

Wetland Permitting and Mitigation Design

Bayonne Golf Club Bayonne, NJ

The Bayonne Golf Club acquired the site from OENJ Cherokee Corporation in the Spring of 2005 to finalize the construction of a world class golf course . Initially, OENJ Cherokee remediated a hazardous waste site and closed a landfill as part of an innovative redevelopment project in Bayonne, New Jersey. The project was designed to cap and fill the approximately 160-acre site with 4.5 million cubic yards of amended dredged material. The remediation and closure design for the site required that 9.7 acres of wetland be impacted.

The staff of Princeton Hydro played an integral role in the preparation of the Waterfront Development Application and Section 404 permit application that was needed for this project. As part of a waterfront development permit from the NJ Department of Environmental Protection and the Section 404 permit from the US Army Corps of Engineers, Princeton Hydro developed an innovative wetland mitigation plan that focused on creating 13.9 acres of intertidal habitat. The mitigation plan proposed the filling of 11.4 acres of a relatively unproductive shallow water area to create an estuarine complex of subtidal open water and smooth cordgrass (*Spartina alterniflora*) dominated wetland.

The determination that the mitigation area was suitable for the creation of an intertidal wetland was based on the results of a year-long aquatic study performed by Princeton Hydro. The mitigation area was designed to increase the productivity of the estuary and to provide foraging habitat for forage fish, such as silverside and killifish, as well as waterfowl and wading birds. To assess channel stability and to evaluate tidal flow, an evaluation of the channels in the mitigation area was performed using Dynlet 1.

As part of the mitigation project Princeton Hydro also designed a 1,000 foot breakwater to protect the site's highly eroded eastern shoreline water After two years of fishery surveys, the project has shown a dramatic increase in forage fish use as well as use by juvenile striped bass and bluefish. The wetlands created at the Bayonne Golf Club Site are readily accessible to the public, as they will be spanned by a nearly 900-foot section of the Hudson River Walkway. Princeton Hydro is currently working with the Bayonne Golf Club to satisfy additional permitting needs.

This project received the 2004 Environmental Excellence Award from the New Jersey Business & Industry Association.

