

Proven Solutions for Large Hurricane and Flood Risk Management Projects

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After **Hurricane Katrina** with 14 billion US dollars, many complex projects have been constructed around New Orleans to provide a 100-year level of protection from a storm as part of the Hurricane and Storm Damage Risk Reduction System (HSDRRS). These projects involved hydraulic structures, pump stations, concrete bridge, steel bridge, access ramp, generator building, control house buildings, VLG towers etc. State of the art finite element approaches as well as traditional simplified analysis were considered in designing these structures. An innovative construction technique Early Contractor Involvement (ECI) [*a Hybrid-Design Build concept*] method was used to complete some major projects within the time frame mandated by US Congress. Inner Harbor Navigation Canal (IHNC)-Seabrook Complex and West Closure Complex Pump Station- World's Largest Drainage Pump Station will be the focus of this presentation. How the alternatives were selected, challenges and solutions during the design and construction of these mega projects, lessons learned and operation and maintenance details will be discussed. Performance of these projects during the recent **Hurricane Isaac** in August 2012 will also be discussed. How knowledge from these projects is being utilized around New York after **Hurricane Sandy** and some other international projects will also be part of the presentation. These projects have won numerous national and international awards. How these are important for Texas coast will also be part of the presentation.