

Raising the East River Park for Resiliency

The East Side Coastal Resiliency Project is an initiative by the NYCDDC to protect lower Manhattan from future storm surges and sea level rise, while reconstructing 1.24 miles of waterfront parkland on the Lower East side of Manhattan.

The project area encompasses East River Park and stretches from 14th st to Montgomery st, on the East Side of the FDR Drive, and entailed the reconstruction of 1.24 miles of bulkhead and the construction of a 1.5-mile Flood Wall with the placement of 650,000 cy of imported fill to increase the elevation of the park. Floodwall crossings at critical infrastructure such as the FDR drive will be accomplished by the construction of 4 deployable floodgates. Since the shoreline within the project limits had changed significantly over the past 300 years, and consisted of buried former bulkheads, existing steel sheets and extensive unconsolidated urban fill material, the project faced a host of geotechnical and logistical challenges. Soil mitigation measures included rigid inclusions, jet grouting, soil mixing, stone columns and wick drains.

The new bulkhead would consist of an alternating combi wall and tangent pile wall supported by a dead man system. Bulkhead installation presented challenges due to the site's soil conditions, access constraints and obstructions. All wall foundation elements were to be installed in full lengths ranging from 50 to 90 feet.

Limited site access and the goal of minimizing truck traffic led to the implementation of a waterfront facility to offload aggregate and backfill material and export contaminated soil. Flood gates at road crossings and the FDR, would be performed with off shift work and traffic shifts to maintain traffic during construction.