UPPER TRINITY REGIONAL WATER DISTRICT, LEWISVILLE, TEXAS

Tom Harpool Water Treatment Plant

HIGHLIGHTS

- Conceptual design study evaluating conventional versus membrane treatment.
- Consideration of treatment facility life-cycle costs, remote operations, and operational staffing.
- Design of 16-mgd membrane treatment facility with ozone pretreatment for taste and odors.
- Design of raw water and finished water lines.

Responding to tremendous growth in its service area, the Upper Trinity Regional Water District (UTRWD) decided to build a second treatment facility to serve the northeast portion of Denton County, which is part of the Dallas Metroplex. The UTRWD recently expanded its existing regional water treatment plant to 70 mgd.

The UTRWD retained Carollo to provide a conceptual design study, membrane pilot testing, preliminary design, final design, and construction administration for the new 20-mgd Tom Harpool Water Treatment Plant.

The conceptual design study for this new facility included an evaluation of conventional treatment with ozone versus membrane treatment, as well as a determination of the life-cycle costs for both options. The study also considered the applicability for remote operations, and operational staffing of the plant. Based on the results of the study, the Carollo team recommended a membrane treatment facility.

Anticipated processes include:

- Raw water ozonation for taste and odors.
- Diurnal flow equalization.
- Enhanced coagulation and flocculation.
- Membrane treatment.
- UV disinfection.
- High service pumping and clearwells.

Additional services include complete design of both the raw water line and finished water lines for the new treatment plant.

Carollo is designing a second water treatment plant for the Upper Trinity Regional Water District. The new facility will provide additional treatment capacity to UTRWD's service area, which is currently served by the existing regional treatment facility, shown here.