequently, the 2006 Llano Estacado Regional Water Plan does not contain reference to such segments or sites, and the LERWP does not plan to consider such segments and/or sites for the 2011 Regional Plan. However, the LERWPG does plan to update the legislative, administrative, and regulatory recommendations of the 2006 Regional Water Plan, including those pertaining to playa basins as unique recharge wetlands (playas), and will include these revisions in the 2011 Regional Plan.

Task 9. Reporting of Financing Mechanisms for Water Management Strategies

The LERWPG will assess how local governments, regional authorities, and other political subdivisions would finance the implementation of water management strategies, using a formal survey instrument provided by the TWDB. The TWDB will develop a survey instrument and methodology. The LERWPG will conduct a survey and report findings to the TWDB, in accordance with instructions provided by the TWDB. The TWDB will provide instructions and documentation describing the survey methodology and formats for reporting resultant data.

Task 10A. Adoption of Plan and Public Participation

The LERWPG will allow for public participation in the plan preparation and adoption process in accordance with administrative rules and statute and will adopt a 2011 Llano Estacado Regional Water Plan in accordance with rules in effect.

Task 10B. Scope of Work Development