

Hurricane and Storm Damage Reduction Project

Raritan and Sandy Hook Bay in Port Monmouth, New Jersey



Driven Piles for the Hurricane and Storm Damage Reduction Floodwall Foundation

Project Information
Owner: U.S. Army Corps of Engineers
Client: Kyle Conti Construction
Project Name: Hurricane and Storm Damage Reduction Project – Phase II
Project Cost: \$13.7 Million
Test Types & Pile Sizes: PDA – HP 12x84 H-Piles
Completion Date: 2020

GRL Services Provided
<ul style="list-style-type: none">▪ Preliminary GRLWEAP Analysis▪ Dynamic Pile Monitoring▪ CAPWAP® Analysis

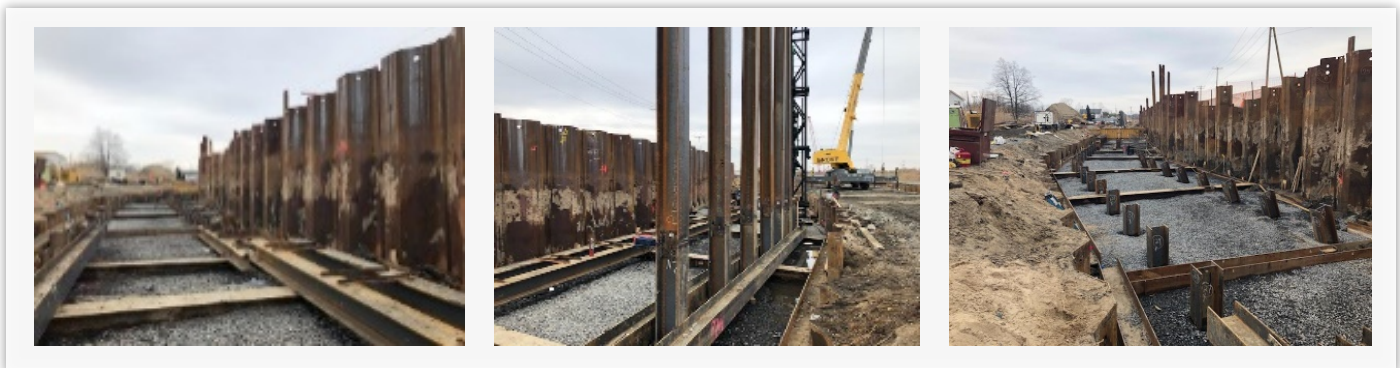
GRL OFFICE: PENNSYLVANIA

Hurricane Sandy hit the coastline of New Jersey at the end of October 2012, causing millions of dollars in damages including 750 homes impacted by the storm in Port Monmouth township, New Jersey. Due to this event and the other hurricanes devastating the coastline in more recent years, the U.S. Army Corps of Engineers decided to take a proactive approach to help mitigate the effects of future storms to come by commissioning a four-phase project which is scheduled to be completed by 2020. Part of phase II of the project included constructing a 2,661 linear foot floodwall requiring a new foundation to be installed for which GRL Engineers provided assistance.



Dynamic Pile Testing (PDA)

GRL's services for the Hurricane and Storm Damage Reduction Project included completing a multitude of [Wave Equation Analyses](#) which included **Bearing Graph** and **Driveability** analyses. The Driveability results predicted that the predesigned foundation would potentially not meet the required capacity, raising awareness to the client and owner. [Dynamic Pile Testing \(PDA\)](#) and **CAPWAP®** analysis on the HP 12x84 H-piles were substantiated with Static Load Testing results which showed that the predicted results from the Wave Equation Analyses were accurate, resulting in a new design for the foundation. Once production started, GRL monitored numerous H-piles throughout installation for this important project to the residences and residents of the Northeast New Jersey coastline.



Construction of a Floodwall Foundation using HP12x84 H-Piles