

**Project: Drainage Improvements and Drainage Hydraulic Modeling, Jefferson Parish and Kenner, LA**  
**Client: Jefferson Parish, LA Department of Public Works; City of Kenner, LA Department of Public Works**  
**Client Contact: Kazem Alikhani; Mike Stuart**

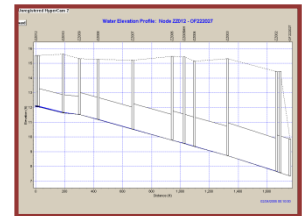
**MSMM Services:** Hydraulic analyses, hydrologic studies, HEC-HMS, HEC-RAS, stormwater hydraulic modeling (USEPA SWMM), conceptual planning and design of flood risk management structures (u0shaped concrete flumes, and box culverts), Detailed Design Report (DDR), preliminary design, final design.

**DESCRIPTION**

Risk analysis processes and risk informed decision based flood risk management services, as well as risk analysis processes and risk informed decision based water and water-based computational analyses, dealing with life safety risk involving multiple flood risk management structures within a single project, (stormwater drainage pump stations, floodwalls, subsurface drainage network (closed conduits) discharging to stormwater conveyance channels and stormwater drainage pump stations, concrete flumes and box culverts, suction canal, discharge pipes, reinforced concrete levee crossing, reinforced concrete discharge basin and stormwater drainage pump stations) for the following projects:



- Parish Line Pump Station. This project posed **unique complexity** due to the discharge piping of the pumping station travelling through existing **hurricane storm damage risk reduction system (HSDRRS) floodwall**. **Hydraulic analyses of open channel flow (Canal Nos. 17 and 7), including steady and unsteady state conditions, as well as hydrologic studies (rainfall runoff analyses) using Hydrologic Engineering Center’s software HEC-HMS and HEC-RAS for 10-year, 50-year, and 100-year rainfall/storm events.** The hydraulic model involved 11,500 ft of Canal No. 17, 8,800 ft of Canal No. 7, 1,000 ft of concrete box culverts, 9,100 ft of Butler Canal, 900 cfs current pumping capacity at Parish Line station, and 4,800 cfs current pumping capacity at Duncan Canal station. **Construction Cost: \$34 M (estimate).**



- Kenner Drainage projects conducted in Kenner, LA. **Hydraulic analyses of closed conduit flow utilizing US EPA’s Stormwater Management Model (SWMM) software.** More than 10,000 nodes, an area of more than 8,000 acres, and a total length of more than 200 miles of closed conduits. Hydraulic Modeling (US EPA SWMM), master planning, funding.



- Soniat Canal Improvements (Southeast Louisiana Urban Flood Control) Project. **Hydraulic studies, DDRs, design, geotechnical investigations, preparation of plans and specifications, construction management and resident inspection for flood risk management structures (u-shaped concrete flumes, and box culverts).** **Size:** Designed 8,700 ft, canal and 700 ft of bridge (\$80M). **Construction Cost:** \$155 M (estimate).



- Harahan Drainage Pump to the River Jefferson Parish, LA. **Crossing of State Highway and Mississippi River levee, Reinforced concrete levee crossing** of discharge pipes, and **Reinforced concrete discharge basin in Mississippi River.** **Size:** 700 ft long suction canal, 9,000 ft long discharge pipes, 12,000 cfs pumping station. **Construction Cost:** \$200 million.