

has been treated in general in the same manner as in the other parts of the structure, that is, by adding the necessary number of piles to carry the load concentrations, assuming the piles to be permanent below low water and easily renewable above that plane.

Concrete Deck Pier.
 Cost of construction, 31st Street Pier, South Brooklyn, no asphalt surface..... \$0.87 per sq. ft.
 Cost of construction, 33rd Street Pier, South Brooklyn, with asphalt surface 0.97 per sq. ft.

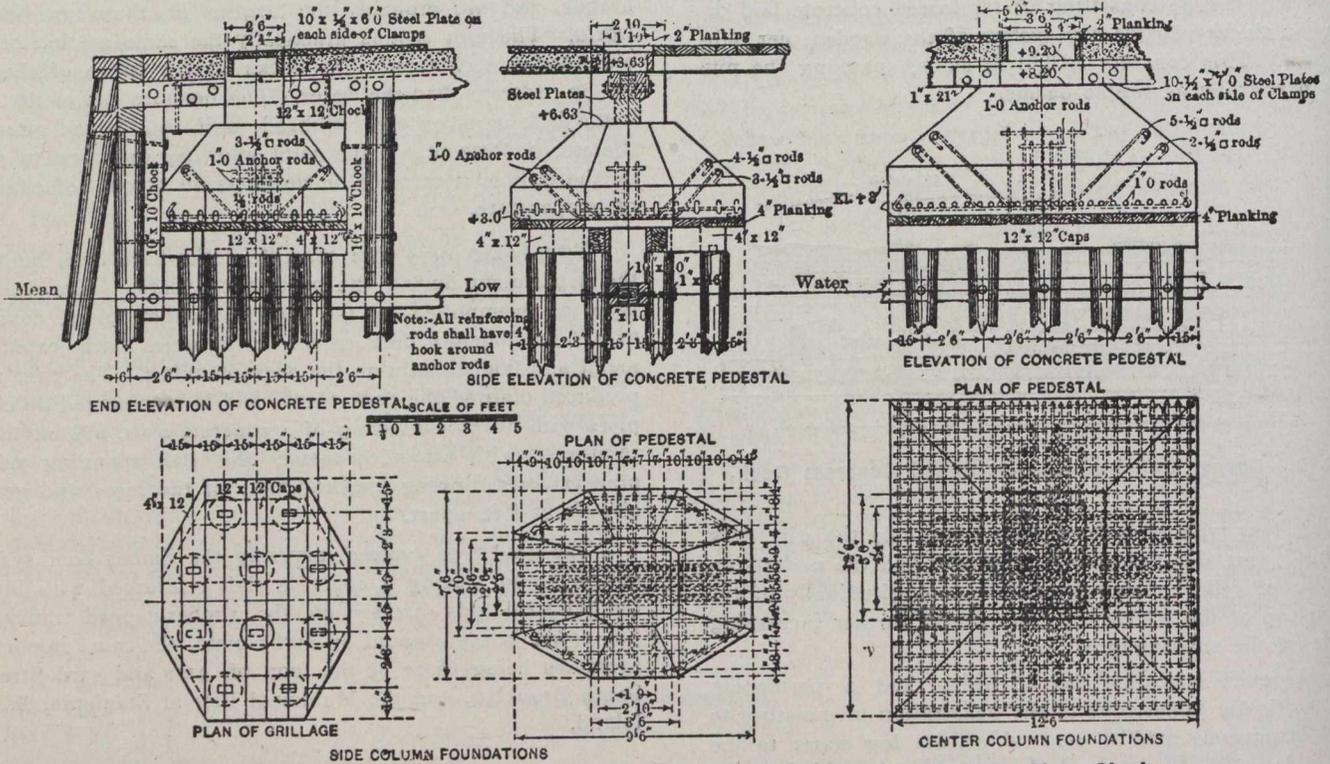


Fig. 4.—Details of Reinforced Concrete Deck and Column Pedestals, Two-Story Shed.

Where heavier concentrations occur, as, for example, in double-deck or two-story sheds, the piles are cut off at or near low water and covered with a timber grillage; built on this grillage are reinforced concrete pedestals, extending to the deck level, to carry the shed columns.

Railroad tracks, being a requirement on the South Brooklyn piers previously described, are carried on four lines of 15-in. steel I-beams, placed on the transverse clamp system of the pile rows and extending from the in-shore end of the pier sheds to within 60 ft. of the out-shore shed wall. The beams rest on steel saddles placed on the clamps, and are entirely encased in concrete.

Cost of Construction, Maintenance and Repairs.

Average Cost of Construction of Wooden Deck Piers, \$1.00 to \$1.15 per Square Foot.

Repair Costs of Wooden Deck Pier.

Description.	Percentage of total original cost.	Renewal required.
Sheathing	12	Every 6 years.
Backing log	1.8	Every 8 years
Fender chocks, including vertical sheathing	4	Every 10 years.
Fender piles	4.7	Every 12 years.
Decking	11.3	Every 15 years.
Bracing	7.1	50% in every 20 years.
Rangers and caps	24.4	50% in every 20 years.
Piles*	34.7	33 1/3% every 20 years.

*Above M.L.W. only.

Economy being a prime factor in its construction, it was decided to try out the concrete deck surface for wear and tear of heavy team traffic, and the earlier decks, therefore, were finished with a smooth mortar surface to receive this traffic. Two years of experimenting on these lines, determined the fact that though the concrete surface was admirably adapted to light traffic, cargo handling by hand or

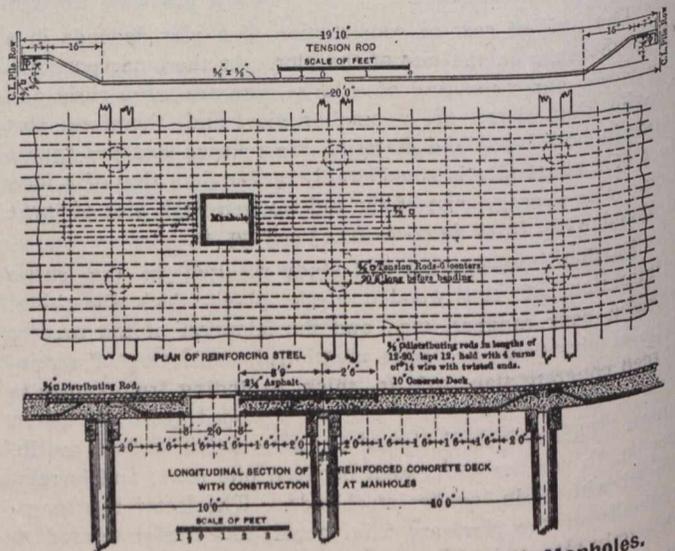


Fig. 5.—Two-Story Shed—Construction at Manholes.

motor trucks, etc., it could not stand the concentration of heavy team traffic confined within narrow lanes located generally in the centre of the pier. The grinding and turning of heavily laden trucks inside these narrow lanes or zones gradually caused surface rupture of the top coat of mortar.