

Name of Work : - Strengthening of Berthing Jetty at Off-Shore Oil Terminal, Vadinar”

Schedule :- B

Item no	Item Description	Quantity	Rate		Unit	Amount
			in fig.	in words		
1(a)	Dismantling and removing of existing rubber fenders, MS Ladder and Bollards including flat bars, nut, washer and angle, etc located at the existing berthing jetty. Dismantled materials shall be stacked as per the direction of Engineer-in-charge, DPA. Item rate is inclusive of charges for labour, supervision, tools tackles, scaffolding, safety equipment and shifting of concrete debris to the designated place etc., complete as per specification and as directed.by Engineer In Charge (Work under tidal condition) Arch Fender/D Fender	16			Nos	
1 (b)	Square Fender - 350mm x 200mm	3			Nos	
1 (C)	MS Ladder	16			Nos	
1 (d)	10T Bollards	19			Nos	
1 (e)	30T Bollards	8			Nos	
2 (a)	Breaking, removing and chipping mechanically loose disintegrated damaged concrete up to the good concrete including the cutting of reinforcements, Liner , channel sections left out portions of ladder using mechanical pneumatic hammer or suitable devices as per the direction of the Engineer in Charge. Item rate is inclusive of charges for labour, supervision, tools tackles, scaffolding, safety equipment and shifting of concrete debris to the designated place etc., complete as per specification and as directed. (Work under tidal condition) Upto 300 depth	328.78			sqm	
2 (b)	Upto70mm depth	498.27			sqm	
2 (c)	Upto 50mm depth	1605.95			sqm	

Item no	Item Description	Quantity	Rate		Unit	Amount
			in fig.	in words		
3	Anti-corrosive Coating: Removal of heavy corrosion on the steel reinforcement bars, mechanically using wire brush and water jet cleaning etc., and thereafter applying 1 coat of Reebaklens RR of Fosroc or equivalent for cleaning the existing rebars. Mix the base and hardener of the anti-corrosive coating like Nitozinc Primer of Fosroc or equivalent and applying the mixed materials to the cleaned rebar in 2 coats over the reinforcement in the existing structure and allow it to dry completely. The rate shall include cost of equipments, plants, materials, instrumentation, scaffolding, labour and transportation etc. complete as directed by Engineer in charge (Work Under Tidal Condition)	498.38			sqm	
4	Providing and fixing additional steel reinforcement for RCC work including straightening cutting, bending/Welding and Tying them to the prefixed shear connectors using binding wire/tack and placing them in position all complete to create a monolithic action with the existing bar as per site condition. Item rate inclusive of the materials, charges for labour, tools & tackles, scaffolding, welding, binding wire and applying two coats of Nitozinc Primer of Fosroc or equivalent material anti-corrosive coating on the reinforcement bar ,transporttion with loading/unloading charges etc. complete as per specification and as directed.(Work under tidal condition) (a).Thermo Mechanically treated of grade Fe500D Bars or more .	39070.56			kg	
5 (a)	Providing and fixing shear keys by drilling the holes to the designated location and anchoring the rebar into the existing Structure by filling the holes with Epoxy resin based anchoring grout material Fosroc Lokfix S or equivalent to minimum portion of 1/3rd of the hole depth to fix shear connector/Additional reinforcement. The rate shall include cost of equipments, plants, materials,instrumentation, scaffolding, labour and Transportation etc. complete as directed by Engineer in charge (Excluding the cost of reinforcement) (Work Under Tidal Condition) 10mm(Upto 75mm depth)	5488.00			No	
5 (b)	12mm(Upto 75mm depth)	8.00			No	

Item no	Item Description	Quantity	Rate		Unit	Amount
			in fig.	in words		
5 (c)	16mm(Upto 200mm depth)	8.00			No	
5 (d)	20mm(Upto 200mm depth)	8.00			No	
6	Epoxy Bonding Compound: Clean the concrete surface, remove the loose particle, if any. Make sure that the form work is ready for positioning. Mix the base and hardener of the epoxy resin jointing compound and apply 1 coat of the same to the prepared surface. Care should be taken that the rehabilitate locations need to be done within 5 hours maximum from the time of application of epoxy jointing compound Nitobond EP of Fosroc .The rate shall include cost of equipments, plants, materials, instrumentation, scaffolding labour and Transportation etc . complete as per specification and as directed by Engineer in charge . (Work Under Tidal Condition)	672.94			sqm	
7	Micro- Concrete: Providing and laying micro concrete (Renderoc UW of Fosroc or equivalent) blended with washed saturated surface-dry (SSD), graded, low absorption, high-density aggregates of size 12mm downgraded chips in the ratio of 1:0.5 by weight with required quantity of water as per the data sheet and place the same to the prefixed formwork and pouring into the formwork using suitable pumping devices. A pumping device shall consist of a concrete mixer or a slow-speed heavy-duty drilling machine fitted with a mixing paddle for the preparation of mix. The side shuttering can be removed after 3 days and the bottom shuttering after 7 days ensuring proper bond between the micro concrete and existing concrete substrate. Item rate inclusive of all materials, labours, supervision, tools, tackles, transportation, fixing thin film coated water tight shuttering, drilling of holes for pumping microconcrete and filling after pumping, curing, scaffolding etc., complete as per specification and as directed. (Work under Tidal condition)	143.54			MT	

Item no	Item Description	Quantity	Rate		Unit	Amount
			in fig.	in words		
8	Providing and laying design mix cement concrete of M-30 grade using cement content as per design mix, using coarse sand and graded stone aggregate of 10 mm nominal size in appropriate proportions as per approved & specified design criteria, laying at site ,spreading and compacting mechanically by using needle and surface vibrators, levelling to required slope/chamber, finishing with required texture, including steel form work with MS. channel sections, curing making provision for contraction/expansion, construction & longitudinal joints (10mm wide x 50 mm deep) by groove cutting machine including filling joints with approved joint filler and sealants, complete as per direction of engineer in charge (Reinforcement to be paid separately). (Note :- cement content considered in M-30 is @340kg/cum excess/less cement used as per design mix is payable/ recoverable separately)	207.01			Cum	
9	Providing and fixing of GI welded wire mesh (4"x4"x16 gauge) or equivalent with 30 cm lap at junction one layer around the cross section of beams and along the span length completed as per specification. Item rate inclusive of materials, all labour, supervision , tools, tackles , transportation, scaffolding , fixing etc., complete as per specification and as directed. Total Qty of Wire mesh in sqm	598.06			sqm	

Item no	Item Description	Quantity	Rate		Unit	Amount
			in fig.	in words		
10	<p>Spray Mortar as per the Site Conditions</p> <p>Providing a single component, micro silica enhanced, high strength shotcrete mortar of FOSROC/BASF or equivalent material and applying on the exposed surfaces of Pile Cap and other miscellaneous structures using suitable pumping devices as per manufacturer specification. The repair spray mortar shall have a minimum compressive strength of 15 MPa after 24 hours and 40 MPa at 28 days. Item rate is inclusive of materials, all labour, supervision, tools and tackles and transportation etc., complete as per specifications and shown in approved construction drawing.</p> <p>Note - The weight of dry prepacked maerial (excluding additived like water, chemical etc) used for spraying shall be considered for payement.</p>	163.56			MT	
11	<p>Protective coating Providing and applying a single component high build elastomeric, crack - bridging, resistant to CO2 and Chloride ion diffusion, UV resistant, breathable acrylic coating with elongation at break exceeding 200% using Dekguard S of Fosroc or equivalent material applied in two coats(Each coat 125 micron DFT) over one coat of acrylic based primer as per recommendation of the manufacturers at an average thickness of 250 microns DFT . Item rate is inclusive of the materials all labour, supervision,scaffoldings, tools and tackles and transportation etc. complete as per specification and as directed.(Work Under Tidal Condition)</p>	1562.21			sqm	

Item no	Item Description	Quantity	Rate		Unit	Amount
			in fig.	in words		
12 (a)	Design, supplying, testing, fixing and installation of fender including cost of the fender with all its accessories, UHMW PE fender facia pads (low friction), chains, anchors and other accessories including all labour charges, transportation charges up to site, installation and fixing of fenders on to the facia walls and minor tools etc., complete. Note : The scope includes design of fender frame and testing in accordance with specifications. (Work Under Tidal Condition) Supplying and fixing of HXAT 500H X 7200 MM LONG ARCH TYPE FENDERING SYSTEM(2 Nos of Arch Fender) along with necessary fixing accessories of M36 (SS304)/equivalent resin fasteners complete as per specification. Item rate inclusive of all materials, transportation and labour etc.as directed by Engineer in Charge. Brand/Make: Hitech Elastomers/IRM/Brahans	32			No	
12 (b)	Supplying and fixing of D- fender of size 400 x 400 x 200 x200 mm D hollow, length 2m long with fixing accessories of HDG Flat Bar(100 micron galvization thickness), at the location of RCC stair as shown in the drawing and complete as per specification. Item rate inclusive of all materials, transportation and labours etc. as directed. Brand/Make:- Hitech Elastomers/BrahansPolymers/IRM	10			No	
13 (a)	Supplying, handling, transporting and fixing in position of Cast iron Tee Shape Bollard with drilling holes of required dia and as required distance on the concrete substrates, cleaning and grouting the hole with two component Epoxy resin based anchoring grout master flow 935 of BASF/ HIT RE 500 OF HILTI/Lokfix or equivalent material. Item rate inclusive of all materials, fixing accesories, labour, tools, tackles and transportation etc., complete as per specification and as directed. 10T Bollards	20			Nos	
13 (b)	(B) 30T Bollard	8			Nos	
14	Supplying and fixing in position of steel ladder for a height of 7.5m along with necessary fixing accessories, hand railing at top complete as per the specification , drawing and as directed. Brand/Make:- (Work under tidal condition)	16.00			Nos	

Item no	Item Description	Quantity	Rate		Unit	Amount
			in fig.	in words		
15	Supply and fixing of Steel conduit Duct cover chequered plate and MS angle including hoisting, fixing, welding, bolted and cutting to required length and shape, drilling holes, jointing in approved manner, with hot dipped galvanized up to an 100 micron etc. complete as directed by Engineer in Charge.	50.05			sqm	
16	Providing , fixing & laying 100mm dia Chlorinated Poly Vinyl Chloride(CPVC) pipes for main water supply line and 75mm inner dia. CPVC pipe for distributary pipeline (for supply water to TUGS - 4 nos connection x 1.60m length)and fixing it to 100mm dia. CPVC main pipeline including all CPVC plain & threaded fittings like unions, reducer coupler,end cap,Tee,Flange, short bend ,Elbow, socket/coupler,true union ball valve (4nos - for 75mm inner dia.) (as per IS first Quality) , water meter(4 nos - for 75mm inner dia.) (as per IS first Quality) etc. and supply & fixing the 50*50*6mm -Angle bracket for support the pipe (Length is 0.6m - 02 coats Epoxy painted with primer) at 2m spacing, jointing of pipes and fittings with one step CPVC solvent cement and testing of joints. The Item rate inclusive of all material with fixing accessories, testing, scaffoldings, tools , tackles , labour and transportation etc complete as per direction of Engineer in charge. 100mm dia for water pipelines	330			Rmt	
17	Dismantalling the following Structure with Mechanical Equipments (1)RCC Pile (0.6m dia.)supported Signal Station Building of Brick masonry, RCC columns/Lintels/Beam/slab located at the first floor of the signal station building and RCC staircase present adjacent to the building (Area 127 Sq.m and height 9.32m from the Approach jetty top (2).Laboratory main office building (G.F.) 46.20m2 (3).Water testing Lab. building (G.F. & F.F.) 54.42 m2 plinth area including the dismantling of Aluminium windows ,doors,railings, Furnitures,sanitary fixtures, water tanks, Electrical and Electronic fixtures etc and Stacking all serviceable materials at DPT Store and disposable of unserviceable material at 1km Lead within the premises of DPA as directed by Engineer in Charge	1			LS	

Item no	Item Description	Quantity	Rate		Unit	Amount
			in fig.	in words		
18	Providing and laying design mix Cast in situ concrete of RCC M40 grade in accordance with IS 456 (Latest Edition) using coarse aggregate, sand and Portland slag cement of not less than 390kg confirming to IS 455 for RCC stair, cantilever beam and facia wall including steel shuttering, cost of cement, stone chips, sand, cost of all labour charges, mixing, conveying, placing, consolidation, screening and washing of coarse aggregate and sand, transportation charges of all materials to the Work Site, hire charges and running charges of batching plant, vibrator, consumables and all other equipment, cost of minor tools etc. complete, but excluding the cost of fixing reinforcement, which will be paid separately. (The design mix shall be provided by the contractor from the NABL approved laboratory).	156.61			cum	
19	Supply, fabricate, transport, handle and erect in position stainless steel handrails using pipes and toe plates using stainless steel conforming to SS316L including profile cutting, assembling, hoisting, fixing in position, welding, inspection and applying a priming coat of approved steel primer and top coat of minimum thickness as specified in the specifications made of approved paint all as per specifications and drawings including cost of all materials, fitting charges, all labour charges, transportation charges and minor tools etc. complete.	36.8			Rmt	
20	Dismantling and cleaning of existing cable trench ,RCC cover with MS frame and concrete surrounding supported existing RCC cover of conduit of berthing jetty, Garbage inside trench and Existing Water pipeline with accessories (appx.300m). Stacking the serviceable materials and disposal of unserviceable material within 01 Km lead as directed by Engineer in charge.	1.00			LS	

Item no	Item Description	Quantity	Rate		Unit	Amount
			in fig.	in words		
21	Fabrication Supply and Installation of Galvanized Expansion Joint cover : Fabricating including supplying and fixing 6mm thick MS plate and MS angle 50*50* 6mm including hoisting, fixing, welding, bolted and cutting to required length and shape, drilling holes, jointing in approved manner, with hot dipped galvanized up to an 100 micron etc. complete as directed by Engineer in Charge.	612.75			Kg	
22	Expansions Joints: Providing and laying of PU Sealant Colpor 200 manufactured by M/s Fosroc Chemicals or equivalent at construction & longitudinal joints (10mm wide x 50 mm deep) . The rate shall include cost of equipments, plants, materials,instrumentation,labour and transportation etc. complete as per specification as directed by Engineer in charge	612			Rmt	
23	Supplying and applying pretested water based curing compound like Concure WB of Fosroc or equivalent diluted with water in the ratio of 1: 1 as a curing membrane to concrete/Masonry surface all as per manufacture specification and direction of Engineer in charge (Work Under Tidal Condition)	1301.84			sqm	

Item no	Item Description	Quantity	Rate		Unit	Amount
			in fig.	in words		
24	Provision of Galavanic Anode: Prior to installation of the self-sacrificial anode Galvashield XPI units or Equivalent check the continuity of the steel reinforcement. Any loss of continuity will require additional electrical connections or restoration of continuity by effective means. Select a location for the Galvashield XPI or Equivalent as close as practical to the edge of the repair zone. Galvashield XPI or Equivalent units should be positioned around/along the repair boundary. In addition to standard substrate preparation, the Galvashield XPI anode(s) or Equivalent shall be thoroughly pre-soaked in clean water for a minimum of 10 minutes and a maximum of 20 minutes, prior to the application of the repair mortar. The rate shall include cost of Scaffolding, equipments, plants, materials, instrumentation, labour and Transportation etc. complete as per specification and as directed by Engineer in charge (Work Under Tidal Condition)	652			No	
25	Providing Corrosioin monitoring Box for monitoring of corrosion purpose as per directed by Engineer in charge.	50			No	