

**MINUTES OF THE
LLANO ESTACADO REGIONAL WATER PLANNING GROUP (“Region 0”)
OCTOBER 23, 2008**

1. Call To Order and Welcome By Chairman H.P. Brown Jr.

Chairman H.P. Brown Jr. called the meeting to order at 10:04 a.m. in the A. Wayne Wyatt Board Room of the High Plains Underground Water Conservation District No. 1 office, 2930 Avenue Q, Lubbock, Texas. Notice of the meeting was provided in advance to each member and was also filed/posted in accordance with the Texas Open Meetings Act at the following locations: *Office of the Texas Secretary of State; Lubbock County Courthouse, Administrative Offices of the High Plains Underground Water Conservation District No. 1, the regional water planning group web site at www.llanoplan.org and the High Plains Underground Water Conservation District web site at www.hpwd.com*

2. Roll Call of Members To Establish Quorum

The following Llano Estacado Regional Water Planning Group members were in attendance: Tom Adams, Melanie Barnes, Delaine Baucum, Bruce Blalack, H. P. Brown Jr., Jim Conkwright, Don Ethridge, Harvey Everheart, Doug Hutchison, Bob Josserand, Richard Leonard, Terry Lopas, Don McElroy, Gene Montgomery, Kent Satterwhite, and Jim Steiert.

Don James submitted a letter of resignation from the LERWPG today citing a conflict with Panhandle-Plains Land Bank meetings. (*See Section 13(b) of these minutes.*)

Unable to attend: (*Excused Absence*): Delmon Ellison Jr. (crop harvest), Bill Harbin (meeting conflict), and Ken Rainwater (out of country).

Absent members: (*Non-excused absences*) Jim Barron.

Non-voting members in attendance: Dr. Herb Grubb, HDR Engineering Inc.; Steve Jones, Texas Department of Agriculture; Angela Kennedy, Texas Water Development Board; and Malcolm Laing, Texas Commission on Environmental Quality. Joan Glass with Texas Parks and Wildlife Department was absent due to a meeting conflict.

A quorum of the Llano Estacado Regional Water Planning Group members was present. There were 16 of 20 voting members present, or 80 percent attendance.

Others In Attendance: Sarah Clifton with Senator Robert Duncan’s office, Jason Coleman with South Plains Underground Water Conservation District, Mark Graves with HDR Engineering, Lynne Hamlin with Texas Parks and Wildlife Department, Kevin Hopson with Daniel B. Stephens and Associates, Kyle Ingham with Panhandle Regional Planning Commission, Mike McGregor with the City of Lubbock, David Meesey with the Texas Water Development Board, Cleon Namkin with USDA-NRCS, Aubrey Spear with City of Lubbock, and Ben Weinheimer with Texas Cattle Feeders Association (*This was derived from a sign-in*

sheet provided at the back of meeting room.) Carmon McCain of the High Plains Water District staff was present to record the minutes.

ACTION ITEMS:

3. The LERWPG Will Discuss and Consider Approval of the May 1, 2008 Regular Meeting Minutes.

The minutes of the May 1, 2008 LERWPG meeting were provided to members by e-mail and/or hard copy for review prior to today's meeting. There being no additions or corrections, a motion was made by Bob Josserand and seconded by Terry Lopas to approve the May 1, 2008 meeting minutes as printed. **The motion was unanimously approved.**

4. The LERWPG Will Discuss and Consider Approval of the Financial Report.

The Llano Estacado Regional Water Planning Group financial statement was provided to members for review prior to today's meeting. Secretary-Treasurer Doug Hutcheson reported a balance of \$31,566.06 as of Sept.30, 2008. A motion to accept the financial statement as printed was made by Kent Satterwhite and seconded by Don McElroy. **The motion was unanimously approved.**

5. The LERWPG Will Discuss and Consider Appointment Of A Replacement To The Small Municipality Water User Group In Accordance With Article III Of The LERWPG Bylaws.

Two candidates, Brad Thornhill of Crosbyton and John Taylor of Friona, submitted letters of interest and support for their possible service as the LERWPG small municipal water user group representative. A motion that John Taylor be considered as a candidate was made by Bob Josserand and seconded by Don McElroy. The motion was approved. A motion that Brad Thornhill be considered as a candidate was made by Melanie Barnes and seconded by Harvey Everheart. The motion was approved. Chairman Brown asked that nominations cease and that a vote be taken by show of hands. **John Taylor was elected to serve as the small municipality water user group representative by an 11-4 vote.** Letters will be sent to each candidate informing them of the LERWPG's decision.

6. The LERWPG Will Discuss and Consider Approval Of The LERWPG 2011 Regional Water Plan Phase One Report Discussing The Ethanol & Dairy Sectors as well as Evaluation Of Water Supplies From The Dockum Aquifer in Bailey, Castro, Deaf Smith, Hale, Lamb, and Parmer Counties.

Dr. Herb Grubb and Mark Graves with HDR Engineering in Austin provided an overview of the draft Llano Estacado Regional Water Planning Group (Region O) 2011 Regional Water Plan Phase One Report. *(A hard copy of their presentation is on file with the HPWD office.)*

The report contains the following:

- **An estimation of additional water demand in Bailey, Castro, Deaf Smith, Hale, Lamb, and Parmer Counties due to changed conditions caused by ethanol plants and dairies.**

ETHANOL: Dr. Grubb reported that two 110 million gal/yr ethanol plants are in Deaf Smith County, one 110 million gal/yr plant is in Hockley County, and one 50 million gal/yr plant is in Hale County. Water requirements for ethanol plants are 1 mgd per 110 million gallons per year capacity plant (1,120 acre-feet of water per year.) Therefore, an additional 2,240 acre-feet/yr is needed in Deaf Smith County, an additional 1,120 acre-feet/yr is needed in Hockley County, and an additional 560 acre-feet per year is needed in Hale County.

Approximately 60 full time jobs per plant will be created with one-half of the labor being hired outside the area and one-half being local hires.

The ethanol industry plants located at Hereford plan to import 100 percent of the grain (corn) to be used, with the plants at Levelland and Plainview reported to be using a mixture of imported corn and locally produced grain sorghum. Therefore, no increased demand for irrigation water is anticipated due to these plants being located in the region. It has been noted that no additional ethanol plants are anticipated for the area.

DAIRIES: Dr. Grubb reported that the number of dairies in the six-county region increased from 44 in January 2006 to 59 in March 2008. The average size of the dairies is estimated at 2,550 head, which includes milking, dry, and replacement heifers.

Average daily water requirement is 48 gallons of water per head (0.0538 acre-feet per year) for drinking/sanitation purposes.

The municipal water demand for dairy workers and associated population demand was projected at the same per capita rate as used for municipal projections for counties of Region O in which dairies are located.

- **An estimate of groundwater availability from the Dockum aquifer as well as an estimate of costs to obtain and desalt water from the Dockum aquifer.**

DOCKUM AQUIFER: Mr. Graves presented estimates of costs of water from the Dockum Aquifer from well fields in Deaf Smith, Castro, Lamb, and Parmer Counties. In addition Mr. Graves presented estimates of costs to desalt water from the Dockun Aquifer.

In Deaf Smith County, a 1 million gallon per day well field is estimated to cost \$2.89 million, or \$365 per acre-foot; a 3 mgd well field is estimated to cost \$6.76 million,

or \$305 per acre-foot; and a 10 mgd well field is estimated to cost \$21.31 million or \$314 per acre-foot.

In Castro, Lamb and Parmer Counties, a 1 mgd well field is estimated to cost \$3.94 million, or \$464 per acre-foot; a 3 mgd well field is estimated to cost \$10.52 million, or \$441 per acre-foot; and a 10 mgd well field is estimated to cost \$34.19 million, or \$476 per acre-foot. It should be noted that the desalination plants and concentrate disposal facilities are located adjacent to Dockum well fields for purposes of this study. The costs are applicable at well field locations and do not include the cost to transport desalted water to customers.

The principal desalination technologies available are reverse osmosis, electrodialysis reversal, and thermal distillation. For this study, reverse osmosis was selected for use in estimating desalination costs, since reverse osmosis is the least costly method. Costs were estimated for concentrate disposal using solar evaporation and deep well injection for 1 MGD, 3 MGD, and 10 MGD sized Dockum Aquifer well fields having 1,500, 3,000, 5,000, and 20,000 mg/L concentrations of TDS. Estimated total costs for raw water, desalination, and concentrate disposal for water from the Dockum Aquifer with TDS of 1,500 mg/L range from \$3.76 per 1,000 gallons for a 1 MGD facility, to \$2.75 per 1,000 gallons for a 3 MGD facility, and \$2.29 per 1,000 gallons for a 10 MGD facility. Estimated total costs for raw water, desalination, and concentrate disposal for water from the Dockum Aquifer with TDS of 3,000 mg/L range from \$4.77 per 1,000 gallons for a 1 MGD facility, to \$3.07 per 1,000 gallons for a 3 MGD facility, and \$2.61 per 1,000 gallons for a 10 MGD facility. Estimated total costs for raw water, desalination, and concentrate disposal for water from the Dockum Aquifer with TDS of 5,000 mg/L range from \$5.57 per 1,000 gallons for a 1 MGD facility, to \$4.08 per 1,000 gallons for a 3 MGD facility, and \$3.23 per 1,000 gallons for a 10 MGD facility. Estimated total costs for raw water, desalination, and concentrate disposal for water from the Dockum Aquifer with TDS of 20,000 mg/L range from \$7.21 per 1,000 gallons for a 1 MGD facility, to \$5.62 per 1,000 gallons for a 3 MGD facility, and \$5.10 per 1,000 gallons for a 10 MGD facility. The estimated yield for the 1 mgd well field is 1,121 acre-feet per year; estimated yield for the 3 mgd well field is 3,363 acre-feet per year, and the 10 mgd well field is estimated to yield 11,210 acre-feet per year. This is dependent upon the salinity of the raw water. The higher the salinity, the higher the percentage lost to waste. Water with 1,500 mg/l of total dissolved solids yields 80 percent of desalted water and 20 percent of concentrate while water with 20,000 mg/l of TDS yields 60 percent desalted water and 40 percent waste.

- **Identification and description of interactive videoconferencing services available to Regions A and O.**

Dr. Grubb reported that interactive video conferencing facilities and services are available at the Texas A&M AgriLife Research and Extension Centers at Amarillo and Lubbock. The facilities and services are available for \$25-\$50 per hour, subject to scheduling. The cost to establish video conferencing capabilities can range from \$15,000-\$25,000 per site plus staff training.

After discussion and questions, a motion to accept the draft report as presented with suggested changes from LERWPG members was made by Jim Steiert and seconded by Terry Lopas. **The motion was unanimously approved.**

Any other revisions from members should be forwarded to Dr. Grubb via e-mail no later than noon on Nov. 15. (None were received.)

COMMITTEE REPORTS AND OTHER INFORMATION:

7. The LERWPG Will Hear The Following Reports From The Political Subdivision Administering The Plan:

A. Final Report Concerning Submission of the Scope of Work, Budget, and Grant Application to the TWDB for Second Biennium funding for the 2011 Regional Water Plan.

Jim Conkwright referred to the September 10, 2008 letter from Carolyn Brittin of the Texas Water Development Board regarding TWDB authorization to negotiate and execute a regional water planning contract with the High Plains Underground Water Conservation District on behalf of the LERWPG.

On August 25, 2008, the TWDB approved staff funding recommendations developed during review of the LERWPG's proposed scope of work. The staff was authorized to negotiate and execute a contract for Region O in an amount not to exceed \$440,430.00 before November 23, 2008.

Mr. Conkwright told the group that the task to improve the Southern Ogallala GAM, the task for salt cedar control, and the task for aquifer recharge were not approved for funding by the TWDB. The task examining water management strategies for confined animal feeding enterprises (beef, dairy, and other) was recommended for partial funding.

B. Final Report on the City of Lubbock's Request To Remove The Proposed Lake 8 of the Jim Bertram Lake System from The Llano Estacado Regional Water Plan.

The City of Lubbock's request to remove the proposed Lake 8 of the Jim Bertram Lake System from the regional water plan was approved as a minor amendment by the TWDB. HDR Engineering and the City of Lubbock are working to provide requested contract information as needed by the TWDB.

LUNCH BREAK

Chairman Brown called a recess for lunch at 11:58 a.m. Mr. Blalack left the meeting at this time.

MEETING RECONVENED

The meeting was reconvened at 12:32 p.m.

8.The LERWPG Will Hear A Report From The City of Lubbock On Amendments To Existing and Proposed New Water Strategies for the City of Lubbock—including Projects Relating To Reuse, Reclaimed Water, Lake Alan Henry, Post Reservoir, and White River Reservoir.

Aubrey Spear, director of water utilities, gave an overview of the City of Lubbock's water supply planning efforts. This report is for informational purposes only and no action was taken by the LERWPG.

According to Mr. Spear, Lubbock's annual average water demand is 37,000 acre-feet (12 billion gallons). Summer peak water demand is 60 million gallons per day. Average per capita demand is 150 gallons per day. Water use patterns from 1998 to 2007 show a decline from about 225 gpcd to about 150 gpcd. Since 2000, average water demand has decreased 10 percent, per capital demand has decreased 20 percent, and peak demand has decreased 25 percent.

In 2009, the City of Lubbock's annual water demand is expected to be 37,000 acre-feet. The annual CRMWA water supply desired allocation (Lake Meredith and Roberts County well field) is 40,000 acre-feet; however, due to drought conditions, this has been reduced to 27,000 acre-feet. The annual Bailey County well field supply desired conservation amount is <10,000 acre-feet. Estimated required usage is 10,000 acre-feet.

Mr. Spear then discussed the following City of Lubbock water strategies needing to be added to the regional water plan:

- Lake Alan Henry—Add finished water pipeline from water treatment plant to distribution system to Region O plan.
- Lake Alan Henry—Recycled and developed water.
- Post Reservoir—City is negotiating with White River MWD for development and use of future Post Reservoir. It needs to be added to the region O plan.
- White River Reservoir—White River has included a recycled water strategy from Lubbock in their water plans. This water reuse option needs to be added to the Region O plan.
- Canyon Lake # 7—Canyon Lake # 8 was removed from the plan; however, Canyon Lake # 7 remains. Water is to be discharged into the North Fork to comply with TCEQ regulations and maintain water quality prior to Lake #7 storage. Information in the Region O plan needs to be updated to reflect the impact of this change.
- Lake Alan Henry—Recycled and developed water could be discharged into the South Fork and stored in Lake Alan Henry. Water quality issues would have to be evaluated. This alternative needs to be included in the Region O plan.

- Other plan changes.
 - a. Actual implementation and use of the well field within the City of Lubbock.
 - b. Potable water supply from the city not developed due to treatment cost since groundwater is under influence of surface water.
 - c. City well field being developed for park irrigation wells which do not require the same treatment as potable water supply.

9. The LERWPG Will Hear A Status Report From The Technical Consultant Regarding the Regional Water Planning Group Work in Progress.

Dr. Grubb told the group that work is progressing to update the 2006 regional water plan (in response to changed conditions) to make the 2011 plan. He noted that the initially prepared plan is due to the Texas Water Development Board in March 2010, so most of 2009 will require significant effort to get the 2011 plan on paper. He added that in light of the City of Lubbock’s proposed plan amendments, essentially, there will be two regional water plans moving along together, and this will require careful coordination and planning.

10. The LERWPG Will Hear A Report From TWDB Project Manager Angela Kennedy.

David Meesey introduced Ms. Angela Kennedy, who is the new LERWPG Project Manager. She succeeds Kathleen Garrett, who left the TWDB for employment with Austin Energy. Ms. Kennedy said most of her report had been covered in earlier discussion.

11. The LERWPG Will Hear A Report Regarding Groundwater Management Area (GMA) Efforts To Establish Desired Future Conditions For Aquifers In Their Areas.

Jason Coleman, GMA # 2 administrator, reported on the group’s June 18 meeting. GMA # 2 has made additional requests for GAM runs to reflect various desired future conditions. They have met with Senator Duncan’s staff as well as representatives of the Texas Water Development Board regarding questions.

Mr. Coleman reported that representatives of GMA#2 have been examining proposed desired future conditions in a very methodical manner.

12. The LERWPG Will Hear Reports From Its Liaisons To Other Regional Water Planning Groups:

- Region A:** Region A met last week and reviewed the draft report concerning the Bureau of Economic Geology’s research into Ogallala aquifer recharge in Roberts County. **(Kent Satterwhite)**
- Region B:** No report given.
- Region F:** Region F meets next week. **(Harvey Everheart)**
- Region G:** Region G meets next week as well. **(Terry Lopas)**

13. Other Business

A. Public Comment.

No public comment was offered.

B. Resignation Letter from Don James

Chairman Brown reported that Don James, one of the agricultural water user group representatives to the LERWPG, submitted a letter of resignation prior to today's meeting. Mr. James is unable to attend the meetings due to a conflict with Panhandle-Plains Land Bank board meetings. He thanked everyone for the opportunity to serve on the LERWPG. A motion to accept Mr. James' letter of resignation was made by Melanie Barnes and seconded by Terry Lopas. **The motion was unanimously approved.**

C. Next Meeting. The next meeting is tentatively set for early 2009. Members will receive notification of the meeting date and time by e-mail and fax.

14. Adjourn

There being no other business, Chairman Brown adjourned the meeting at 1:45 p.m.

The above conveys my understanding of the issues discussed and conclusions reached. I assume this understanding is correct until notice of the contrary is received.

Respectfully submitted,

Doug Hutcheson

Doug Hutcheson
Secretary-Treasurer

These minutes were approved by the LERWPG membership at their April 23, 2009 regular meeting.