



AGENDA MEMORANDUM

Action Item for the City Council Meeting of May 24, 2022

DATE: May 24, 2022

TO: Peter Zaroni, City Manager

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Mary Rhodes Pipeline Phase 2 System Improvements
Feasibility Study Cost-Share Agreement Amendment No. 1 with the U.S. Army
Corps of Engineers

CAPTION:

Motion authorizing Amendment No. 1 to the cost-share agreement with the U.S. Army Corps of Engineers to complete the feasibility portion for streambank erosion control related to the Mary Rhodes Pipeline Phase 2 System Improvements project, located in the vicinity of the Mary Rhodes Pump Station in Matagorda County, in the amount of \$82,500.00, for a total contract value not to exceed \$175,000, with FY 2022 funding available from the Water Capital Fund.

SUMMARY:

This motion authorizes Amendment No. 1 to the cost-sharing agreement with the U.S. Army Corps of Engineers to complete the feasibility study for streambank erosion control related to the Mary Rhodes Pipeline Phase 2 System Improvements. The feasibility study will provide an analysis of the imminent threats to the facilities as well as the formulation and evaluation of the lowest-cost alternative solution to effectively address the erosion along the portion of the Colorado River in the vicinity of the intake structure of the Mary Rhodes Pump Station. The amendment will also include the proposed project design and construction costs.

BACKGROUND AND FINDINGS:

In the 1990's the City of Corpus Christi was experiencing water shortages and former Mayor Mary Rhodes led an initiative to secure water rights from the Colorado River to provide for an additional water source to residents, businesses, and industries. Her initiative led to the development of the Mary Rhodes Pipeline, which was constructed over two phases.

Phase 1 was constructed in 1998 and includes a 101-mile-long pipeline and several pump stations that transfer water from Lake Texana to the O.N. Stevens Water Treatment Plant. Phase 2 was constructed in 2016 and includes a 42-mile-long pipeline that has two pump stations and a sedimentation basin that starts at the Colorado River near Bay City, connecting to Phase 1 of the pipeline at Lake Texana.

Following Hurricane Harvey and subsequent major rain events, portions of the riverbank along the Colorado River that are adjacent to the Mary Rhodes Pipeline Phase 2 water intake structure and pump station have experienced significant streambank erosion. In 2018, the City retained the Engineering firm Freese and Nichols, Inc. (FNI). to prepare a technical memorandum to assess the erosion at the riverbank, develop preliminary recommendations to repair and restore the riverbank and to prevent further threats to the Mary Rhodes Pipeline Phase 2 water intake structure and pump station. The report prepared by FNI is a very basic memorandum that was provided to U.S. Army Corps of Engineers (USACE) to request funding assistance for the project.

In their assessment, FNI indicated that the erosional process on the river has caused the streambank to recede approximately 10 to 12 feet and that it is approximately 15 to 40 feet from the pertinent structures of the intake structure, pump station, and sedimentation basins in various locations along the project area. Moreover, the erosion has compromised certain land structures, such as the pump station, alert warning infrastructure, power lines, and the sedimentation basin. Most importantly, the power lines in the vicinity are in imminent danger of failure, as the erosion is already approaching the foundation of the power line poles. Due to the escalating degradation of the area adjacent to the pump station (0.45 miles in length), the City proactively requested assistance from the USACE, in partnership with the City, to further investigate the issue and determine solutions for needed repairs under its Emergency Streambank and Shoreline Protection – Continuing Authorities Program (CAP). CAP authorizes the USACE to plan, design, and construct projects to assist local governments by investigating potential water resource issues.

A CAP project is conducted in two stages: (1) a feasibility study, and (2) design and implementation (construction). Both stages of a CAP project are cost-shared between the federal government and the local government. Initially the feasibility study was estimated at \$285,000 but due to the complexity of the project the cost to complete the feasibility study increased to \$450,000. Federal Government funded the first \$100,000 and the remaining \$350,000 has to be split between the USACE and the City. The USACE has received the \$175,000 funds and cannot be expended until the City's share of funds are available. On March 30, 2021, City Council authorized \$92,500 for the feasibility study. This item will authorize the remaining funds in an amount of \$82,500 required to complete the feasibility study.

The CAP's second stage will require the City to fund 35% of project design and construction costs. This amount is dependent on the results of feasibility study and thus preliminary costs have not yet been determined.

PROJECT TIMELINE:

The project feasibility began in April 2021 and the final report is scheduled to be completed by August of 2022.

ALTERNATIVES:

An alternative is to not proceed with the cost-share agreement for the feasibility study with the U.S. Army Corps of Engineers, which will allow the erosion to continue along the Colorado Riverbank and remain an imminent threat to the Mary Rhodes Pump Station and intake structure.

FISCAL IMPACT:

This fiscal impact for FY 2022 is an amount of \$82,500, with funding available from the Water

Capital Fund. The FY 2022 CIP expenditures for design were preliminarily budgeted at \$50,000.00. The remaining amount of \$32,500.00 is available under the Contingency expenditure for this project.

FUNDING DETAIL:

This project is listed in the FY 2021 Capital Improvement Program.

Fund: **Water 2015 MRP2 (Fund 4095)**
Mission Elem: Water Distribution (041)
Project: Mary Rhodes Pipeline Phase 2 System Improvements (19025A)
Account: Outside Consultants (550950)
Activity: 19025-A 4095-EXP
Amount \$82,500

RECOMMENDATION:

Staff recommends approval of the motion authorizing Amendment No. 1 to the cost-sharing agreement with the USACE to complete the feasibility study for streambank erosion control related to the Mary Rhodes Pipeline Phase 2 System Improvements project.

LIST OF SUPPORTING DOCUMENTS:

Location and Vicinity maps
Request for additional funds from USACE