SCHNABEL
GEOSTRUCTURAL DESIGN & CONSTRUCTION

Project Report

TIEBACKS

PORT OF HOUSTON - HOUSTON,TEXAS

Schnabel stabilized two existing 25-ft tall sheet pile walls at the Port of Houston, inland of Wharf 11 and Wharf 13. The decision to repair the walls was made after a portion of one wall failed and threatened to block train and truck traffic at the Port. The work consisted of repairing the failed portion of the wall, and providing additional stability to the remaining walls. The owner also wanted the repairs to be asthetically pleasing and the work had to be completed without shutting down the rail, the road or affecting the activities at the Port. Consideration of the saline environment had to be a part of the solution. The Port of Houston Authority required the use of permanent tiebacks and protection of the anchor heads.

The scope of work at Wharf No. 13 consisted of first repairing a 150-foot long failed section of the wall and stabilizing the entire structure with permanent tiebacks. The overall length of the wall is 390 ft. Repairs to the failed sheet pile consisted of excavating behind the wall, bending back or replacing the damaged steel and rebuilding the wall. Because of the nature of the repairs, the tieback design consisted of ties at every two sheets. No walers were necessary. Schnabel installed 142 tiebacks in two tiers and the anchor heads were encased in concrete.

The wall at Wharf No. 11 is approximately 460 feet long and 25 feet high. The work at this location was preventive in nature since the wall remained stable. However, the Port decided to proceed with the repair prior to any wall movement. Since the wall was fairly straight, two tiers of walers and tiebacks were installed with tieback spacings varying from 6 to 10 ft. The anchor heads were also protected inside concrete encasements.

Owner: **Port of Houston Authority**
General Contractor: **Forde Construction**
Design/Build Specialty Contractor:
Schnabel Geostructural Design & Construction

PORT HOUSTON
THE INTERNATIONAL PORT OF TEXAS

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