

Eastside Sewer Project Stephenville, Texas

Executive Summary

The Eastside Sewer project will provide a sanitary sewer main and laterals to areas generally east and north in the City of Stephenville. The project name comes from the proposed utility layout following the east side of the Bosque River. The project will eliminate a critical capacity burden on the existing sanitary sewer collection system and simultaneously serve potential developments of approximately 19,000 acres (30 square miles) east, north and northwest of the current service area. The construction of the proposed collector system will be structured in phases: Phase 1 (Load Transfer Phase); Phase 2 (Airport Expansion Phase); and Phase 3 (281 Corridor Phase).

Background

The 2004 Comprehensive Master Plan identified the existing Stephenville sanitary sewer system as not adequate to support growth in the areas east and north of the city. Recommendations outlined in the plan included enlarging and/or paralleling the existing major sewer lines along the North Bosque River. Since the existing sewer lines are located within developed areas, construction of new or enlarged sewer lines will be highly disruptive and extremely expensive. Shallow depths and inadequate size of the existing sewer lines also limits the potential for extending new sewer lines to future service areas. In 2015, an updated sewer system analysis revealed the current collector system as inadequate to support recent additions to the system, primarily due to expansion at Tarleton State University.

Summary of Project Phases

Phase 1 - Load Transfer Phase

Phase 1 (Load Transfer Phase) includes a dedicated lift station at the wastewater treatment plant (WWTP) and a new collector sewer line, varying in sizes from 48-inch to 30-inch diameter, extending from the WWTP to a load transfer point on Crow Street. The Load Transfer connection in Phase 1 will allow two existing fifteen-inch lateral mains, carrying approximately 30 percent of the city's total sanitary sewer collection system loading, to be tied onto the Eastside Sewer trunk main effectively relieving an existing section of aged, undersized, clay collection system piping with brick manholes. Phase I will greatly reduce the current inflow and infiltration issues and sanitary sewer overflows as well as, reduce the capacity burden on the existing 30-inch trunk main to the WWTP.

Also, several recent student housing expansions on the Tarleton State University (TSU) main campus have forced the city to upsize existing collection system piping from the main campus to the previously mentioned existing 30-inch trunk main in the City Park with the installation of a 21-inch Tarleton Methodist Branch Sanitary Sewer Relief Line. Phase 1 will eliminate the capacity overburden concerns on the existing sanitary sewer collection system while simultaneously providing the university with a dedicated sanitary sewer service trunk main which will complement the university's master development plan.

Phase 2 - Airport Expansion Phase

Funded and scheduled to begin in 2017, the city's airport runway will expand from 4,200 feet to 5,000 feet in length. Phase 2 (Airport Expansion Phase) includes the extension of a sanitary sewer main from the WWTP to U.S. Hwy. 67 to encourage and accommodate growth near the Stephenville Clark Regional Airport, along the Highway 67 and Highway 281 corridors. Phase 2 is anticipated to be bid as an alternate with the Phase 1 bid package to capitalize on an economy of scale, if bid prices permit.

Phase 3 – 281 Corridor Phase

Phase 3 (281 Corridor Phase) includes the extension of the trunk main from the Load Transfer Point in Phase 1 to State Highway 8 / Lingleville Road, on the north side of and parallel to the Bosque River in order to open vast service basin areas to the north of Stephenville. Phase 3 includes lateral lines to service a 400-unit multi-family housing complex and development of Tarleton’s College Farm, both currently under construction, as well as, and an unserved future business park area. Phase 3 is also anticipated to be bid as an alternate with the Phase 1 bid package to capitalize on an economy of scale, if bid prices permit.

Wastewater Treatment Plant (WWTP) Water Reuse Line

Construction of the Eastside Sewer will also allow for the simultaneous construction of a non-potable, PVC “purple pipe” reuse line. Phase 1 would initiate at the WWTP and would parallel Phase 1 (Load Transfer Phase) to provide non-potable water irrigation service to the Stephenville City Park. The reuse line would continue to parallel Phase 1 to the Crow Street Load Transfer Point and would continue with Phase 3 to a local golf course as well as further north to provide process water use for potential commercial and industrial business development in the US 281 and SH 8 / Lingleville Road corridor. Phase 1 of the reuse project, including piping and remote pressurization is estimated at approximately \$1,000,000. A second phase of reuse line would be considered, as funding allows, to service an existing golf course, the future business park area and future development on the north side of Stephenville.

Projected Cost

Phase 1 – Load Transfer Phase

The preliminary, estimated cost breakdown for Phase 1, including the WWTP Lift Station, the Bosque River crossing, 48-inch, 36-inch and 30-inch collection system piping, Reuse Piping and Pressurization, and Easement Acquisition is estimated as \$10,000,000.

Phase 2 – Airport Expansion Phase

The preliminary, estimated cost breakdown for Phase 2, including 18-inch collection system piping as well as Easement Acquisition is estimated as \$2,500,000.

Phase 3 – 281 Corridor Phase

The preliminary, estimated cost breakdown for Phase 3, including 18-inch lateral lines to U.S. 281 and SH 8 as well as Easement Acquisition and professional Services is estimated as \$3,800,000.

Projected Cost Breakdown

Phase 1	Load Transfer Phase	\$10,000,000
Phase 2	Airport Expansion Phase	\$2,500,000
Phase 3	281 Corridor Phase	\$3,800,000

The estimated Grand Total project cost is \$16,300,000.

Potential Funding Sources

Potential funding sources have been explored in several agencies including the Texas Water Development Board, the US Department of Agriculture and the Texas Department of Agriculture investigating funding programs such as state drinking water funds, general obligation loan programs, and state revolving funds.

The table below summarizes the agencies, programs, amounts, and status of potential funding sources.

Agency	Program	Program Type	Amount	Application Status
USDA	Rural Development	Loan	N/A	Not Eligible
TDA	CDBG	Grant	N/A	Not Eligible
TDA	Texas Capital Fund	Loan	N/A	Not Eligible
TWDB	D-Fund	Loan	\$16,300,000	Not Submitted, i = 2.65%
TWDB	CWSRF	Loan	\$16,300,000	Submitted, i = 1.46%

The city was determined to be ineligible for USDA Rural Development program funding due to a population size in excess of 10,000. Eligibility for Community Development Block Grant (CDBG) funding requires the area to benefit to house residents that are of primarily, greater than 51%, low-moderate income. Eligibility for use of the Texas Capital Fund, an economic development program tool, is utilized for public infrastructure necessary to assist a business that commits to create and/or retain permanent jobs. The Texas Water Development Board (TWDB) D-Fund was not pursued as the posted interest rate was significantly higher than that of the Clean Water State Revolving Fund (CWSRF) program.

The city met with representatives from the Texas Water Development Board TWDB on May 6, 2016 and an application for the CWSRF was submitted. The city received an invitation to apply for the SFY17 cycle, but after learning all of the principle forgiveness funds had been allocated, decided to reapply for the SFY18 funding cycle.

Interest rates posted by the TWDB and were listed as 1.46% for a 20 year term as of 02/28/2017. The CWSRF program includes a loan origination charge of 1.85% of the principal.

Wastewater Treatment Plant (WWTP) Expansion

As segments of the proposed Eastside Sewer Collector are constructed and development along the newly served basins occurs, the increased flows to the existing Wastewater Treatment Plant (WWTP) will need to be monitored and a phased WWTP expansion will need to be evaluated.

Project Status

An Eastside Sewer Study has been completed showing the preliminary layout and identifying drainage basin areas. The Stephenville City Council approved a Professional Services Agreement to provide construction plans and specifications for all phases on January 5, 2016.

The City of Stephenville is serious about the Eastside Sewer Project and continues to show due diligence and commitment as, at a Special Council Meeting on Thursday, February 23, 2017, the Stephenville City Council secured project Professional Service Agreements for Project Management Services, including an Environmental Assessment, Financial Advisory Services as well as Bond Counsel Services.