Ivins City Staff Report
City Council Meeting 2/2/2023

Agenda Item: Approval of expenditure for engineering services to prepare design for 400 East Storm Drain Replacement project.

Submitted by: Thomas J. Jorgensen, P.E. Assistant City Engineer

Recommended City Council Action:
Approve expenditure not to exceed $19,810 for engineering services to prepare an engineering design for the 400 East Storm Drain Replacement project.

BACKGROUND:

400 East, also know as the Ivins City flood street, has a storm drain trunk line that currently exists down the center line of the roadway. The roadway is inverted and has a concrete valley gutter running down the center. The existing pipe was installed in the early 1990's and the city has had issues with the pipeline for many years. When the pipe was originally installed, the joints were not intended to be "under pressure" or watertight. The public works field crew, following major storm events, have been called out to fix many significant sink holes. Since the joints of the original pipe were not watertight, during significant storm events, water pushes out through the joints and washes out soil from around the joints and down the pipeline, causing sink holes above the pipeline. These sink holes have also caused damage to the valley gutter running down the center of the roadway. Additionally, during the original construction, a concrete collar was placed around each pipe joint. The concrete for each of those joints slumped down partially before curing could occur, essentially making a small "dam" at each joint. These dams are causing turbulence and effectively reducing the overall capacity of the trunkline and contributing to the sink hole issue. Lastly, our most recent storm drain master plan shows this storm drain trunk line as being deficient is capacity. Due to these reasons stated above, it has been in the plan to replace and upsize the storm drain line down 400 East.

With that being said, a new development in Santa Clara has been approved and is beginning construction along the east side 400 East from 600 South to 800 South. As part of their development, Santa Clara will be installing the east half of the roadway (which is currently unimproved). Before these improvements are installed, staff is recommending that this portion of storm drain line be removed and replaced along with the damaged concrete valley gutter. Replacing this portion of storm drain line now would prevent the City from incurring additional expenses in the future for having to replace asphalt being installed as part of the Santa Clara development.

FINDINGS AND ANALYSIS:

Staff has been working on obtaining estimates from the contractor working on the subdivision and estimates for material costs for the storm drain pipeline and boxes from the distributor. Cover and existing tie-in depths are limiting the pipe size to 42", therefore all estimates reflect this pipe size. The current estimate for replacing this portion of storm drain line from 600 South to 800 South is shown below. It should be noted that staff is working on getting other estimates before taking the construction approval before City Council.

Pipeline and Box Installation (labor only)		$149,500
Pipeline Materials		$144,300
Box Materials		$ 30,000
Removal and Installation of Concrete Valley Gutter and Asphalt		$ 75,000
Contingency 10%		$ 38,800
	Total	**$427,600**

Staff has also been working on obtaining engineering design services from Bowen Collins and Associates. They have provide a fee estimate of $19,810. Staff is recommending that Council approve the expenditure of $19,810 for engineering services to prepare design for 400 East Storm Drain Replacement project.

SUPPORT MATERIALS:

- Bowen Collins and Associates Fee Estimate

FINANCIAL IMPACT:

The expense has not been budgeted. The following GL Code would be used:
53-4287.9: $19,810

Respectfully Submitted:

Thomas J. Jorgensen, P.E. Assistant City Engineer

Content Review:

Dale Coulam, City Manager