

Elliot's project experience included hydrology, hydraulics, and civil/site engineering works. He is specialized in the HEC and ICPR modeling and using the GIS in studies and analyses.

2008-Present

Tule Ditch Master Drainage Plan, City of Rockport, Aransas County – Setup existing and proposed condition models using ICPR3 for the over 2,000 acres Tule Ditch Watershed. Calibrate model and identify primary flood prone areas. Prepare exhibits for areas and the results of various storm frequencies including extreme event conditions. Perform alternative analyses to relieve flooding conditions. Mapping of floodplains using ArcView GIS, ArcHydro terrain and watershed preprocessing, Geo-RAS processing geometry, and Geo-RAS inundation mapping.

Sam Houston Town Center, City of Willis, Montgomery County - Drainage Study for an approximate 22-acre commercial development at northwest corner of Interstate Highway 45 and FM 1097. Included in the study is detention routing for the project and no-impact analysis for the existing adjacent TxDOT drainage structures and roads affected by the project. The methods employed in the study are ICPR modeling using SCS Curve Number and Storm Sewer Calculations for TxDOT no-impact analysis.

Drainage Impact Analysis for Memorial Park Estates - Prepared as a request from the Texas Department of Transportation (TxDOT) - Houston District to determine the impact of the proposed Memorial Park Estates development on the existing drainage conditions in the 6800, 6900, 7004, and 7020 blocks of Old Katy Road. It was concluded that any proposed drainage improvements in this area would not be allowed if they create a negative impact on the existing conditions. The impact is to be measured by the elevation of the hydraulic grade line (HGL) in the existing ditches on the north side of the Old Katy Road right-of-way (ROW) and in the proposed storm sewer to be constructed within the Old Katy Road ROW.

Conditional Letter of Map Revision (CLOMR), Bilal Park Estate Proposed Culverts, HCFCD Unit P146-00-00, Harris County - Hydraulic analysis to support a request for CLOMR for the proposed construction of Bilal Park Estate Proposed Culverts (3-48" RCP) under a proposed road crossing at the HCFCD Unit No. P146-00-00. The report also documents the floodplain analysis and impacts resulting from the proposed construction of Bilal Park Estate Proposed Culverts.

Texas Teo Chew Temple Addition – Hydraulic Analysis Report submitted to City of Houston, Department of Public Works and Engineering. Proposed construction is located within the floodplain and a portion within the floodway of Brays Bayou (HCFCD Unit D100-00-00). The conveyance issue was resolved with City by providing Hydraulic Impact Analysis and supporting documents.

South Park Plaza (HCFCD Unit C132-01-00) – Prepared Hydraulic Analysis Report submitted to the Harris County Flood Control District. Hydraulic impact analysis prepared for the proposed development and culverts under a proposed subdivision road crossing the C132-01-00, confluence with C132-00-00, tributary of Sims Bayou (C100-00-00). Results of the detailed hydraulic analysis show that there will not be negative impact to the stream system under the 10-year and 100-year storm event conditions.

World Houston International Business Center (HCFCD Unit P133-00-00) – Prepared Drainage Analysis Report submitted to the City of Houston and Harris County. The analysis outlines the

proposed drainage facilities for mitigating the planned development of approximately 48.5 acres of commercial and accompanying facilities including online detention basin and proposed culverts at the P133-00-00 system. Results of the detailed analysis show that construction of the facilities will mitigate the increased runoff from the development. Existing flows and water surface elevations will not have a negative impact as a result of the proposed mitigation.

Stafford Tract North of US90A, City of Stafford, Fort Bend County – Prepared Detention Analysis Report submitted to the TxDOT, was approved. The report analyzed existing and proposed detention facilities draining into the TxDOT US90A storm sewer system. This project had been delayed due to a Drainage Impact Analysis dated April 2002, performed by PBS&J on behalf of TxDOT, which identified restricted design conditions of the storm sewer system along the proposed US90A construction. Analysis had met the TxDOT requirements and the results of detailed analysis show that the facilities will mitigate the increased runoff from the Stafford Tract future development and would not negatively impact the receiving storm sewer system.

Ransom Road Widening Project, for Fort Bend County – Drainage study, analysis, and design for Segment 1 that utilizes the existing abbreviated study contained in the approved Ransom Road PER, include hydrologic, hydraulic, drainage plan and profile, ditch and culvert design and layouts.

The Lake Estates on North Eldridge, Grant Road Public Utility District, City of Houston ETJ, Harris County – Drainage Study for a 29-acre residential development on North Eldridge Parkway. The development consists of 65 single-family residential lots of approximately 1/4 acre each with 28-ft curb and gutter roads and underground storm sewer system. The tract is in the watershed of Big Cypress Creek (K100-00-00), partially in Zone AE, in the 100-year floodplain. Submittal is to HCFCD, including detention for floodplain fill and developed flow mitigations.

White Oak Lake Estates Subdivision, Grant Road Public Utility District, City of Houston ETJ, Harris County – Drainage study for the development of a 40-acre residential tract with 58 single family lots of approximately half-acre size and a central detention/amenity lake. Results of the detailed analysis show that the proposed development will have no negative impact to the flood risk of adjacent property.

Various LOMR-F and LOMA submittals and re-submittals

Varied drainage project exhibits and shape files.

2006-2008

LOMR-F submittals included Majestic Estates Section 2, Harris County, Pierce Junction Village Sections 1 to 3, Harris County, Brunswick Lakes Sections 1 through 9, and Alta Cullen Apartments, Harris County.

Drainage and Hydraulic Study Projects:

7.0979-Acre Tract in Sugar Creek, City of Sugarland, Fort Bend County, for Kamin Homes

13.2 Acres on Beechnut – Detention Planning, COH, Harris County, for China Real Estate

27.15-Acre Fort Bend Town Center Commercial Development, Missouri City, Fort Bend County, for NewQuest Properties

110-Acre Tract at I-45 and FM 1097 (including proposed Kroger grocery store), Montgomery County, for NewQuest Properties

167.1-Acre El Tesoro Subdivision, COH, Harris County, for Arete Real Estate and Development Company

517-Acre Pyle Tract Residential Development, Fort Bend County, For Pyle Richmond Property

2,261-Acre Keystone and Holmes Tracts, Montgomery County, for Keystone Natural Resources, Inc. and The Money Center, Inc.

Proposed Ransom Road Drainage Study for Fort Bend County

Proposed Master Drainage Plan for City of Rockport and Aransas County

Detention and Mitigation Design Projects:

Sterling Village, 27.05 acres, 127 Lots, COH, Harris County

358.6-Acre Tuscan Lakes South, COH, Harris County

Storm Sewer System Designs and Calculations (HouStorm / WinStorm / spreadsheet):

Hillin 8-Acre Design, COH, Harris County

Sterling Village, 27.05 acres, 127 Lots, COH, Harris County

El Tesoro Subdivision, design sections and phases for 167.1-acre single-family residential lots

Lift Station and Force Main Designs:

Broadwalk @ St. Charles Bay Design, City of Rockport, Aransas County

2005-2006

Reviewer for District Engineer on Consultant Submittals of Hydrology and Hydraulic Projects, for Brazoria Drainage District No. 4 and Galveston County Consolidated Drainage District – Reviewed submittal reports and plans in drainage, hydrology, and hydraulics.

Drainage Study of County Roads CR-48 and CR-58 for Brazoria County and Brazoria Drainage District No. 4 – Drainage and impact studies for widening two-lane county roads to four-lane boulevards. Proposed alignments cross three watersheds of Clear Creek, Mustang Bayou, and Chocolate Bayou.

Coward Creek 40-Acre Detention Basin Design and Analysis for Galveston County Consolidated Drainage District – Designed detention facilities to mitigate downstream flooding through the use of offline detention. Hydraulic modeling alternatives for maximizing flood reduction. Plans effective in delaying hydrographs and reducing peak flows at downstream locations.

Detention Design for 23.3 Acres at SH 36 and US 90A, Fort Bend County

Design Detention Facilities for American Tower, City of Grand Prairie

Hydraulic Design of Culverts and Ditches for Max Road from Sunbrook to Clear Creek

Sizing numbers of Ditches and Culverts for Brazoria Drainage District No. 4

2003-2005

South Ridge Crossing Drainage Study, Harris County, for BD Realty Advisors – for a multi-use development including detention to mitigate developed flows and loss of floodplain storage due to fill.

Carters Slough, 64.91-Acre Weiner Tract at SH 242/IH-45, Request for Conditional Letter of Map Revision (CLOMR), Montgomery County, for Woodlands Operating Company.

HCFCFCD, Brays Bayou Flood Damage Reduction Plan, Sam Houston Compartment 4 Detention Basin System – HEC-HMS and HEC-RAS studies (steady and unsteady flows).

HCFCFCD, White Oak Bayou Federal Flood Control Project – Hydrologic and hydraulic analyses in support of the General Reevaluation Report.

Request for CLOMR, Fivemile Creek, Jacksonville, Pulaski County, Arkansas, for Two Pine Landfill, Waste Management of Arkansas, Inc.

Drainage Study for Brazoria County MUD No. 30, Brazoria County, for Milestone Properties.

Hydrologic and Hydraulic Analyses for Lakes of Cypress Forest Sections 1 and 2 and Cypress Forest Lakes, Harris County.

Corrigan Drainage Hydraulic Effect on Hatfield Road Bridge HEC-RAS Model

Corrigan Subdivision Drainage Improvements Flood Protection along McLean Street

Small Watershed Hydrograph Method for KB Home Deer Creek Village 27.119 Ac Pasadena Tract

XP-SWMM modeling for Sienna Plantation MUD No. 1

LOMR-F Submittal for Shadow Creek Ranch Phase Developments

ICPR3 modeling for Lakemont Drainage and Detention System Analysis, Fort Bend County

Twin Lakes Drainage and Hydraulic Modeling, Brazoria County

1998-2003

HCFCFCD, White Oak Bayou Phase 2 Channel Improvements from E122-00-00 to Beltway 8 approximately 18,800 linear feet.

Tamaron & Hafer Proposed Development, P145-03-00, No Impact Study

Point Board Oaks Proposed Development, Buffalo Bayou, No Rise Statement

Brentwood Park Detention Pond Design

Sunrise Housing at IH-10 East and Oates Road

Katy Commons Projects

Rodeo Palms L.P., Drainage/Detention Design for Rodeo Palms Golf Club Phase 1 Development, Brazoria Drainage District No. 4, City of Manvel.

Bush International Airport Project No. 555, Bush IAH Terminals B and C, City of Houston – Design for utilities and drainage.

SWMM Modeling and Model Software Improvements, City of Houston - Modeled Houston wastewater network utilizing SWMM and updated existing SWMM models. The existing hydraulic models were converted to InfoWorks format with the use of ArcView GIS.

Hydraulic Modeling and Inflow Correction Program, City of Houston – Comprehensive study, analysis and design of sewer line rehabilitation in all City service areas. Hydraulic analyses of lift stations and sub-basins to determine insufficient flow capacities. Recommendations for new relief facilities and responded to “Request for Information” from consultants by providing dry weather, wet weather, and peak wet weather flows.

Greater Houston Wastewater Program, City of Houston – Assistant Task Manager in charge of Small Line Analysis (SLA). Modeling effort of nearly 1,300 basins of sanitary sewer small lines. Determination of design infiltration/inflow amounts, modeling of small line network and development of cost-effective solutions for prevention of overflows during a two-year design storm. Recommended CIP projects.

1996-1998

Spring-Cypress Road Section X PS&E, City of Houston – Design for widening a one-mile section Spring Cypress Road from 2,010 feet west of Poster to FM 2920 in Precinct Four, Harris County.

Paving Improvements of East Little York Road, City of Houston – Widening of pavement from IH-45 North to Airline Drive, from existing two-lane road to six-lane boulevard with curb and gutter, and design of storm sewer systems.

TxDOT, Laredo District, US 59/SH44 Relief Route at Freer – Location studies, schematics, and right-of-way determinations for US 59 at Webb County from 0.3 mile west of Laredo to 21.7 miles east of Laredo and SH 44 from Freer to San Diego.

Belfort Avenue PER and Final Design, City of Houston – Paving improvement and drainage analysis

TxDOT, Lufkin District, SH 21 Bridge Replacement, Houston - Plans, specifications and estimates for bridge replacements at State Highway 21 crossing the Angelina River and Relief. Floodplain determinations and hydraulic impact analysis used HEC-1 and HEC-2. Scour analysis used the Federal Highway Administration (FHWA) Hydraulic Engineering Circular No. 18, Evaluating Scour at Bridges.

TxDOT, Lufkin District, US 96 Bridge Replacement, Nacogdoches – Schematic design, right of way mapping, preparation of plans, specifications, estimates for bridge replacements and approach roadways at U.S. 96 crossing Huana and Mill Creeks in Shelby County, floodplain analysis, scour analysis, and PS&E.

Clear Creek Regional Flood Control Plan, Clear Creek and Mary’s Creek Hydraulic Model Update, for City of Pearland and Brazoria County – Updated the HEC-2 model flood hazards and floodways, mapping floodplains and floodways, and revision submittals for the FEMA FIRM maps.

Clear Creek Crossing Development, Floodplain/Floodway Impact and Mitigation Analysis, League City – Analysis for reclaiming land through filling in fringe areas of flood plain, proving no adverse impact due to fill, and submittal (preparation of FEMA forms) for a CLOMR.

1989-1996

Empire District Combustion Turbine Project, Joplin, Missouri – Reviewed and performed planning studies, storm drainage systems, sanitary sewer systems, water supply systems, and support for permitting. Reviewed and designed grading and drainage, erosion and sediment control, ash ponds, detention ponds and dams, roads, railroads, earthwork, landfills, pipelines, and pump stations. Supervise and preparation of drawings, specifications, reports, and documentation.

Black Hills Neil Simpson Unit 2 Project, Gillette, Wyoming – Same

Storm Water Management Calculations, for EEA Development Projects, New Jersey & Florida – Performed calculations on pre-development and post-development runoff; storm water runoff and water quality control, detention pond volume, sizing, and storm routing calculations; percolation pond calculations; culvert sizing and design of storm sewer systems. Projects included Clark Cogeneration Plant, Florida, Auburndale Cogeneration Plant, Florida, Ridgefield Cogeneration Facility, New Jersey, and Bayonne Cogeneration Facility, New Jersey.

Stormwater Management Plan, TECO Power Services, Hardee Station, Florida – Designed site drainage facilities in accordance with requirements of Southwest Florida Water Management District (SWFWMD). Performed site grading and drainage plans. Designed culverts, storm water drainage system, and a site runoff wet detention pond.

SWPA, Paragould Substation Drainage Project, City of Paragould, Arkansas – Developed drainage improvement plans at Paragould substation east of US Highway 49B.

Other civil/site and hydro engineering projects.