



**Physical Setting.** The project is located in the metropolitan New Orleans area in the low-lying marsh areas of Louisiana. It is accessible to the Gulf of Mexico through the Mississippi River, through the Mississippi River Gulf Outlet, through the Rigolets and Chef Menteur Passes, and through Lake Pontchartrain via Lake Borgne. Map No. 1 is a general map showing the location of the project in southeast Louisiana. The metropolitan area is situated for the most part below sea level with many areas near - 5 feet below mean sea level (MSL). The metro area must be protected from inundation by high Mississippi River stages and normal tide levels with an extensive levee system. This levee network prevents the drainage of rainfall from the protected area by gravity. Rainfall that falls within the protected area is collected by a network of drainage channels and must be removed by pumping across the levees.

Storm surges originating in the Gulf can easily threaten all or part of the project. The SPH storm surge can raise the surface of lakes and rivers adjacent to project levees as much as 12 feet above normal. In addition, high winds accompanying hurricanes can cause large waves to impinge on the project levees. Levees exposed to Lakes Pontchartrain and Borgne can be threatened by wave runup in addition to storm surge; these levees were designed to prevent overtopping from wave runup accompanying the surge. The levees and floodwalls exposed to high tidal stages, but not wave runup, were designed and constructed with freeboard. The Jefferson - St. Charles Parish Return levee has 3 feet of freeboard; the South Point to GIWW levee has 2 feet of freeboard. The floodwall along the Inner Harbor Navigation Canal was constructed with only 1 foot of freeboard. Map No. 2 illustrates SPH stillwater levels and the designed and existing levee and floodwall heights.