

Cangelosi Ditch Widening Project

Project Description

Project Location:

The Cangelosi Ditch Widening Project is located within the City of Missouri City, in Fort Bend County, Texas. The project includes widening the existing Cangelosi Ditch which will include grading, stabilization, and installation/repair of storm sewer outfalls and other attendant features. The project commences southwest of the intersection of Beltway 8 and Fondren road and extends southwest approximately 4,600 linear feet to Texas Parkway.

Description of Proposed Project:

The Cangelosi Ditch Widening Project was originally identified in the 2011 Master Drainage Plan adopted by Missouri City. The purpose of this project is to provide additional drainage capacity for the surrounding infrastructure and reduce flood risk within the community. Missouri City contracted Halff Associates, Inc. (Halff) to finalize construction plans for the Cangelosi Ditch Widening project. This ditch serves as the main drainage channel to Sims Bayou for storm drainage infrastructure servicing nearby schools, subdivisions, industrial sites, and commercial sites.

The proposed drainage improvement project consists of approximately 45,000 cubic yards (CY) of excavation, removal of an existing backslope swale system and the removal/replacement of existing corrugated metal pipe (CMP) outfalls. The proposed project will include the removal of 18 CMP outfalls and the installation of 14 new CMP outfalls. The proposed widening is benched, such that the impacts below the ordinary high-water mark (OHWM) of the ditch will be minimized to the greatest extent practicable. The bench will begin at a minimum of 1 foot above the OHWM. Side slopes are proposed at 3:1, and the backslope swale along the right overbank will be removed to maximize right-of-way (ROW) utilization.

Statement of Purpose and Need for Proposed Project:

The purpose of the Cangelosi Ditch Widening Project is to reduce flood risks by increasing the existing Cangelosi Ditch capacity, while mitigating downstream impacts with an existing detention basin. The project will also aid in accumulating runoff from new development projects in the vicinity. The proposed project is eligible for GLO/HUD funding because it is immediately adjacent to a Low-to-Moderate Income (LMI) area (U.S. Census Tract 670500, CDBG Block 2).

As a result of recent flooding events in the area, namely Hurricane Harvey in 2017, the City of Missouri City sustained flooding of homes and streets that resulted from an inadequate drainage system. During Hurricane Harvey, 172 homes sustained flood damage and 1,300 high water rescues took place in Missouri City. The drainage system failed to properly prevent flooding because existing infrastructure was unable to convey the volume of water generated during the severe storm. This threatened the health, safety, and welfare of local residents and their properties in Missouri City. In addition, standing water on roadways has posed a threat to motorists and emergency response vehicles, after these storm events.

New rainfall data released by the National Oceanic and Atmospheric Association (NOAA), known as Atlas 14, indicate that the 100-year rainfall event will be significantly higher in the area. Adopted for the 100-year, 24-hour storm event in Fort Bend County, is a rainfall depth of 16.5 inches, a 27 to 37-percent increase. Without implementation of drainage improvements, flooding trends will continue to have severe impacts on residents and infrastructure in Missouri City.

Existing Conditions and Trends:

The Cangelosi Ditch Widening Project is entirely located within existing ROW with landcover dominated by maintained grassland. Mature canopy trees are present along the northern ROW limits and wetland vegetation is present abutting the downstream limits of the ditch at both the right-bank and left-bank toe. A variety of land uses surround the project area. Residential land uses adjacent to the project area include the Pine Meadow, Bolton Estates, and Craven Village neighborhoods. These neighborhoods are within a U.S. Census recognized LMI area. An industrial/commercial area is located northeast of Cangelosi Ditch, east of Echo Creek Drive through the project terminus southwest of Beltway 8. Thurgood Marshall High School is immediately adjacent to and southwest of the project area, west of Buffalo Run Park.