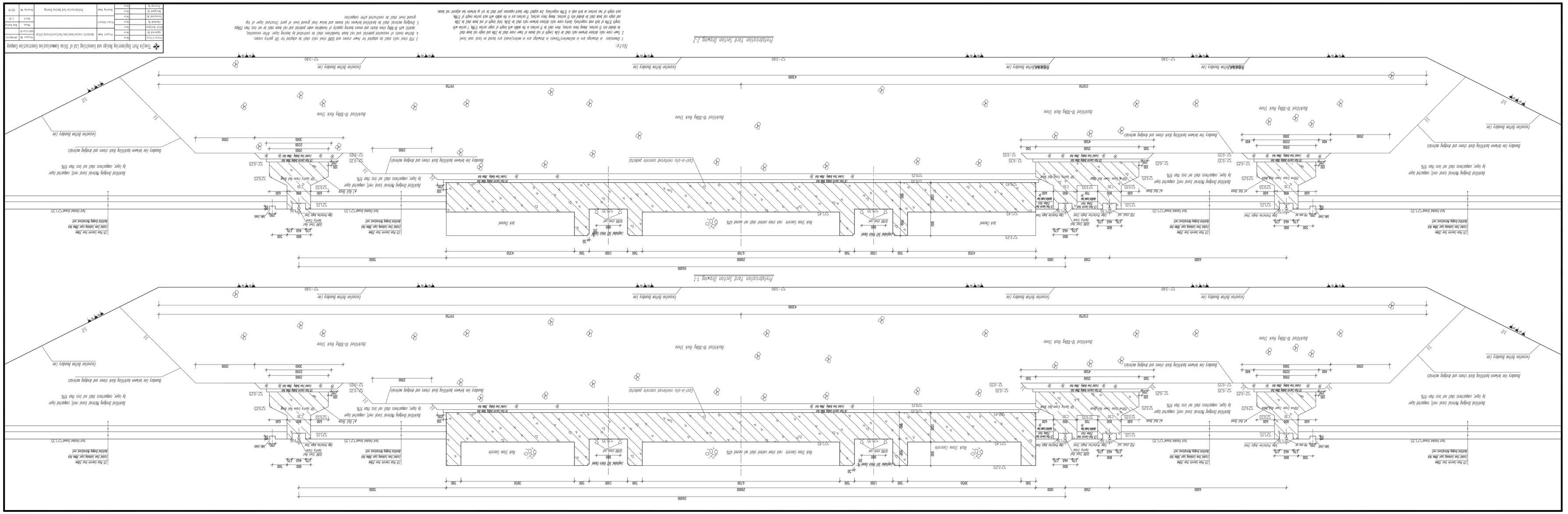
Tianjin Port Engineering Design and Consultancy Ltd (Construction Company)

Project Title	Name	Tianjin Port Engineering Design and Consultancy Ltd	Drawing No.	DK-04-17	
Approved By	Sign		Date	Rev No.	
Chief Engineer	Sign	Project Director		Scale	1:20
Checked By	Sign				
Reviewed By	Sign				
Designed By	Sign	Preliminary Soil Bottom Drawing	Drawing No.		132-01
Prepared By	Sign				

Notes:
1. Dimensions in drawings are in millimeters unless otherwise noted; elevations are in meters relative to the local survey datum.
2. Concrete in the dolphin and pile caps shall be C35 with a minimum cement content of 360 kg/m³ and a maximum water-cement ratio of 0.45; concrete in the deck slab and beams shall be C40 with a minimum cement content of 400 kg/m³ and a maximum water-cement ratio of 0.40.
3. Reinforcing steel shall be HRB400E with yield strength not less than 400 MPa; all bars in the splash zone and the top 1.5 m of each pile shall be epoxy-coated, and all cut ends shall be coated after bending.
4. Piles shall be driven to the design penetration and to a set not exceeding 2 mm per blow averaged over the last 10 blows; the actual pile lengths may be adjusted by ±1 m after the pile-driving analyzer results are reviewed.
5. Fender piles shall be protected by UHMW-PE pads 20 mm thick, and the fender system shall be inspected annually and after any berthing of a vessel exceeding 150,000 DWT.
6. Dredging to the design depth shall be carried out in two passes, with a tolerance of +0 mm and −300 mm, and the bottom shall be surveyed by multibeam echosounder before and after dredging.
7. Concrete placed in the tidal zone shall be cured with wet burlap for not less than 14 days, and the surface shall be protected from rapid drying when the ambient temperature exceeds 30 °C or the relative humidity falls below 50 %.
8. All welding of steel plates shall be performed by welders certified to AWS D1.1, and 100 % of the butt welds in the fender frames shall be examined by ultrasonic testing.
9. The contractor shall submit a method statement for pile driving, concreting, and dredging at least 30 days before the start of each work, and no work shall proceed without the engineer's written approval.
10. Survey monuments and benchmarks shall be established on land and verified before and after the typhoon season, and any movement exceeding 10 mm shall be reported immediately.

Pretightening Third Section (Drawing 2-2)

Pretightening Third Section (Drawing 1-1)


Existing Bottom Boundary Line
Excavation Bottom Boundary Line
Bulkhead Ro-Ro Ramp Slope
Boundary line between bulkhead slopes and dredging materials
Bulkhead dredging material hard rock compacted layer not less than 95% by layer, compactors shall not less than 95%
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