Section 6
Consolidated Water Conservation and Drought Management Recommendations for the Regional Water Plan [31 TAC §357.7(a)(11)]

6.1 Municipal Water Conservation (See Section 4.4.1.1)

Municipal water conservation is included in the Llano Estacado Regional Water Plan. The objective of the municipal water conservation option is to reduce per capita water use at a rate of 1 percent per year for those municipalities with projected needs (shortages) until the municipality's per capita water use is at year 2000 region-wide average per capita water use of 172 gpcd. The potentials for municipal water conservation in addition to that expected from the continued use of low flow plumbing fixtures in the Llano Estacado Region are about 7,672 acft/yr, or 8.2 percent of the projected 2060 municipal demand. Although the potential is modest, it is very important that municipal water conservation continue to be emphasized through active public information and education programs in the public schools, through the media, and at the individual water utility levels. With respect to the latter, it is suggested that each water utility of the region measure its water distribution system leaks and unaccounted for water and set goals to bring this parameter into the 12 to 15 percent range. In addition, during droughts municipalities are expected to follow their respective Demand Management and Drought Contingency Plans and to practice additional water conservation, if needed.

6.2 Irrigation Water Conservation (See Section 4.4.1.2)

The use of agricultural water conservation BMPs on farms, and an irrigation water conservation water management strategy are included in the Llano Estacado Regional Water Plan in order to sustain the present water supplies, enhance agricultural profitability, and enhance playa basins for wildlife habitat and aquifer recharge. In the Llano Estacado Region, both irrigation and non-irrigated (dryland farming) is projected. For the most part, the irrigated acreages are those acres lying above saturated sections of the Ogallala aquifer that have sufficient quantities of water to justify drilling, equipping, and pumping irrigation wells. Such wells supply water that is used to supplement precipitation for crop production.

Irrigated and dryland farming attempts to maximize the efficiency of use of irrigation water and precipitation in the area. This is done through the use of Irrigation BMPs, including

LEPA and LESA irrigation systems, in conjunction with furrow diking and plant residue management.

6.3 Drought and Drought Response

Water supplies are included in Section 3 of the Llano Estacado Regional Water Plan as firm yields during drought of record for surface water sources, and dependable supplies during drought of record for groundwater sources (i.e., drought of record conditions underlie the calculations of water supply available from each source, included in Section 3 for each water user group). Therefore, each source of supply is for drought conditions. In addition, in accordance with requirements of Senate Bill 2, TCEQ has required retail water suppliers to prepare drought contingency plans.

Given that the major source of water for all uses in the Llano Estacado Region is the Ogallala Aquifer, with surface water from the Canadian River Municipal Water Authority, White River Municipal Water District, and Mackenzie Municipal Water Authority for some municipal and industrial uses, the effects of drought are through increased demands upon the water supply facilities to provide larger quantities of water from each water supply source. For example, in the region, demands increase during droughts, placing ever-greater demands upon wells, pumps, motors, storage facilities, and the aquifer and surface water reservoirs. Therefore, the primary factor specific to each water supply is atmosphere conditions affecting precipitation, evaporation, and evapotranspiration. Thus, when atmospheric conditions result in: (1) reduced precipitation and (2) increased evaporation and evapotranspiration, the Llano Estacado Regional Water Plan recommendation is that drought response be initiated as described below.

Drought Trigger Conditions will be based on local atmospheric conditions using the currently available PET stations. For the purposes of this planning cycle, it is recommended that local precipitation be factored into the consideration of implementing a drought trigger. Recommended drought triggers are presented as follows.

- **Alert Stage of Drought**: Precipitation at less than 50 percent of the 30-year average for the month and 55 percent of the 30-year average of the preceding 12 months.
- **Warning Stage of Drought**: Precipitation at less than 25 percent of the 30-year average for the month and 45 percent of the 30-year average of the preceding 12 months.

The Llano Estacado Water Planning Area is divided into geographical areas based upon location of existing PET stations for drought trigger and response purposes. The current locations of PET stations within Region O are Dimmitt, Earth, Farwell, Halfway, Lamesa, Lubbock, and Seminole. The drought trigger and response zones in the Llano Estacado Water Planning Area are shown in Table 6-1.

Table 6-1.
Drought Trigger and Response Zones
in the Llano Estacado Water Planning Area

PET Stations	*Counties*
Dimmitt	Castro, Deaf Smith, and Swisher
Earth	Cochran and Lamb
Farwell	Bailey and Parmer
Halfway	Briscoe, Floyd, Hale, and Motley
Lamesa	Dawson, Garza, and Lynn
Lubbock	Crosby, Dickens, Hockley, and Lubbock
Seminole	Gaines, Terry, and Yoakum

6.4 Drought Response

As the LERWPG is a planning body only, with no implementation authority, it is emphasized that these drought triggers and responses are recommendations only. Since local public water suppliers and water districts are all required to have adopted a Drought Contingency Plan that contains drought responses unique to each specific entity, these entities are the only ones who have the authority to manage their particular water supply or area of authority. Therefore, the LERWPG recommends that these entities carry out their respective plans based upon the triggers listed above. For Example:

When the Alert Stage Drought Conditions have been triggered as described above, the (RELEVANT BODY, COMMITTEE, ETC.) will notify all affected entities in the relevant geographical area. Those entities exercise their authority to implement their own Drought Contingency Plans, as they deem necessary.

When the Warning Stage Drought Conditions have been triggered as described above, the (RELEVANT BODY, COMMITTEE, ETC.) will notify all affected entities in the relevant geographical area. It is recommended that these entities exercise their respective authority(ies) to implement their own Drought Contingency Plans, as they deem necessary.

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