

NAME OF Work :- Upgradation of Fendering System of Cargo Berth No. 15 and associated structures.

Schedule B

Item No	Description	Qty.	Rate		Unit		Amount
			in Fig	In Words	in Fig	In Words	
1	Removal, Providing & Fixing dual cone fender : Removal of existing fender carried by mechanically making the hoisting arrangement, lifting with suitable mechanical equipment and stacking at a distance of 5 km away from site & stacking in position, removal shall be carried out along with all attachments from its position by opening or cutting all the chains and separating frontal frame and detaching all the existing fenders from its position by opening or cutting S.S. nuts bolts and cutting of all stud links chains complete.-Providing and fixing new fender system consisting of dual cone type fendering system (1400H) rubber fenders manufactured by ABC Rubber, Lion Rubber, IRM, HI-Tech, Brahmans or equivalent with absorption equal to or more than berthing energy of 1309 KNM reaction force equal to less than 1964 KN, and 1 No. of fabricated steel frontal frame of size 2.0mx0.20mx7.5m including stool piece with rubbing surface (Low friction UHMW synthetic resin rubbing pad) 40 mm thick including necessary high tensile galvanized wrought irons chains, shackles, anchor bolts, U hook and other fixtures fixing with resin fastener RE500V4 or equivalent and painting etc, with all labour and material complete.	14.00			Nos	One Number	
2	Providing and fixing of cast steel twin horn type bollard of 150 tonne each capacity top portion on existing deck slab with high tensile hex headed nuts to new bolts fixing with resin fastener RE500V4 or equivalent in front and back portion of base plate complete with all fixtures as per drawing, including grouting with cement concrete mix of proportion 1:1.5:3 of concrete surrounding base plate up to top surface, filling the cavity and painting as per manufactures specification and drawing etc. complete as directed by EIC.	14.00			Nos	One Number	

Item No	Description	Qty.	Rate		Unit		Amount
			in Fig	In Words	in Fig	In Words	
3	Removal, Providing & Fixing Galvanised M.S. ladder : Removal of existing Ladder by mechanically making the hoisting arrangement, lifting with suitable mechanical equipment and stacking at a distance of 5Km away from site & stacking in position and after dismantling the surrounding concrete, opening/cutting of Hex horizontal nut bolts and detaching the headed nuts and other portion from plate, disposal of dismantled concrete. Providing & Fixing of New Galvanised M.S. ladder with G.I. Coating of 150 micron comprising stringers rung and fixing with angles, Anchor Rods HAS-U 8.8, M27 x 340 mm Long Stainless Steel (SS 316 Grade) nuts, Bolts, and washers , firm holds at top etc. including making holes, fixing & grouting with epoxy bonding resin fastener RE500V4 or equivalent. Complete as per drawing and as directed by Engineer-in Charge.	1,530.00			Kgs	One Kilogram	
4	Surface preparation : Chipping and removal of dilapidated concrete from RCC structural members carefully by suitable means up to sound concrete using electrically operated low impact concrete chipper (where use of electrical chipper is not feasible chisel & hammer may be permitted with great care and under supervision). including cutting/Removal of liner, cutting the excessively corroded reinforcement wherever directed, cleaning the chipped surface with wire brush, providing and applying rust covering primer. complete as specified & as directed including necessary scaffolding. Removing/disposing or stacking the salvages etc. Complete as specified & as directed by EIC.	1,240.00			m ²	One Squire Meter	
5	Providing and fixing shear connectors supplying, fabricating and fixing Thermo-Mechanically Treated bars of grade Fe 500D or more with anticorrosive coating rods of 12 mm dia of min 250mm long to be placed in position in 14 mm dia in 150 mm depth hole, as shear connectors / anchor rods, including supplying, applying anticorrosive coating, mixing, drilling and filling the gap around the rods with adhesive anchor HY 200 or equivalent. Complete as specified & as directed by EIC.	12,133.00			Nos	One Number	

Item No	Description	Qty.	Rate		Unit		Amount
			in Fig	In Words	in Fig	In Words	
6	Providing and fixing Galvanised mesh size 100 X 100 mm minimum 3mm of thick/or as directed for Micro concreting work, including cutting, tying with binding wires and nailing 5 nos sq.m with GX fastening machine in position, labour, tools, plants, machinery, scaffolding etc. Complete as directed by the Engineer-In-Charge.	474.00			m ²	One Squire Meter	
7	Supplying reinforcement of Thermo-Mechanically Treated bars of grade Fe 500D or more, cutting, bending, fabrication of steel reinforcement as per requirement at site and fixing the reinforcement, the rate shall include cost of cutting, bending, shifting and fixing the steel bars including equipments, plants, cost of materials, instrumentation, hiring of boat, catamaran, Pontoon, labour and transport, fuel, etc. complete. Supply, fabrication of new steel reinforcement all and requirement at site and fixing the reinforcement steel as per drawing. Complete as directed by EIC.	90,785.00			Kg	One Kilogram	
8	Anti corrosive coat : Supply and apply of Anticorrosive coating Barguard or equivalent to the new and existing reinforcement after removing the rust and scales by mechanically to prevent the rebars from corrosion activity as specified and completion as directed by EIC.	90,785.00			Kg	One Kilogram	
9	Providing & placing in position of Galvashield XPI or equivalent Sacrificial Anode with connection to rebar and fixing of self regulating at the required locations during the time of execution and completion as directed by EIC.	159.00			Nos	One Number	
10	Providing and applying Epoxy Bonding Agent before pouring the Micro concrete, the base and the hardener of the epoxy jointing compound Epbond EP or equivalent shall be mixed mechanically using a slow speed heavy duty drilling machine. The same shall be applied over the prepared surface using good quality brush. Cost of materials, tools and other hire charges all machineries and all labour charges etc are included., as specified and completion as directed by EIC.	474.00			m ²	One Squire Meter	

Item No	Description	Qty.	Rate		Unit		Amount
			in Fig	In Words	in Fig	In Words	
11	Providing and laying cement based pre packed non shrink free flowing Micro concrete Microcone RGL75 or equivalent with ratio of 1:1 (Cement and 12mm chip) including water tight shuttering etc, complete. As specified and as directed by EIC (Manufactured by M/s Redwop, M/s Pidilite or any equivalent supplier).	189.00			m ³	One Cubic Meter	
12	Polymer Modified Mortar: Supply and apply of Polymer modified fibre reinforced cementitious mortar (such as Microcone RGL or equivalent) of required thickness including raking out joints, scrubbing and cleaning, finishing smooth, curing etc complete. As specified and as directed by Engineer-In-Charge..	6,612.00			m ²	One Squire Meter	
13	The Acrylic emulsion cement modified and water based concrete Curing Membrane (such as Redicure Acry or equivalent) and Appling immediately after the concrete gets finished, the membrane shall be sprayed over the concrete finished area without any gap or pinhole. The cost of all materials, tools and all labour charges etc are included., completion as specified and as directed by the Engineer-In-Charge.	1,239.887			m ²	One Squire Meter	
14	M30 grade concrete - Providing & laying in position machine batched & machine mixed design mix M-30 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site, cost of centering, shuttering, suspended platform, finishing, including admixtures in recommended proportion as per IS: 9103 to retarding super plasticizer admixture (such as Procrete R75 or equivalent) for water reducing, improve workability as per directed by EIC.	324.00			m ³	One Cubic Meter	
15	Providing and applying protective coating Deckguard S or equivalent - Aliphatic Acrylic protective and waterproof coating after proper surface preparation, cleaning of dust, dirt etc. System should be application of Deckguard Primer- Water based acrylic primer on prepared surface and application of 2 coats of Deckguard S or equivalent at suitable brush or roller, completion as specified and as directed by the Engineer-In-Charge.	6,252.00			m ²	One Squire Meter	

Item No	Description	Qty.	Rate		Unit		Amount
			in Fig	In Words	in Fig	In Words	
16	Supply and place in position to lines and levels cast-in-situ design mix cement concrete of grade M-40 using cement, 20mm MSA for wearing coat of average thickness of 100 mm including preparation of surface by dismetalling/removing of existing wearing coat, scrapping, hecking, form work if required. Applying chemical adhesive layer/cement slurry, weigh batching machine mixing, placing in panels, forming slopes, placing of Hardfloor or equivalent non metallic floor hardener (7 kg/m ²) & finishing with floater machine compacting curing etc. complete with all labour and materials. (a) C C Wearing coat 100 mm thick.	900.00			m ²	One Squire Meter	
17	Providing & fixing Sign Boards made out of 14 gauge aluminum sheet of req. size, bonded with coloured Retro-reflective sheeting having pressure sensitive adhesive, screen printed with desire letters of approved size & colour on approved background & fixing etc. as provided including designing the board from approved manufacturer as directed by the EIC.	85.00			m ²	One Squire Meter	
18	Supplying & applying of Redopoxy Night Glow Paint or equivalent as per specifications & methodology specified and as directed by EIC.	540.00			m ²	One Squire Meter	
19	Painting of existing bollard with black anti-corrosive bitumastic paint of approved brand and manufacture (such as EPKOTE ET140 or equivalent) to give an even shade including Cleaning, Chipping and Make Surface Smooth including cost of all materials, tools and all labour charges etc. as directed by EIC.	79.00			Nos	One Number	
						Total Rs.	

Contractor

Executive Engineer (C-I),
Deendayal Port Authority