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Rehabilitation of Three Lincoln Park Bridges

Hudson County, NJ

PROJECT NAME

Design and Construction Inspection for Three Bridges located in Lincoln Park, Jersey City in Hudson County, New Jersey.

PROJECT OWNER

Hudson County Department of Public Resources

SERVICES PROVIDED

- Bridge Design
- Site Engineering / Drainage Design
- Roadways Design
- Seismic Engineering
- Traffic Engineering
- Utilities Engineering
- Construction Management

PROJECT DESCRIPTION

As a prime consultant, **KS Engineers, P.C. (KSE)** was responsible for complete design and construction inspection the Lincoln Park Bridges in Jersey City, NJ. The project included replacements for two concrete encased beam structures over US Routes 1&9 in Jersey City. The replacements eliminated substandard vertical and horizontal clearances, necessitating longer spans and a slightly higher profile than those of the previous bridges. The new bridges, one vehicular and the other for pedestrians only, are prestressed concrete box beam spans supported on integral pile abutments. The single row of piles for each abutment was placed behind the existing large timber pile foundations, avoiding the need to remove them.

The pile supports are placed between the stems of T-wall, which is a proprietary type of precast modular wall. The T-walls form the earth retaining structure around the piles and pile caps, and the wingwalls. On one side the T-wall is extended for several hundred feet to increase the space for a ball field adjacent to the roadway. The County requested that the T-Walls have a random large stone appearance which was created using form-liners and staining the "stones in various colors.

The profile of the approach roadway was improved in keeping with geometrics that are acceptable for a low volume road in a park setting. A sidewalk on one side was also designed to incorporate a handicapped ramp because it forms a segment of the embryonic Liberty Gap Trail.

KSE also provided full Construction Administration and Inspection services for the entire construction project. The work included the demolition of the existing vehicle bridge and two pedestrian bridges over Route 1 & 9 Truck and construction of a new vehicle bridge and one pedestrian bridge. **KSE** was responsible for review and approval of shop drawings, documentation of the work and recommendation for providing monthly estimated payments, response to the contractor's request for information, maintaining project files, recommendations for change orders to the project, providing as-built drawings, monitoring project schedule to meet required completion dates and the monitoring of the pile driving, installation of the pre-cast concrete sections for the abutments and retaining walls, installation of pre-cast concrete beams, bridge reinforcing steel and deck concrete placement, installation of cast in place parapets and pre-cast parapets, milling and HMA paving of approach roadways, construction of sidewalks, installation of concrete and granite block curbs, construction of block retaining walls, installation of stone walking paths, line stripping, utility relocations, installation and removal of temporary access road to the west side of Lincoln Park, landscape reconstruction and maintenance and protection of traffic.