

# Drainage Improvement Implementation Plan

| Civil Engineering

**LOCATION:**  
Corpus Christi, TX

**CLIENT:**  
City of Corpus Christi

**RVE ROLE:**  
Project Manager

**Project Description:** This project involved conducting an In-Depth Engineering Study and Analysis of The Stormwater Drainage System in the downtown and upper central business district area in the City of Corpus Christi. The study area covered approximately 833 acres (1.3 square miles) and included Five Watersheds. The purpose of the study was to develop a drainage implementation and improvement plan for increasing the level of protection against flooding in the downtown area. TXDOT's THYSYS Winstorm Storm Drain Software was used to model the existing Storm Sewer System and the proposed improvements. Storm Sewers were sized for a 25-Year Design Storm in commercial and industrial areas, and sized for a 5-Year Design Storm in residential areas. Pump stations were analyzed based on providing protection against flooding during a 100-Year Design Storm event.



Reports prepared for this project included basis of analysis, technical memorandum, level of protection goals, and Downtown Drainage Implementation and Improvement Plan Final Report. The reports included drawings of the existing drainage system and the recommended improvements, as well as a new Master Drainage Plan for the study area. Recommendations were developed for 18 Stormwater CIP Projects to be designed and constructed to increase the level of protection in the area, at an estimated construction cost of more than \$31 Million. RVE also prepared a digital slide show using Microsoft PowerPoint - summarizing the study, the study procedure, findings and recommendations - and delivered presentations to the City Engineering Services Department and the City Council. RVE's scope of services included preliminary phase, existing drainage system analysis and modeling phase, level of protection phase, improvement plan alternatives and evaluation phase, and recommendations and capital improvement plan phase services.

## Services Provided:

- Record Drawing Review
- Preparation of Comprehensive Storm System Mapping
- Field Verification of Storm System
- Hydraulic Modeling of Storm System
- Improvements Needed to Increase Level of Protection
- Phasing and Prioritization of Improvements
- Preparation of Cost Opinions
- Comprehensive Report of Finding and Recommendations
- Presentations