

Section 10
Adoption of Plan
[31 TAC §357.11-12]

10.1 Public Involvement Program

Public involvement was begun at the start of the Llano Estacado regional water planning process to allow ample opportunity for public input into the process of developing the regional water plan, as well as opportunity to review and comment upon the Initially Prepared Plan.

Since the adoption of the 2001 Plan, the High Plains Underground Water Conservation District No. 1 continues to provide public information about the regional water planning process during the current 5-year planning cycle (2001 to 2006). The public information activities are described and listed below.

The LERWPG's website (www.llanoplan.org) is and continues to be the primary method of distributing information to the public. The site contains the LERWPG mission statement; a list and map of the counties within the region; agendas for all meetings in 2002-2005; minutes of all meetings in 2002-2005; a list of the planning group members, their respective e-mail addresses, and the water user groups they represent; a list of LERWPG committees; the 2001 approved regional water management plan; 2001 suggested water management strategies; other related information, such as websites for other regional water planning groups in Texas; a request form for publications, such as *Soils of the Llano Estacado Region* and *Conservation Tillage Within The LERWPG*; and an online form to provide feedback to the webmaster. This regularly updated site has received more than 1,400 visits since it received a major makeover on October 7, 2004.

The High Plains Underground Water Conservation District No. 1 website (www.hpwd.com) is another online source for information relating to the LERWPG. Meeting notices and news releases about the LERWPG are also posted to the HPWD site. This regularly updated site has received more than 210,000 visits since 1997.

In addition, High Plains Underground Water Conservation District staff have written and distributed news releases to regional media about the revisions planned to the 2001 LERWPG water management plan.

LERWPG representatives and High Plains Water District staff have given numerous presentations to civic clubs and professional groups about the regional water planning process

and the updated plan. District staff members have also spent many hours answering public inquiries about the plan since the first 5-year planning cycle.

The public involvement program has included duly noticed public meetings, news releases, articles in *The Cross Section* (High Plains Water District monthly newsletter), and presentations at public meetings. In addition, a public hearing on the scope of work was held February 22, 2002 at the USDA-ARS Cropping Systems Laboratory, 3810 4th Street, in Lubbock, Texas.

The following news releases about the Llano Estacado Regional Water Management Plan were distributed to media organizations within the 21-county region:

2002

January 2002	Advance for February 1, 2002 LERWPG meeting.
February 2002	Advance for February 22, 2002 public hearing on scope of work.
March 2002	Advance for March 18, 2002 LERWPG meeting.
April 2002	Advance for April 18, 2002 LERWPG meeting.
May 2002	Advance for May 16, 2002 LERWPG meeting.
August 2002	Advance for August 29, 2002 LERWPG meeting.

2003

January 2003	Advance for February 4, 2003 LERWPG meeting.
July 2003	Advance for July 23, 2003 LERWPG meeting.
November 2003	Advance for November 20, 2003 LERWPG meeting.

2004

March 2004	Advance for March 25, 2004 LERWPG meeting.
October 2004	Advance for October 28, 2004 LERWPG meeting.

2005

January 2005	Advance for January 20, 2005 LERWPG meeting.
March 2005	(No advance release issued due to time constraints.)
June 2005	Draft IPP ready for on-line viewing at LERWPG web site.
July 2005	LERWPG sets August 11 public hearing to receive comments on draft IPP.
December 2005	Advance for December 15, 2005 meeting.

A reporter from the *Lubbock Avalanche-Journal* was assigned to cover the regional water planning group during the past year, which has resulted in several news stories appearing in the newspaper.

The following articles about the Llano Estacado Regional Water Management Plan were published in *The Cross Section*, a monthly publication of the High Plains Underground Water Conservation District No. 1, from 2002 to 2005:

2002

- February 2002 Water planning group sets Feb. 22 public hearing.
- June 2002 Second phase of water planning now underway.
- September 2002 Who does what in the wide world of High Plains water?
- December 2002 Water Resources Committee outlines key water challenges.

2003

- November 2003 Select committee to review all facets of water mgmt in state.

2004

- January 2004 Senate Committee On Water Policy conducts first hearing.
- August 2004 Senate Committee On Water Policy conducts Lubbock hearing.
- August 2004 2004 proving to be busy year for High Plains Water District.
- November 2004 Task force reports filed.
- December 2004 Districts to face several issues during upcoming legislative session.

2005

- January 2005 "Conservation Currents:" Wrap up of Ogallala symposium.
- March 2005 LERWPG nears deadline for completion of draft IPP.
- June 2005 Draft LERWPG plan submitted for TWDB review.
- July 2005 Public to offer comments on draft initially prepared plan.
- September 2005 Public offers comments on draft initially prepared plan.
- November 2005 Feature photo of members reviewing revisions to draft IPP.

Either LERWPG members or High Plains Underground Water Conservation District No. 1 employees gave the following interviews and presentations about the Llano Estacado Regional Water Management Plan from 2002 to 2005:

Date	Location	Association or media organization
2002		
01/14/02	Lubbock	Golden K Kiwanis Club.
01/22/02	Hereford	Hereford Rotary Club.
01/28/02	Lubbock	Interview with Clear Channel Radio Network.
01/31/02	Lubbock	Southwest Kiwanis Club.
02/06/02	Lubbock	Fox News Radio Interview (TTO Show).
02/19/02	Lubbock	"Ag Ed" program on KRFE-AM 580.

02/20/02	Lubbock	South Plains Association of Governments.
03/11/02	Lubbock	Lubbock Chamber of Commerce Ag Committee.
03/28/02	Silverton	Briscoe County TCE meeting.
04/16/02	Plainview	Plainview Optimist Club.
04/23/02	Abernathy	Abernathy Lions Club.
04/25/02	Amarillo	Southwest Kiwanis Club.
05/21/02	Levelland	Levelland Rotary Club.
06/27/02	Lubbock	Meeting with Councilman Tom Martin.
07/02/02	Wolfforth	Wolfforth Lions Club.
07/11/02	Ruidoso, NM	TACC Co-op Managers.
08/07/02	Amarillo	Amarillo North Lions Club.
09/05/02	Plainview	GMA meeting.
09/18/02	Lubbock	Inside Lubbock meeting.
09/20/02	Lubbock	Meeting with regional water leaders & Sen. Duncan
10/16/02	Lubbock	Texas Agricultural Lifetime Leadership Tour.
10/18/02	Lubbock	Lubbock AMBUCS club.
11/14/02	Amarillo	Texas Grain and Feed Association meeting.
12/11/02	Lubbock	Westminster Presbyterian Church Men's' group.

2003

01/20/03	Lubbock	Regional Chairs conference call.
02/12/03	Lubbock	TAMU Grain Sorghum advisory committee.
03/04/03	Hereford	Precincts 3 & 4 County Committee meeting.
03/05/03	Lubbock	Precincts 1 & 2 County Committee meeting.
03/06/03	Plainview	Precinct 5 County Committee meeting.
06/13/03	Lubbock	Interview with Avalanche-Journal.
06/16/03	Lubbock	"Ag Ed" Show on KRFE-AM 580.
06/19/03	Lubbock	Association of Hispanic Municipal Officials.
06/30/03	Hereford	Hereford Rotary Club.
07/01/03	Lubbock	Fox Radio News.
07/14-15/02	Portales, NM	Ogallala aquifer conference.
08/19/03	Lubbock	Leadership Texas.
08/21/03	Hale Center	Caprock Water Association.
10/15/03	Lubbock	Interview with KOHN Radio.
10/21/03	Amarillo	Presentation to Caprock Feeders.
11/03/03	Lubbock	Ag Lead Group.
11/14/03	Long Beach	NWRA Irrigation Caucus.
11/20/03	Lubbock	Bioscience Breakfast.

2004

01/07/04	Lubbock	Texas Farm Bureau radio interview.
01/14/04	Lubbock	Plains Cotton Growers board meeting.
01/16/04	Lubbock	“Ag Ed” Show on KRFE-AM 580.
02/24/04	Post	Post Rotary Club.
02/26/04	Canyon	Precinct 4 meeting.
03/04/04	Lubbock	St. Johns’ Methodist Men’s Group.
03/08/04	Plainview	Region A & O meeting.
03/09/04	Muleshoe	Precinct 3 meeting.
04/02/04	Lockney	Leadership Lockney meeting.
04/08/04	Tahoka	Tahoka Rotary Club.
04/12/04	Hereford	Hereford Retired Teachers Association.
04/15/04	Lubbock	KOHN Radio interview.
04/27/04	O’Donnell	O’Donnell Rotary Club.
05/04/04	Muleshoe	Muleshoe Rotary Club.
07/01/04	Lubbock	Lubbock Commercial Realtors.
07/05/04	Lubbock	Plains Cotton Growers Board meeting.
07/09/04	Lubbock	Industrial Lions Club.
07/20/04	Levelland	Levelland Rotary Club.
08/09/04	Lockney	Lockney Producers meeting.
08/12/04	Lubbock	Senate Select Committee on Water Policy hearing.
09/07/04	Lubbock	West Texas Ag Chemical Conference.
09/08/04	Lubbock	Texas Ag Industries.
09/27/04	Lubbock	“Ag Ed” on KRFE-AM 580.
09/29/04	Lubbock	Dr. Don Ethridge’ s Ag economics class at TTU.
10/06/04	Lubbock	Presentation to TALL tour group.
10/12/04	Levelland	Hockley County Farm Bureau meeting.
10/16/04	Lubbock	Presentation to Lubbock Forum.
10/20/04	Farwell	Texico Rotary Club.
10/27/04	Lubbock	Interview with Lubbock Avalanche-Journal.
10/27/04	O’Donnell	O’Donnell Women’s Study Group.
11/05/04	Lubbock	Colloquium on future of West Texas water.
11/10/04	Crosbyton	Crosbyton Lions Club.
11/18-19/04	Austin	Texas Ground Water 2004 conference.
12/8-9/04	Lubbock	Ogallala symposium presentations
12/10/04	Lubbock	Interview with KLLL Radio.
12/13/04	Olton	Olton Agronomy meeting.

2005

01/06/05	Amarillo	Regional Desalination meeting.
01/21/05	Lubbock	SB 1053 demonstration project press conference.
01/21/05	Lubbock	SORGA managers meeting.
01/26/05	Austin	Desalination meeting.
01/31/05	Lubbock	“Ag Ed” program on KRFE-AM 580.
02/09/05	Lockney	Leadership Lockney.
02/14/05	Lubbock	Dr. Ethridge’ s Ag economics class.
02/16/05	Lubbock	South Plains SWCD meeting.
03/08/05	Lubbock	KTXT-TV interview during water documentary.
03/21/05	Austin	T-CARET meeting.
04/13/05	WashingtonDC	Texas Water Day
04/18/05	Lubbock	Westminster Presbyterian Church Prime-Timers group.
04/19/05	Lubbock	Westmark Commercial Realtors.
06/24/05	Lubbock	Interview on KRFE Radio.
07/13/05	Hereford	Hereford Lions Club.
07/14/05	Lubbock	Presentation To Commercial Realtors Group.
07/27/05	Lubbock	Interview on FOX Radio 950.
07/29/05	Lubbock	Interview on “Perspectives” Program on KLLL Radio.
08/05/05	Lubbock	Interview on KRFE Radio.
08/16/05	Lubbock	Presentation To TX Society of Professional Engineers.
08/20/05	Lubbock	Floyd County Ag Tour at Demonstration Site.
09/28/05	Lubbock	Media Interview with Darcy Tucker of KCBD-TV.
10/14/05	Abernathy	1 st State Bank Board of Directors Meeting.
11/01/05	Lubbock	West Texas Water Utilities School.
11/14/05	Lubbock	Texas Farm Bureau Ag Lead Class.
11/18/05	Lubbock	Texas Tech College of Agriculture and Natural Resources Advisory Board Meeting.

10.2 Data Gathering and Coordination with Water Supply and Water Conservation Entities

During June and July of 2003, the High Plains Underground Water Conservation District No. 1, Mesa Underground Water Conservation District, Sandy Land Underground Water Conservation District, South Plains Underground Water Conservation District, Garza County Underground and Fresh Water Conservation District, Llano Estacado Underground Water Conservation District, White River Municipal Water District, Canadian River Municipal Water Authority, Brazos River Authority, and Red River Authority were contacted and requested to

provide up-to-date information about their respective programs and plans. The information provided by each entity was used to update the respective entity's information in Sections 1, 3, and 4 of the Regional Water Plan.

10.3 Informational Mailouts to Water User Groups and Supply Entities

During the course of the revision and update of the Llano Estacado Regional Water Plan, the population, water demand, and water needs (shortages) projections were transmitted to county judges, mayors, and city managers of the region for review and comment. The population projections were forwarded on August 1, 2002, with a deadline for review comments of September 16, 2002. No comments were received.

The water demand projections were forwarded to county judges, mayors, and city managers on February 19, 2003 with a deadline of March 14, 2003 for comments. Comments were received from Ransom Canyon, Wolfforth, Levelland and Smyer, with requests for revisions. In response to the water demand projections review comments, by letter dated July 28, 2003, the LERWPG requested the TWDB to make revisions as follows:

- (a) Increase population and water demand projections for Ransom Canyon and Wolfforth;
- (b) Check and revise per capita water use for Levelland from 138 gpcd to 153 to 155 gpcd;
- (c) That projections be made and included for Smyer;
- (d) That mining and livestock water demand projections provided by the LERWPG be substituted for projections by TWDB; and
- (e) That average irrigation water use for the period 1985 through 2000, as calculated from water use data found in TWDB irrigation water use files, be used in the GAM models in making projections of quantities of groundwater available for use in each of the counties of Region O.

Following the actions and responses to the population and water demand projections reviews, as described above, including tabulations of surface water and groundwater supplies available to each Water User Group (WUG) of the region, calculations were made of water needs (shortages) of each WUG. The water needs (shortages) were then forwarded to mayors and city managers of the Llano Estacado Region on February 7, 2005 for review and comment, and a public meeting was scheduled and held on February 17, 2005 at the offices of the High Plains Underground Water Conservation District No. 1 with representatives (20 individuals attended the

February 17, 2005 public meeting) of the cities to explain the projections of municipal needs (shortages), obtain information about current water supplies available to the cities and plans to meet future need, and suggested water management strategies to be considered by the LERWPG to meet the needs of individual municipalities.

10.4 Llano Estacado Regional Water Planning Group Meetings

The Llano Estacado Regional Water Planning Group conducted regular meetings on the dates listed below. Notices of all public meetings were duly posted at the Lubbock County Courthouse, the administrative office of the High Plains Underground Water Conservation District No. 1, and on the LERWPG and HPWD websites.

2002

February 1, 2002
February 22, 2002 public hearing on scope of work
March 18, 2002
April 18, 2002
May 16, 2002
August 29, 2002

2003

February 4, 2003
July 23, 2003
November 20, 2003

2004

March 25, 2004
October 28, 2004

2005

January 20, 2005
March 17, 2005
April 21, 2005
May 19, 2005
August 11, 2005 -- Public hearing regarding draft initially prepared plan.
November 10, 2005.
December 15, 2005.

10.5 Coordination with Other Regions and Counties of Region O

Notices of all public meetings were sent to the chairs of the regional water planning groups in the state and all who requested them. In addition, Region O cooperated with Region A in the development and filing of an application to the TWDB for supplemental funding to identify and evaluate water management strategies to increase quantities and reliability of supplies from CRMWA during periods of drought. Region A revised yields of Lake Meredith and has provided revised information to Region O, which has been used in water supply analyses for CRMWA member cities of Region O.

10.6 Texas Water Development Board Comments for Llano Estacado Region (Region O) Regional Water Planning Group Initially Prepared Plan, Contract No. 2002-483-458 and LERWPG Responses

Attachment **Llano Estacado Regional Water Plan – Region O**

LEVEL 1—Comments and questions must be satisfactorily addressed in order to meet statutory, agency rule, and/or contract requirements.

Executive Summary

1. Page ES-11, paragraph 6 (last): Correct water demands to reflect TWDB approved water demand as follows. [*Title 31, Texas Administrative Code (TAC) §357.5(d)(1)& (2)*]:
 - a. The TWDB approved water demand for 2060 in is 354 acre-feet.
 - b. The TWDB approved water demand for 2060 in the Red River Basin is 817,354 acre-feet.
 - c. The TWDB approved water demand for 2060 in the Colorado River Basin is 710,676 acre-feet.

Response: The demand values stated above are the “Total Demand” values before the effects of plumbing fixtures water conservation instead of the “Net Demand” values tabulated in the regional plan. The values contained in the Region O Plan are the “Net Demand” values and are the TWDB approved demand projections.

2. Page ES-14, Table ES-1 and Chapter 4, page 4-90, second paragraph: Reconcile Table ES-14 which lists 51 WUGs with needs with the text on page 4-90 which states there are 49 WUGs with needs. [*Title 31, TAC §357.7(a)(4)(A)*]

Response: The numbers have been revised in response to reviews of the Initially Prepared Plan (IPP), and have been reconciled between Section 4 and the ES.

Chapter 2: Population and Water Demand Projections

3. Population and demand figures for river basins are slightly different than the amounts in the planning database (DB07). These differences may be due to rounding or reallocation between river basins. Please revise or coordinate with TWDB staff to ensure that data in the plan is consistent with DB07. *[Title 31, TAC §357.5(d)(1)& (2)]*

Response: The population and water demands values in the report have been checked and are consistent with the TWDB approved population and demand values.

Chapter 3: Water Supply Analysis

4. Chapter 3: Ensure that groundwater district management plans were considered in the planning process. *[Title 31, TAC §357.5(k)(1)(D)]*

Response: The Underground Water Conservation District management plans were considered during the planning process, and are summarized and referenced in the plan (see Section 1.9.2.1).

5. Page 3-6, Table 3-1: Include information on water supplies by type of use. *[Title 31, TAC §357.7(a)(3)(A)(iv)]*

Response: Table 3-1 on Page 3-6 presents water supplies available by source on a county/river basin level. The values in this table are shown by type of use in the needs tables (Tables 4-1 through 4-22).

6. Determine surface water supplies using WAM Run 3 or a TWDB approved alternate method and not from estimated water use data. *[Title 31, TAC §357.7(a)(3)]*

Response: Changes were made and WAM results for White River Lake and Lake Mackenzie were used. For White River Lake the WAM results show 2,431 acft/yr in 2010, and 8 acft/yr in 2060. In the case of Lake Mackenzie, the WAM results indicate zero water available. For White River Lake, water management strategies provide enough water to meet projected needs of customers. For Lake Mackenzie, alternative local groundwater strategies were added for customers.

7. Chapter 3: Include information on water right permits in the plan. *[Contract Exhibit "B," Section 2.2]*

Response: A brief discussion was added concerning water right permits in Section 3.2. A list of all water right permits in the region is included in Appendix F.

8. Provide groundwater availability for all counties and aquifers in the regional water planning area. *[Contract Exhibit "B," Section 2.2]*

Response: An explanation was included in Section 3.3 that both groundwater and surface water availability is presented in Table 3-1 and Tables 4-1 through 4-22 for

each county-basin area (county and part of county for counties having area in more than one river basin) of the planning region.

9. Page 3-3: Please verify the firm yield of Lake Alan Henry. [*Title 31, TAC §357.7(a)(3)*]

Response: The Firm Yield of Lake Alan Henry of 22,500 acft/yr was calculated using hydrologic data for the period of 1940 through 2002. The calculations are reported in a “Draft Memorandum to File,” by Thomas C. Gooch, P.E., and Andres A. Salazar, Ph.D., Freese and Nichols, March 19, 2003, and are cited in the plan in Section 3.2.4.

Chapter 4: Identification, Evaluation and Selection of Water Management Strategies Based on Needs

10. Pages 4-3 to 4-83, Table 4-1 to Table 4-22: All of the livestock-county-basin discrepancies listed under Chapter 2 comments carry through to the County-specific tables in Chapter 4. These tables list the demand, supply, and the resulting surplus/shortage. Please revise or coordinate with TWDB staff to ensure the plan is consistent with the DB07. [*Title 31, TAC §357.5(d)(1) - (2)*]

Response: The livestock demand values have been checked and are consistent with the approved TWDB demand values.

11. Pages 153-161, and Chapter 4.4.4.4, Pages 207-211: Strategies need to be adjusted to provide appropriate environmental water needs. [*Title 31, TAC §357.5(e)(1)*] Evaluations should use environmental information resulting from existing site-specific studies or state environmental planning criteria adopted by the board for inclusion in the state water plan. [*Contract Exhibit “B”, Section 4.2.8*] Provide the required environmental analysis for the Post Reservoir water management strategy.

Response: Adjustments to provide for environmental needs are not appropriate since the strategies referenced involve Lake Alan Henry and Post Dam and Reservoir. TCEQ Permit 4146 for Lake Alan Henry authorizes impoundment of 115,937 acre-feet and the diversion of up to 35,000 acft/yr of water for municipal purposes, with a Priority Date of October 5, 1981. Permit 4146 does not provide for other purposes. TCEQ Certificate of Adjudication Number C3711 for Post Dam and Reservoir, Authorizes Impoundment of 57,420 acre-feet; Diversion of 5,600 acft/yr for municipal purposes; 1,000 acft/yr for industrial purposes; and 4,000 acft/yr for mining purposes, with the Priority Date of January 20, 1970. Certificate of Adjudication Number C3711 does not provide for other purposes.

12. Describe how the plan protects water contracts, option agreements, or special water resources. [*Title 31, TAC §357.5(e)(3) and §357.5(h)*]

Response: The following was added to the third paragraph of Section 4.5. “The plan does not propose any changes to existing water contracts or option agreements. Further, the plan was created in close cooperation with each Wholesale Water

Provider in the region, and no strategy contained in the plan would adversely affect any existing water contracts, option agreements, or special water resources.”

13. Page 4-216: Drought contingency must be recommended as a water management strategy for certain water user groups with a need and must be considered for all water user groups with a need. If not recommended, please provide reasons for not adopting drought management strategies for each water user group with a need. *[Title 31, TAC §357.7(a)(7)(B) and Texas Water §Code 11.1272]*

Response: Drought Management is not a recommended water management strategy to meet projected water needs in Region O, in part because it cannot be demonstrated to be an economically feasible strategy. The TWDB socioeconomic impact analysis of unmet water needs in Region O shows non-agricultural business impacts due to unmet water needs (shortages) of approximately \$27,000 per acft/yr in 2010 decreasing to approximately \$8,000 per acft/yr in 2060 (calculated from data in Table 4-24). Clearly, the cost for water to meet projected water needs is only a fraction of the business losses from not having the quantities of water needed. However, the LERWPG recognizes the individual cities “Demand Management and Drought Contingency Plans” that are on file with the TCEQ.

14. Section 4.4.1.2; Section 4.5: In the 2001 Llano Estacado Regional Water Plan, the Llano Estacado Regional Water Planning Group recommended water management strategies to meet needs for irrigated agriculture that were based on a variety of water conservation best management practices. In the 2001 Llano Estacado Regional Water Plan it was estimated that by the year 2050, the region would be realizing an annual water savings of 155,856 acre-feet per year as a result of these conservation best management practices. This savings represents 18 percent of the statewide total in 2050 for water conservation in the 2002 State Water Plan. The capital cost for implementation of these water conservation best management practices was estimated to be approximately \$148 million.

As a result, local and regional entities (groundwater conservation districts and soil and water conservation districts) and the State have made significant financial and programmatic commitments to strengthening and enhancing agricultural water conservation on the Southern High Plains of Texas. In particular, the Texas Water Development Board, in 2004, committed \$6.225 million over an eight year period to fund an Agricultural Demonstration Initiative, proposed by Texas Tech University and the High Plains Groundwater Conservation District No. 1. There are also two other active research grants for approximately \$100,000 for the enhancement and evaluation of agricultural water conservation water best management practices and other management strategies and projects for districts in the Llano Estacado Regional Water Planning Area.

Texas Water Code 16.053(j)(2)(B) states that the TWDB can provide financial assistance to political subdivisions only if the TWDB determines that the needs to be addressed by the project will be addressed in a manner that is consistent with the regional water plan. A review of the 2006 Initially Prepared Plan for the Llano Estacado Region, however, documents that the Planning Group has no future plans to pursue any additional agricultural water conservation in the region. In fact, the 2006 Initially Prepared Plan

does not contain any water savings from agricultural water conservation (or the cost to implement any of the potential water conservation best management practices).

While the Planning Group is only required to consider water conservation to meet water supply needs, it should be duly noted that state financing for both current and future water supply projects for irrigated agriculture may be negatively impacted if the project to be funded is determined to no longer be consistent with the 2006 Llano Estacado Regional Water Plan. If the 2006 Llano Estacado Regional Water Plan is adopted in the current form, then agricultural water conservation projects including the ongoing Agricultural Demonstration Initiative and future TWDB loans to groundwater conservation districts for water conservation projects and equipment such as center pivots and drip irrigation systems will have to be reviewed and potentially have future funding terminated. *[Title 31, TAC §357.5(e)(6)and §357.7(a)(7)(A)]*

Response: The Regional Water Planning Group has revised Section 4.4.1.2, Irrigation Water Conservation, to include an Irrigation Water Conservation Strategy in addition to the Irrigation Best Management Strategies referenced above.

15. Page 4-85, Table 4-23. Report water supplies and availability, water demands, and needs for each wholesale water provider by category of water use (municipal, manufacturing, irrigation, steam electric power generation, mining, and livestock) 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. The wholesale water provider's current contractual obligations to supply water must be reported in addition to any demands projected for the wholesale water provider. *[Title 31, TAC §357.7(a)(3)(B)]*

Response: Printout from DB07 for each WWP in the region has been included as Appendix G.

16. Pages 4-223, 4-230, 4-249, 4-255, 4-260, 4-264, 4-271, 4-273, 4-285: The reason why conservation was not adopted for some municipal WUGs with needs must be more clearly documented. Region O should be commended for recommending that every municipal WUG above the target goal of 172 gpcd adopt municipal water conservation strategies regardless of whether they have a need or not until they meet that goal. However, if the WUG has a need municipal conservation strategies have been dropped from its plan either entirely or after a certain decade because it has reached the 172 gpcd goal. The reason the conservation strategy was dropped should be documented. (i.e. why conservation is not cost effective, etc.) For example, the cities of Hart, Lorenzo, Hale Center, Ropesville, Amherst, Olton, New Deal, Shallowater, Wolfforth, and Friona all have needs and some have conservation strategies for a few decades, but some don't have any conservation strategies because they will reach the goal through natural replacement of plumbing fixtures. *[Title 31, TAC §357.7(a)(7)(A)]*

Response: For purposes of developing the 2006 Llano Estacado Regional Water Plan, the LERWPG adopted a municipal water conservation goal of reducing per capita water use by 1 percent per year for those WUGs that have projected needs

(shortages) and that had per capita water use in year 2000 that was greater than the Llano Estacado Region average per capita water use in 2000. The goal is to continue the municipal water conservation water management strategy of reducing per capita water use by 1 percent per year until per capita water use is reduced to the year 2000 Region average municipal water use of 172 gpcd. For each city with a projected need and a per capita water use of 172 gpcd or greater, municipal water conservation is included as a water management strategy until the goal of 172 gpcd is reached. Municipal water conservation beyond that which is estimated to be accomplished through plumbing fixtures and the municipal water conservation strategy is not included, since municipal water conservation is estimated to cost more than the next available source of water; e.g. in the range of \$483/acft to \$530/acft compared to costs of local groundwater in the range of approximately \$75/acft to approximately \$290/acft.

17. Provide a quantitative reporting of environmental factors is included in the evaluation of water management strategies. [*Title 31, TAC §357.7(a)(8)(A)(ii)*]

Response: To the extent that environmental information is available, it has been included in the environmental issues subsection of each water management strategy.

18. Pages 4-124 through 4-152, Tables 4.4-12 through 4.4-40: Include interest during construction (IDC) and construction periods, as applicable. [*Contract Exhibit “B,” Section 4.2.9*]

Response: In the tables referenced, since the construction period for wells and pipelines of these water management strategies are expected to be of only a few months, interest during construction is not calculated separately, and would be covered in the allowance for contingencies, if needed. The date of “Year Needed” is the approximate date at which construction is expected to occur.

19. Pages 4-204 and 4-205, Tables 4.4-59 and 4.4-60: Provide costs for brine concentrate disposal associated with brackish groundwater desalination [*Contract Exhibit “B,” Section 4.2.9*]

Response: The referenced tables and associated text have been revised to include brine concentrate disposal costs.

20. Pages 4-124 through 4-152, Tables 4.4-12 through 4.4-40. Provide O&M costs, as applicable. [*Contract Exhibit “B,” Section 4.2.9*]

Response: The referenced tables have been updated to include O&M costs.

21. Provide costs of each water management strategy considered according to guidelines contained in *Contract Exhibit “B,” Section 4.2.9*.

Response: This comment has been addressed in Comments 18, 19, and 20 above.

General Comments

LEVEL 2—Comments and suggestions that might be considered to clarify or help enhance the plan.

Chapter 2: Population and Water Demand Projections

22. Pages 2-20, Table 2-9: Consider revising tables to ensure consistency in the data presented. The smaller summary table for Beef Cattle Feedlot demands at the bottom of the page, the 2060 demand amount, 78,845 acre-feet, differs from the 2060 total amount in the larger table, 45,512 acre-feet.

Response: Table 2-9 was corrected from 78,845 to 45,512.

Chapter 4: Identification, Evaluation and Selection of Water Management Strategies Based on Needs

23. Pages 4-98 & 4-99, Table 4.4-4: Consider including Smyer, Terry County Other, and Deaf Smith County Other, Wolfforth, and Shallowater in this table.

Response: Table 4.4-4 was corrected to add lines on which the cities are listed.

24. Revise Table 4-23 and text for consistency in the number of wholesale water providers.

Response: The change was made.

25. Page 270: Municipal water conservation is recommended as a strategy from 2010 to 2020 for the city of Lubbock, but not for other decades. Consider providing an explanation of why conservation strategies are not recommended for Lubbock past 2020.

Response: Explanation is included in the text. Water Conservation Strategy is included until the regional goal of 172 gpcd is reached.

26. Page 308, last paragraph: Change reference from TNRCC to TCEQ.

Response: The change was made.

27. Page 4-307: Revise descriptions to reflect the correct section title. Post Reservoir should be 4.4.4.4, drought tolerant crops should be 4.4.4.6, Reuse should be 4.4.4.7 and Stormwater is 4.4.4.8.

Response: The changes were made.

10.7 Public Comments and LERWPG Responses

The Llano Estacado Regional Water Planning Group (LERWPG) received comments on the Initially Prepared Plan from the following entities, groups, and individuals:

1. City of Silverton;
2. City of Lubbock;
3. National Wildlife Federation, Environmental Defense, and Sierra Club;
4. Mr. J. Collier Adams, Jr. and
5. Texas Parks and Wildlife Department (State Agency).

The comments of the Cities of Silverton and Lubbock are listed below, together with responses to each.

Comment: The City of Silverton explained that the IPP had not included water management strategies adequate to deal with Silverton and neighboring areas of Briscoe County water supply and water quality problems.

Response: A Local Groundwater Water Management Strategy was added for Silverton and Briscoe County, County Other (Quitaque) to meet projected needs, as corrected following the IPP review.

Comment: The City of Lubbock explained that population and water demand projections in the IPP are too low. In addition, Lubbock requested that 4 additional water management strategies be included in the plan. The 4 additional strategies are as follows: (1) Lubbock Brackish Groundwater Desalination; (2) Lubbock Jim Bertram Lake System (JBLS) Expansion; (3) Lubbock North fork Scalping Operation; and (4) CRMWA II (Well Field and Transmission System – Amarillo, Plainview, and Lubbock).

Response: At its meeting on December 15, the LERWPG considered and approved Lubbock's request to increase Lubbock's population, per capita water use, and municipal water demand projections, and included an Addendum to the 2006 Plan in which the increased projections are presented. The water management strategies numbers 1, 2, and 3 were added, and number 4 was included for further study in cooperation with Region A.

The comments of organizations and individuals are summarized below, and a response is given for each summarized comment.

Comment: Concerns remain regarding the Post Reservoir and its potential impacts to downstream instream uses including aquatic and riparian habitats and water quality.

Response: The White River Municipal Water District holds TCEQ Certificate of Adjudication Number C3711 for Post Dam and Reservoir, which Authorizes Impoundment

of 57,420 acre-feet; Diversion of 5,600 acft/yr for municipal purposes; 1,000 acft/yr for industrial purposes; and 4,000 acft/yr for mining purposes, with the Priority Date of January 20, 1970. Certificate of Adjudication Number C3711 does not provide for other purposes.

Comment: Potential impacts to spring flows and spring ecosystems should be identified where additional groundwater development was identified as a water management strategy.

Response: There is no known methodology available with which to make such estimates. In addition, quantities of additional groundwater development associated with the proposed Local Groundwater Water Management Strategies for municipal purposes are so widely dispersed and in such small quantities, that reliable estimates cannot be made of the potential, if any, effects upon spring flows within the planning area from this source of pumping.

Comment: Disappointment was expressed that the Plan does not recommend nomination of any stream segments as ecologically unique.

Response: The LERWPG did not view such action as being appropriate for the Regional Water Plan at this time.

Comment: Questions are raised about the goals of the Municipal Water Conservation Water Management Strategy and that Drought Management is not considered as a water management strategy.

Response: The LERWPG adopted a municipal water conservation goal of reducing per capita water use by 1 percent per year for those WUGs that have projected needs (shortages) and that had per capita water use in year 2000 that exceeded the Llano Estacado Region average per capita water use in 2000 of 172 gpcd. The goal is to continue the municipal water conservation water management strategy of reducing per capita water use by 1 percent per year until per capita water use is reduced to the year 2000 region average. In accordance with the goal, municipal water conservation is included in the plan for each municipal WUG that had a projected need (shortage). Drought Management is not a recommended water management strategy to meet projected water needs in Region O, in part because it cannot be demonstrated to be an economically feasible strategy (See Response to TWDB comment No. 13), and in part because it would be duplicative of existing “Demand Management and Drought Contingency Plans” of cities of the region. The LERWPG recognizes the individual cities’ “Demand Management and Drought Contingency Plans” that are on file with the TCEQ, and encourages their use as appropriate.

Comment: Questions were raised about the lack of a specific Irrigation Water Management Strategy.

Response: The Regional Water Planning Group has revised Section 4.4.1.2, Irrigation Water Conservation, to include an Irrigation Water Conservation Strategy in addition to the Irrigation Best Management Strategies referenced above.

Comment: Questions are raised about the inclusion of water management strategies for Lubbock, and the Post Reservoir, since there are no specific customers shown for either water management strategy.

Response: Lubbock owns Lake Alan Henry and would use the water when needed. Post Reservoir would be used to supply water to members of the White River Municipal Water District, owner of TCEQ Certificate of Adjudication Number C3711.

Comment: Questions were raised about the potentials of Precipitation Enhancement and Brush Management to produce quantities of water usable by identified water user groups.

Response: It is important to note that both of these strategies are very general and are included without estimates of quantities or associated costs. As the text shows, precipitation enhancement is being applied to about 2.3 million acres at a cost of \$109,200 per year (4.2 cents per acre) in the southern part of the region by the Sandy Land Underground Water Conservation District.

Comment: Regarding the White River Municipal Water District-Reclaimed Water Management Strategy, the point was made that if the effluent currently is discharged to a stream or wetland, the effect of reduced flows should be evaluated.

Response: The effluent considered is currently being discharged via land disposal to farmland. At present, the quantity of acres available for disposal is not adequate. Thus, this strategy would assist in reducing the levels of effluent application to acreage available.

Comment: A request was made that more information be provided about Recovery of Capillary Water and Cistern Wells.

Response: These 2 water management strategies were removed from the IPP. However, reference to them had not been removed from Section 5 of the IPP. In the Plan, these references were removed.

Comment: The discussion does not address potential water quality issues expected as water levels decline with continued mining of aquifer supplies.

Response: There are no readily available data pertaining to water quality as water levels in the aquifer decline, thus it was not addressed.

Comment: The discussion of Drought and Drought Response highlights the discrepancy associated with the Water Planning Process whereby water supplies are based on firm yields during drought of record, but water demands are based on fully meeting water needs during the drought of record, even though drought plans implemented by municipalities will result in lower water demands during drought.

Response: Texas Water Development Board (TWDB) Rules direct that water management strategies be included to meet projected water needs, using the projected water demands approved by the TWDB. Rules further direct that water conservation and drought

management be considered for WUGs with projected needs, and if water conservation and drought management are not adopted the reason must be documented. In the case of municipalities, the LERWPG has included Municipal Water Conservation for municipalities with projected needs, and has documented why it did not include Drought Management as a water management strategy. For irrigated agriculture, an Irrigation Water Conservation Strategy was included after the IPP review. Drought management as a water management strategy for irrigated agriculture is not addressed since there is no practical manner in which to give it consideration.

Comment: The discussion in Section 5 of Impacts of Moving Water from Rural and Agricultural Areas only refers to the Nearby Groundwater Sources strategy. Other strategies, especially the CRMWA Groundwater Expansion need to be addressed.

Response: Generally speaking, similar comments apply to the CRMWA Groundwater Expansion; e.g.; the water being considered for this strategy is not now being used for any purpose, and is not projected to be needed to meet needs in the future. It is located beneath rangeland in Region A and would be available from willing sellers.

Comment: Wherever possible, groundwater resources should be managed on a sustainable basis.

Response: The Regional Water Planning Group recognizes that the High Plains Ogallala formation with any appreciable pumping is not sustainable; however with the implementation of water conservation strategies, the longevity of the Ogallala can be appreciably extended.

Comment: Senate Bill 1 directs consideration of voluntary and emergency transfers of water as a key mechanism for meeting water demands. Water Code Section 16.051 (d) directs that rules governing the development of the state water plan shall give specific consideration to “principles that result in the voluntary redistribution of water resources.” Similarly, Section 16.053 (e)(5)(H) directs that regional water plans must include consideration of “voluntary transfers of water within the region using, but not limited to, regional water banks, sales, leases, options, subordination agreements, and financing arrangements....”

Response: Since there are no interconnections among the municipal and irrigation water users, except those of the Canadian River Municipal Water Authority, the Regional Water Planning Group could not give these types of transfers consideration.

Comment: One reviewer provided comments concerning the protection and use of fresh water by the oil and gas industry in the region to wit:

1. Companies are permitted by the Railroad Commission of Texas to dispose of brackish produced water into the Santa Rosa,
2. Companies prefer to use cheap clean water from the Ogallala for secondary recovery operations,
3. Oil companies do not use Santa Rosa water for makeup to supplement secondary recovery fluid because it is chemically incompatible, and

4. Companies do not monitor injection systems for line leaks and leaks that go undetected can contaminate the shallow aquifers.

Response: The LERWPG understands the practices related to these comments as follows:

1. Both the Railroad Commission of Texas (RRC) and the Texas Commission of Environmental Quality (TCEQ) review every injection permit application in the state and define for that well where the useable quality water zones are located. The RRC has very strict regulations for how those zones are to be protected from contamination. Currently, permits are not issued for disposal of brackish produced water into any protected zone including the Santa Rosa. Any specific instance of injection into the Santa Rosa should be immediately brought to the attention of the RRC and TCEQ.
2. The RRC and TCEQ review every injection permit application and the use of fresh water is always the fluid of last choice. Before fresh water use is allowed the operator must show that no chemically compatible and economically available alternative exists. The proposed water use in the IPP clearly shows that the mining industry (which consists mainly of oil and gas in Region O) accounts for less than 0.5% of the total fresh water use in the region while contributing over 10% to the economy of the region.
3. The oil industry does in fact use some Dockum water for makeup but that use is indeed limited because of a chemical incompatibility with the produced water from many secondary recovery projects. The precipitation of dissolved solids in the water has the effect of plugging the oil producing formation with solids almost immediately with very serious declines in oil production. In fact, over 90% of the water used by the oil and gas industry in the region is satisfied with recycle water.
4. Injection systems operate at high pressures necessary to maintain the pressure in the oil producing reservoir to maximize the recovery of the oil. It is highly unlikely that injection line leaks would go undetected and contaminate the shallow aquifers because leaks in high pressure lines worsen very quickly and the leaks are easily identified and quickly fixed. It is more likely that low pressure production lines could explain undetected leaks.

Comment: The Plan does not address the use of water resources under the City of Lubbock to meet Lubbock's needs.

Response: The Plan includes a water management strategy to develop 5,600 acft/yr from this source (4.4.3.3 City of Lubbock Well Field).

10.8 Final Plan Adoption

At its meeting on December 15, 2005, the motion to approve the LERWPG plan was made by Robert Jossierand and seconded by Member Bill Harbin. All 15 members in attendance voted "aye," and the plan was approved.