SECTION 7. INFRASTRUCTURE[1]

7.1 Water and Wastewater Services

Water Supply

Levelland is a member city of the Canadian River Municipal Water Authority (CRMWA) and thereby receives most of its drinking water supply from that system. A mixture of surface water from Lake Meredith and groundwater from the authority's well field in Roberts County is treated at the City of Lubbock water treatment plant prior to delivery to the City of Levelland's Hickory Street Pump Station.

Declining production rates and isolated quality problems have resulted in diminished use of City groundwater wells.

The City of Levelland uses its own groundwater wells to meet peak demand requirements, with most of the production historically from the wells in the vicinity of the municipal park on the west side of town. Declining production rates and recent quality problems with some of these wells has led to their diminished use. In addition, the City's airport well field is available, but concerns with iron and manganese in the water and the resulting discoloration of the produced water have also diminished their use.

Water Distribution

Most of the recent improvements to the water distribution system were done in conjunction with the City's growth in the mid-1980's and were concentrated in the east and northeast part of town – Ridgecrest Addition, Bartlett Subdivision, Hickory Square Subdivision – in the vicinity of the high school and Industrial Park area. These improvements consisted mostly of providing oversized lines around the City for adequate delivery of future water supply to these areas.

A certain number of the City's elevated storage tanks have undergone repair and maintenance, including new coating systems and other improvements necessary to meet the current requirements of the Texas Commission on Environmental Quality (TCEQ). These improvements have been made to both the Adams Street and 4th Street elevated storage tanks. In addition, the interior coating system of the Lee Street elevated storage tank was recently redone in association with the detection of perchlorate in the tank in 2002.

[1] This section was completed by Parkhill Smith Cooper, Inc., for the engineering component of the Comprehensive Plan.

An emergency generator was installed at the City's main pump station, the Hickory Street Pump Station, in 1996 in order to provide backup power in the event of a power outage. The diesel-fueled unit is automatically activated should such an outage occur, and supplies power to not only the pump station but also a groundwater well on the pump station site so that at least some water production capability is available at all times.

For a graphic depiction of water distribution, refer to Plate 7.1 *Water Distribution System Map.*

Wastewater Collection

Older sewage lift stations remain an ongoing maintenance problem due to their deteriorated condition.

As with the water distribution system, most of the wastewater collection system improvements were done in conjunction with the City's growth in the mid-1980's to provide adequately sized lines for future growth and loading. Several of the City's wastewater lift stations, however, have been upgraded and/or replaced in recent years, including the Kaufman and McDonald lift stations. These stations were a source of ongoing maintenance problems due to their age and deteriorated condition, and have been replaced with new submersible pump stations.

Wastewater Treatment

The City's wastewater treatment plant consists of a three-cell aerated lagoon system followed by an irrigation holding pond. Treated effluent is used for irrigation of City-owned farmland adjacent to the plant east of town. In 1986 the aeration system was replaced with a more efficient system in an effort to improve treated water quality and reduce odors from the facility.

For a graphic depiction of the wastewater treatment system, refer to Plate 7.2 *Sanitary Sewer System Map.*

For those areas operating on an alternative septic system, refer to Plate 7.3 *Septic System Soil Classification Map*. The various soil types presented are defined below:

- Class I- Consists of a sand. The material consists of 0-10% clay and 90-100% silt material. The soil group can dispose of treated effluent at a rate of 0.50 gal/sf/day.
- Class II- Consists of a sandy loam/loam. The material consists of 20-25% clay material, and 75-100% silt. The soil group can dispose of treated effluent at a rate of 0.25 gal/sf/day.

- Class IV- Consists of clay/silty clay. The material consists of 60 to 100% clay and 0 to 50% silt material. The soil group can dispose of treated effluent at a rate of 0.10 gal/sf/day.

7.2 Streets

New asphalt streets were constructed with the subdivision development in the mid-1980's and were equipped with concrete curb and gutter. In recent years new streets have also been constructed in conjunction with various Texas Community Development Program grants. Street maintenance has been performed annually with the City's ongoing seal coat program, with a significant percentage of the total streets seal coated each year.

A significant portion of the downtown area streets has recently been improved with assistance from grants made available through the Main Street program administered by the Texas Historical Commission, including accessibility, sidewalk and landscaping improvements.

For a graphic depiction of the street system, refer to Plate 7.4 *Street and Drainage Map.*

7.3 Drainage

Drainage of storm water runoff and nuisance water is accomplished through conveyance by City streets to the numerous playa lakes in the area. The most recent study of the City-wide drainage system was done in the mid-1980's and relied exclusively upon contour maps as prepared by the USGS, with additional but limited survey data for a few of the playa lakes. In that study, which also included a general assessment of the condition of all City streets, high water elevations and contributing drainage areas were delineated for the playa lakes within and adjacent to the City.

A new storm sewer system was installed by the Texas Department of Transportation along with the reconstruction of Avenue H and Houston streets in the late 1980's, with the collected storm water conveyed to Lobo Lake.

In order to effectively reduce the lake levels in Lobo and Breshear Park Lakes after significant rainfall events, a project was completed in 2000 that consisted of a storm water pump station at both lakes. A pipeline conveys the water southeast of town to a playa lake in the vicinity of the wastewater treatment plant and old municipal landfill. The purpose of the system is not to prevent flooding but to reduce the volume of the lakes within a reasonable time after the rainfall event in order to reduce the impact of a subsequent storm.

For a graphic depiction of the drainage system, refer to Plate 7.4 *Street and Drainage Map.*

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