EXHIBIT C
LLANO ESTACADO REGION O
SCOPE OF WORK

Scope Item Number 1- Estimation of Population and Water Demand Increases.

1. Population and Water Demand: Increased employment opportunities will result in increased population and will increase the quantities of water demand for municipal, manufacturing, irrigation, and livestock uses in Deaf Smith, Castro, Parmer, Bailey, Lamb, and Hale Counties. Estimates of these changes will be made, as follows

a. Estimate additional population in Deaf Smith, Castro, Parmer, Bailey, Lamb, and Hale Counties, including cities of each county, with projections by decade from 2010 to 2060, and provide increased total for Region O, resulting from new employment opportunities from the ethanol and dairy expansions upon the population(s);
b. Estimate additional quantities of municipal water needed to meet the needs of additional population of Deaf Smith, Castro, Parmer, Bailey, Lamb, and Hale Counties, including cities of each county, with projections by decade from 2010 to 2060, and provide increased total for Region O;
c. Estimate additional quantities of water demand (manufacturing and dairy water demand) for operation of the new ethanol plants, dairies, and supporting manufacturing establishments of Deaf Smith, Castro, Parmer, Bailey, Lamb, and Hale Counties, with projections by decade from 2010 to 2060, and provide increased total for Region O;
d. Estimate additional quantities of irrigation water demand for production of crops to supply inputs (grain and forage) to the new ethanol plants and additional dairies in Deaf Smith, Castro, Parmer, Bailey, Lamb, and Hale Counties, with projections by decade from 2010 to 2060, and provide increased total for Region O; and
e. Compute total of estimates, with projections from 2010 to 2060, of additional municipal, manufacturing, livestock and dairies, irrigation water demand in Deaf Smith, Castro, Parmer, Bailey, Lamb, and Hale Counties, with projections by decade from 2010 to 2060, and provide increased total for Region O.

Population projections will be made in accordance with methodology as contained in TWDB Exhibit B. Population data from the State Data Center. Using July 2005 as a base point, will be supplemented with 2007 information from local sources, such as utility connections resulting from implementation and operation of ethanol processing plants and associated supporting industries and materials suppliers. Water demand projections will also be made in accordance with methods as described in Exhibit B mentioned above for municipal, industrial, irrigation, and dairy water uses. Water use rates for municipal, manufacturing, irrigation, and dairies, as included in the 2006 Regional Water Plan will be appropriately adjusted in order to accurately represent these new water uses that are not included in the 2006 Regional Water Plan. However, since water use for ethanol plants is not included in the 2006 Plan, thus water use coefficients will have to be developed for this use.

Work Products
Quarterly technical memorandum will be submitted to the political subdivision and Texas Water Development Board (TWDB) to report on task progress.

Prepare a draft and final report to include the following sections: executive summary, purpose of study including how the study supports regional water planning, methodology, results, and recommendations, if applicable. The draft report will be submitted to the planning group and the TWDB for review and comment. All comments will be addressed in the final report.

A draft report will be submitted to Regions A and O Regional Water Planning Groups for review and comment.

All GIS layers used in the study will be submitted to political subdivisions and TWDB.

The report will be submitted per TWDB requirements and results from this study will be included in the 2011 Llano Estacado Region O regional water plan. The development, analysis, and reporting of results will follow methodologies and guidance according to Exhibit B, and agency rules.

Scope Item Number 2 - Evaluation of Desalination of Water from the Dockum Aquifer in Response to Changed Conditions in Deaf Smith, Castro, Parmer, Bailey, Lamb, and Hale Counties of Region O (New Industry).

Water Supply: Water Management Strategies to meet the increased demands for municipal, manufacturing (ethanol and support industries), livestock (dairy animals and dairies), and irrigation water, as estimated in Items a. through e, above, from the Dockum Aquifer will be developed, as follows:

a. Estimate groundwater availability from the Dockum Aquifer in the three county area on the basis of
    i. information compiled by the team preparing the Dockum GAM, and (ii) TWDB Report 359, "The Groundwater Resources of the Dockum Aquifer in Texas;"
b. Estimate numbers and costs to drill and equip wells in the Dockum Formation to meet projected municipal, manufacturing, livestock, and irrigation needs;
c. Estimate salinity of Dockum groundwater and select desalination process;
d. Estimate costs to desalt water from the Dockum for
    i. Salinity levels ranging from 1,500 ppm to 5,000 ppm of TDS (Total Dissolved Solids) and dispose of brine concentrate, and
    ii. Desalt plant capacities ranging from 0.2 mgd to 2.0 mgd; and Estimate environmental effects of Water Management Strategies using Dockum Aquifer Water to meet increased municipal, manufacturing, livestock, and irrigation water demands.

The methods of analyses to be used are as specified in TWDB Water Planning Rules and Guidelines, including quantities of water needed during drought of record conditions, costs of water, in prices as specified in the Guidelines (Second Quarter 2002 prices, or other price date if specified), and environmental effects of water management strategies to meet projected water needs. Costing will follow the methodology of Exhibit B, and will be presented in terms of the prices specified in the contract with TWDB, and in comparison to costs of the 2006 Plan, as appropriate for comparable water management strategies. However, these are new strategies not included in the 2006 Plan, thus such a comparison may not be relevant.

Sources of data regarding population changes will be The State Data Center, information about changes in employment in the counties, and manufacturing and business establishment plant specific information, as available. Per capita water use will be obtained from the TWDB water use reports for municipal water users of the region, and from manufacturing water needs for each new manufacturing plant to be located within the area. The latter to be obtained from individual plants, where available, and will be estimated from similar types of water using activities, if needed. In the case of dairy water use, parameters of the 2006 Llano Estacado Regional Water Plan will be reviewed, and adjusted, if needed, using data from similar dairy operations in neighboring areas. Report 359, "The Groundwater Resources of the Dockum Aquifer in Texas," will be a primary source of information for developing water management strategies from the Dockum Aquifer.

Work Products

Quarterly technical memorandum will be submitted to the political subdivision and TWDB to report on task progress.

Prepare a draft and final report to include the following sections: executive summary, purpose of study including how the study supports regional water planning, methodology, results, and recommendations, if applicable. The draft report will be submitted to the planning group and the TWDB for review and comment. All comments will be addressed in the final report.

A draft report will be submitted to Region O Regional Water Planning Group for review and comment.

All GIS layers used in the study will be submitted to political subdivisions and TWDB.

The report will be submitted per TWDB requirements and results from this study will be included in the 2011 Llano Estacado Region O regional water plan. The development, analysis, and reporting of results will follow methodologies and guidance according to Exhibit B, and agency rules.

Scope Item Number 3 - Regional Coordination of Regions O and A – Use of Interactive Video Conferencing to Facilitate Joint Meetings.

A. Identify and describe Interactive Video Conferencing Services needed by Regions A and O for coordination of regional water planning:

i. Identify existing Interactive Video Conferencing Facilities/Services located conveniently to members of the Regions A and O Regional Planning Groups, including costs of such services, if available;

ii. Estimate costs of establishing and operating Interactive Video Conferencing Facilities/Services to meet the needs of Regions A and O.

B. Present comparison of costs and services of Interactive Video Conferencing Facilities available from others and via establishment of specialized services for the Regional Planning Groups.

Region O will identify and survey Interactive Video Conferencing Facilities and Services potentially available, if any, from Texas Tech University, and others that have such facilities, including those located in Region A. Region A regional planning entities will be consulted and included in this survey. The nature of this work will be descriptive in terms of facility locations, capabilities, costs, and other information found to be pertinent.

In addition to the survey and description of potentially available existing Video Conferencing Facilities, estimates of costs will be made to establish such facilities for use by Regions A and O, such costs to be developed from such facilities now in existence, as identified in Task C. a, above.

The results of Tasks A and B will be presented in a descriptive form such that Regions A and O can compare the services available, the convenience, and the costs of using facilities now in operation vs. the establishment of services specifically for use by Regions A and O.

Work Products

Quarterly technical memorandum will be submitted to the political subdivision and TWDB to report on task progress.

Prepare a draft and final report to include the following sections: executive summary, purpose of study including how the study supports regional water planning, methodology, results, and recommendations, if applicable. The draft report will be submitted to the planning group and the TWDB for review and comment. All comments will be addressed in the final report.

A draft report will be submitted to Regions A and O Regional Water Planning Groups for review and comment.

All GIS layers used in the study will be submitted to political subdivisions and TWDB.

The report will be submitted per TWDB requirements and results from this study will be included in the 2011 Llano Estacado Region O regional water plan. The development, analysis, and reporting of results will follow methodologies and guidance according to Exhibit B, and agency rules.

Scope Item - Administration and Public Participation

a. Attend regularly scheduled meetings of the Llano Estacado Regional Planning Group even when there is not a specific report by the consultant team.

b. Coordinate with Board staff to determine adequacy of notice for each instance in which notice is required.

c. Provide all required notices of availability for scopes of work, grant applications, and draft and final documents. This includes providing notices in the newspaper of general circulation in each county.

d. Perform other duties as assigned.

Work Products

Work products from this scope will include properly prepared notices of availability of scopes of work and draft and final products, properly prepared newspaper notices, etc.