

HCFCF PROJECT ID# Q130-00-00-E001

HCFCF UNIT Q130-00-00
Precinct: 3 Key Map Page: 380 J, K, P, T, & U



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Location Q130-00-00 is a tributary located in Crosby, Texas and its sub-watershed is located within the upper reach of the Cedar Bayou watershed (Q100-00-00), which is the easternmost watershed in Harris County.

Background The Q130-00-00 sub-watershed has history of flooding, with recorded damages dating back to the 1970s and several significant flooding events within the last decade. Previous studies conducted for this watershed include the Cedar Bayou Flood Risk Reduction Study completed in 2018 and the Cedar Bayou Q130-00-00 Advanced Feasibility Study (Q130 AFS) completed in 2020. These studies assessed the existing flood hazards of the watershed and identified an ultimate drainage solution aimed to reduce the risk of flooding. Based on the allocated bond fund, the Q130 AFS developed both short-term and long-term recommendations.

This project is part of the 2018 Bond Program.

Purpose The purpose of the project is to identify an alternative that provide flood reduction for the area within the current bond budget. The Preliminary Engineering Report (PER) intent was to analyze and optimize the Phase I flood reduction improvements recommended in the Q130 AFS.

HR Green, Inc was selected to complete the PER that built on the work previously performed through the incorporation of newly collected data. Detention basins, channel improvements, and right-of-way requirements for existing maintenance and drainage improvements were evaluated in the PER.

Evaluation	<p>The PER evaluation focused on the following:</p> <ul style="list-style-type: none"> • Evaluate proposed alternatives based on recommendations from Q130 AFS, optimize the recommended alternative, mitigate environmental impact while providing flood reduction benefits to the area. • Identifying the right-of-way requirements to existing maintenance access needs and future drainage improvements. <p>The primary evaluation of the PER was based on the following criteria:</p> <ul style="list-style-type: none"> • Reduce flooding with in the Q130-00-00 watershed • Reduce the number of Flooded Structures • Reduce the miles of Flooded Roadway • Reduce the Acres of Floodplain Area • Develop a cost-effective Alternative that can be constructed with the existing bonding budget and provide flood reduction benefits to the affected communities within the Q130-00-00 watershed.
Recommended Plan	<p>The following are recommended in the Q130-00-00-E001 PER:</p> <ul style="list-style-type: none"> • Proceed with detailed design and construction for Phase I improvements, which consists of two detention basins and approximately 3,300LF of Natural Stable Channel Design improvements. • Acquire right-of-way for proposed Phase 1 improvements, construction access and maintenance access.
Benefits	<p>The Phase I improvements will allow for lower water surface elevations thus providing a 10-yr system capacity, removing 19 out of 29 structures from being impacted during 500-yr effective (100-yr Atlas 14 equivalent) storm event. The Q130-00-00-E001 PER Phase I recommendations set the foundation for the subsequent phases of the ultimate drainage solution within the Q130-00-00 watershed and full flood reduction benefit.</p>
Engineers Estimate	<p>Phase I Improvements Construction: \$9,550,000 Right-of-Way Acquisition: \$4,000,000 Utility Relocation: \$300,000 Environmental Mitigation: \$800,000</p>

