

NAME OF WORK: CONSTRUCTION OF OIL JETTY NO: 9 AT KANDLA							
SCHEDULE B							
Item	Description of Item	Quantity	Rate		Unit		Amount
			In fig.	In words	In fig.	In words	
A	Section - I (Marine Works)						
1	Shift and set up piling plants and equipments at each pile location						
	(A) For Oil Jetty	84.00			1No.	Each	
	(B) For Mooring Dolphin	33.00			1No.	Each	
	(C) For Miscellaneous structures	34.00			1No.	Each	
2	Supply, fabricate mild steel liners plates with shoe including transport, alignment,welding, placing in position and driving up to any depth.						
	(A) For Oil Jetty (1200 mm dia. pile)	583.00			1MT	One Metric Tonne	
	(B) For Mooring Dolphins (1300 mm dia. pile)	248.00			1MT	One Metric Tonne	
	(C) For Miscellaneous structures (1000 mm dia. p	276.00			1MT	One Metric Tonne	
3	Boring through all type of soil strata including stiff clay and dense sand						
	(I) upto -22.00						
	(A) For Oil Jetty	1008.00			1Rmt	One Running Metre	
	(B) For Mooring Dolphins	396.00			1Rmt	One Running Metre	
	(C) For Miscellaneous structures	980.00			1Rmt	One Running Metre	
	(II) From level -22.00 to Founding Level.						
	(A) For Oil Jetty	1008.00			1Rmt	One Running Metre	
	(B) For Mooring Dolphins	396.00			1Rmt	One Running Metre	
	(C) For Miscellaneous structures	552.00			1Rmt	One Running Metre	

4	Supply and place in position design mix cement controlled concrete of grade M-40 in pile shaft by means of tremmie or any other approved method using 20 mm MSA including cost of all labour and materials but excluding the cost of steel reinforcement.						
	(A) For Oil Jetty	3859.00			1M ³	One Cubic Metre	
	(B) For Mooring Dolphin	1793.00			1M ³	One Cubic Metre	
	(C) For Miscellaneous structures	1491.00			1M ³	One Cubic Metre	
5	Supplying, cutting, bending tying with1.5mm dia annealed binding wire and placing in position reinforcement cages for insitu reinforced cement concrete piles including cleaning,wire brushing,straightening tack/lap/butt welding with approved electrodes etc., with all labour and materials complete.						
	Thermo-mechanically treated corrosion resistant steel of grade equivalent to Fe-550D						
	(A) For Oil Jetty	1361.00			1MT	One Metric Tonne	
	(B) For Mooring Dolphin	650.00			1MT	One Metric Tonne	
6	(C) For Miscellaneous structures	637.00			1MT	One Metric Tonne	
	Dressing of pile head, stacking the debris at convenient place, transportation to the low lying area anywhere inside the harbour as directed by the Engineer’s representative and all associated cleaning of projected reinforcements including labour, materials, tools, equipment, fuel etc. all complete. (Rate to include for cutting of steel liners and chipping of concrete above pile cut-off level):						
	(A) For Oil Jetty (1200 mm dia)	84.00			1No.	Each	
	(B) For Mooring Dolphins (1300 mm dia)	33.00			1No.	Each	
	(C) For Miscellaneous structures (1000 mm dia)	46.00			1No.	Each	

7	Carry out initial load test according to the Specifications or as directed by the Engineer on specially constructed reinforced concrete test pile on shore nearby by first driving 1500 mm dia liner up to refusal, removing soil from within upto a level of -13 M CD and then constructing 1200 mm dia piles within upto the founding level shown on the drawing, ensuring annular space all round. Supply and installation of necessary kentledge/ anchor piles and perform for initial load test (Rate to include for cost of construction of the pile including materials, etc. all complete load test.) Load test shall be completed as per the approved scheme, drawings, specification and instructions of the Engineer in charge for piles of said size and working load of 300 T. i) Initial vertical (cyclic) load test upto 2.5 times vertical load carrying capacity as directed in IS 2911 part 4, and (ii) Initial lateral (cyclic) load test for lateral load carrying capacity of pile as specified in IS2911 (Part-4) on the piles	1.00			1No.	Each	
8	Conducting High strain dynamic load test on working piles for the load as directed using suitable equipment / machinery at his own cost all necessary arrangement for testing facilities & removal of the same after test etc and as directed by the Engineer In Charge.	3.00			1No.	Each	
9	Conduct non-destructive integrity testing on the selected piles using the low strain sonic diagnostic system as directed using suitable equipment / machinery at his own cost all necessary arrangement for testing facilities & removal of the same after test etc and as directed by the Engineer In Charge.	33.00			1No.	Each	
10	Conducting standard penetration test as per IS 2131 at various location in piles bores as directed by Engineer-in-charge including making report thereof.	33.00			1No.	Each	
11	Providing and casting, lifting, shifting and placing in position of precast units of design mix controlled concrete grade M- 40 including weigh batching, mixing, vibrating, curing etc., complete with all labour, material, plants, equipments etc. as directed by engineer in charge. (Rate shall be inclusive of providing, fixing and stripping of formwork but exclusive of steel reinforcement bars.)						

12	(A) For Oil Jetty	787.00			1M ³	One Cubic Metre
	(B) For Miscellaneous structures	406.00			1M ³	One Cubic Metre
	Supply and place in position to lines and levels cast-in-situ design mix cement controlled concrete of grade M-40 using cement sand, 20mm MSA including providing form work, shuttering, machine mixing, compacting, curing of concrete, centering including providing pockets, opening, recesses, chamfering wherever required and rendering if required to give smooth and even surface in all shape etc.complete as directed withall labour and materials but excluding the cost of steel reinforcement for pile muff, pile caps, deck beams, slab,kerbs, parapets etc.					
13	(A) For Oil Jetty	1141.00			1M ³	One Cubic Metre
	(B) For Mooring Dolphin	971.00			1M ³	One Cubic Metre
	(C) For Miscellaneous Structures	804.00			1M ³	One Cubic Metre
	Supply and place in position to lines and levels cast-in-situ design mix cement concrete of grade M-40 using cement, 20 mm MSA for wearing coat of average thickness of 100mm including providing of form work,weigh batching machine mixing, placing in panels, forming slopes, placing of Hardfloor or equivalent non metallic floor hardener (7 kg/m ²), compacting curing etc. complete with all labour and materials .(a) Wearing coat 100mm thick					
	(A) For Oil Jetty	2200.00			1M ²	One Square Metre
	(B) For Mooring Dolphin	422.00			1M ²	One Square Metre
	(C) For Miscellaneous Structures	1192.00			1M ²	One Square Metre

14	Providing and laying in position machine batched and 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 of laying but excluding the cost of centering,shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge.”(Note :- Cement content considered in this item is @ 330 kg/cum.”Excess/ less cement used as per design mix is payable/recoverable separately).	14.00			1M ³	One Cubic Metre	
15	Providing and fixing in position approved quality shalifax board 50mm thick and 230 mm wide at expansion joints. (A) For Oil Jetty	115.00			1Rmt	One Running Metre	
16	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 manufactured drawing by ABC Rubber, Lion Rubber, IRM, HI-Tech, Brahman or equivalent, 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. (I) 150 T Capacity (A) For Oil Jetty	4.00			1No.	Each	

17	Providing and fixing fendering system consisting of Dual cone fendering system (1450H) rubber fender manufactured by ABC Rubber, Lion Rubber, IRM, HI-Tech, Brahmans or equivalent with absorption equal to or more than berthing energy of 858KNM reaction force equal to or less than 1348 KN, and hull pressure equal to or less than 400KN/m2 and 1 No. of fabricated steel frontal frame of size 2.0 m x 0.2 m x 8.04 m with rubbing surface (low friction UHMW synthetic resin rubbing pad) 30mm thick including necessary high tensile galvanized wrought iron chains, shackles, anchor bolts, U hook and other fixtures, painting with resin fastener RE500V4 or equivalent etc, with all labour and material complete. (A) For Oil Jetty	4.00				1No.	Each	
18	Supplying and fixing marine rubbing strip with fabricated SS 316 into half round or to the angles as shown in the manufactured drawing by ABC Rubber, Lion Rubber, IRM, HI-Tech, Brahmans or equivalent including supplying and welding of SS 316 lugs labour, tools, equipment's etc. (A) For Oil Jetties & Mooring Dolphin	224.00				1Rmt	One Running Metre	
19	Supply, fabricate and fix in position according to the drawings and specifications Rubberised Steel ladders from approved manufactured drawing by ABC Rubber, Lion Rubber, IRM, HI-Tech, Brahmans or equivalent on fender walls or ducts etc. using anchor bolts and resin sleeves and as directed at site of work, including all labour, materials, tools, equipments, fuel, transport, curing Complete as directed by Engineer-in Charge. (A) For Oil Jetties & Mooring Dolphin	7.00				1No.	Each	
20	Supplying fabrication Placing and fixing structural walkway bridge with the mooring dolphins in position including cost of structural pipes, providing anchor bolts, etc and transporting the pre-fabricated steel walkway through floating barge or by any other method at required tide level and time. The item includes hire charges of crane barges, tugs, labours and other materials, tools, plants tackles, lowering and hoisting arrangements, cutting, welding, nut bolts, gussets, drilling holes and jointing in required manner, sandblasting, painting (one coat of primer & two coats of epoxy complete etc., complete as per site conditions and directions of the Engineer in charge.							

		61.00			1MT	One Metric Tonne	
21	Supplying, fabricating and erecting steel structure including hoisting, fixing, welding, bolted and cutting to required length and shape, drilling holes, jointing in an approved manner, sand blasting, painting (one coat of primer & two coats of epoxy paint) as per drawing and specifications etc. complete as directed by the Engineer-in-Charge.						
	Total for Pipe rack, watch towers and fire monitoring towers	27.00			1MT	One Metric Tonne	
22	Supply, fabricate and install in position GI handrail post (50 NB pipes) and hand railing (40 NB pipes) made of medium class steel tubes of YST 22 and conforming to IS:1161 including inserts, base plates and painting (one coat of primer & two coats of epoxy paint) as per drawing and specifications etc. complete as directed by the Engineer-in-Charge.						
		737.00			1Rmt	One Running Metre	
23	Supply and fix in position 100 mm dia PVC drain pipes of 500 mm length in suitable locations of deck slab as per drawing and specifications etc. complete as directed by the Engineer-in-Charge.						
		80.00			1No.	Each	
24	Supply and fix in position stainless steel 150 mm I.D. mooring rings made out of 32 dia stainless steel bar and 32 mm dia stainless steel 'U' bolt as per drawing or as directed by Engineer. (Rate to include for forming of recess, hole, etc. in the concrete all complete.)						
		6.00			1No.	Each	
25	Fixing anchor bolts and bolt template in position including consumables for all foundation works related to loading arms, etc. complete as directed.						
	For 4 loading arms	4.00			Job Work	Job Work	
26	Providing and applying protective coating Eisenguard or equivalent after proper surface preparation, cleaning of dust, dirt etc. System should be application of 2 coats of Eisenguard or equivalent on prepared surface at suitable brush or roller, completion as specified and as directed by the Engineer-In-Charge.						
		7158.00			1M ²	One Square Metre	

27	Supplying & applying of Redopoxy Night Glow Paint or equivalent as per specifications & methodology specified and as directed by EIC.	225.00				1M ²	One Square Metre
B Section II (Miscellaneous Civil Works)							
1	Earth work in excavation by mechanical means (Hydraulic excavator) /manual means in foundation trenches or drains (exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.	930.00				1M ³	One Cubic Metre
2	Extra for every additional lift of 1.5 m or part thereof in excavation / banking excavated or stacked materials.	21.00				1M ³	One Cubic Metre
3	Providing embankment for approach road with quarry spall / granular material including cost of excavation, royalty, loading, unloading, transportation and spreading in layers, compaction with road roller 8 to 10 t capacity for remaining layers to achieve the OMC from existing ground to required level, levelling, dressing side slopes, watering over the layers as desired by EIC etc., along with spreading of dust over the surface complete with all labour and materials complete including settlement etc., as directed by the engineer in charge.	30930.00				1M ³	One Cubic Metre
4	Providing, laying, spreading and compacting graded stone aggregate (size range 53 mm to 0.075 mm) to wet mix macadam (WMM) specification including premixing the material with water at OMC in for all leads & lifts, laying in uniform layers with mechanical paverfinisher in sub- base / base course on well prepared surface and compacting with vibratory roller of 8 to 10 tonne capacity to achievethe desired density, complete as per specifications and directions of Engineer-in-Charge.	556.00				1M ³	One Cubic Metre

5	Providing and laying seal coat over prepared surface of road with bitumen heated in bitumen boiler fitted with the spray set spraying using 98 kg of bitumen of grade VG - 10 and blinding surface with 0.90 cum of stone aggregate of 6.7 mm size (Passing 11.2 mm sieve and retained on 2.36 mm sieve) per 100 sqm of road surface, including rolling and finishing with power road roller all complete.	1780.00			1M ²	One Square Metre	
6	Providing and laying Dense Graded Bituminous Macadam using crushed stone aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site by tippers, laying with paver finisher equiped with electronic sensor to the required grade, level and alignment and rolling with smooth wheeled, vibratory and tandem rollers as per specifications to achieve the desired compaction and density, complete as per specificatlons and directions of Engineer in Charge 50 to 100 mm average compacted thickness with bitumen of grade VG-30 @ 5% (percentage by weight of total mix) and lime filler @ 2% (percentage by weight of Aggregate) prepared in Drum Type Hot Mix Plant of 60-90 TPH capacity.	187.00			1M ³	One Cubic Metre	
7	Providing and laying Bituminous concrete using crushed stone aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site by tippers, laying with paver finisher equiped with electronic sensor to the required grade, level and alignment and rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction and density as per specification, complete and as per directions of Engineer-in-charge. 40/50 mm compacted thickness with bitumen of grade PMB-40 @ 5.5% (percentage by weight of total mix) and lime filler @ 3% (percentage by weight of Aggregate) prepared in drum Type Hot Mix Plant of 60-90 TPH	62.00			1M ³	One Cubic Metre	

8	Providing and applying 2.5 mm thick road marking strips (retro-reflective) of specified shade/ colour using hot thermoplastic material by fully/ semi automatic thermoplastic paint applicator machine fitted with profile shoe, glass beads dispenser, propane tank heater and profile shoe heater, driven by experienced operator on road surface including cost of material, labour, T&P, cleaning the road surface of all dirt, seals, oil, grease and foreign material etc. complete as per direction of Engineer-in-charge and accordance with applicable specifications.	36.00				1M ²	One Square Metre
9	Providing and applying tack coat using bitumen emulsion conforming to IS: 8887, using emulsion pressure distributor including preparing the surface & cleaning with mechanical broom. : With rapid setting bitumen emulsion i) On W.B.M / W.M.M. @ 0.4kg/sqm	1246.00				1M ²	One Square Metre
10	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	254.00				1M ³	One Cubic Metre
11	Supplying and filling in plinth with sand under floors, including watering, ramming, consolidating and dressing complete.	165.00				1M ³	One Cubic Metre
12	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level : 1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate 20 mm nominal size).	114.50				1M ³	One Cubic Metre
13	Providing and laying cement concrete in retaining walls, return walls, walls (any thickness) including attached pilasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window sills, fillets, sunken floor etc., up to floor five level, excluding the cost of centering, shuttering and finishing a) 1:2:4 (1 Cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)						

14	Providing and laying in position machine batched and 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 of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge.“(Note :- Cement content considered in this item is @ 330 kg/cum. “Excess/ less cement used as per design mix is payable/recoverable separately).	1.00			1M ³	One Cubic Metre
15	Cement concrete flooring 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate) finished with a floating coat of neat cement, including cement slurry, but excluding the cost of nosing of steps etc. complete.. :	803.00			1M ³	One Cubic Metre
	a) 40 mm thick with 20 mm nominal size stone aggregate	371.00			1M ²	One Square Metre
16	Supplying, cutting, bending, tying with 1.50 mm dia annealed binding wire and placing in position reinforcement cages for cast in situ concrete etc. including cleaning, wire brushing, straightening tack/lap/butt welding with approved electrodes etc. with all labour and materials complete. Thermo-mechanically treated corrosion resistant steel of grade equivalent to Fe-500D/550D or More	119829.00			1kg	One Kilogram
17	Centering and shuttering including strutting, propping etc. and removal of form for all heights :					
	A) Lintels, beams, plinth beams, girders, bressumers and cantilevers	1547.00			1M ²	One Square Metre
	B) Suspended floors, roofs, landings, balconies and access platform	1351.00			1M ²	One Square Metre
	C) Columns, Pillars, Piers, Abutments, Posts and Struts	1022.00			1M ²	One Square Metre
	D) Walls	64.00			1M ²	One Square Metre
	E) Foundations, footings, bases of columns, etc. for mass concrete	1060.00			1M ²	One Square Metre
	F) CHAJJAS	88.00			1M ²	One Square Metre

18	Providing & laying cement concrete solid blocks 1:8:6 (machine made) confirming to relevant IS (Latest Edition) masonry 200mm thick set in cement mortar 1:6 including curing etc. complete as directed.	205.00			1M ³	One Cubic Metre	
19	Brick work with common burnt clay machine moulded perforated bricks of class designation 12.5 conforming to IS: 2222 in superstructure above plinth level up to floor five level in cement mortar 1:6 (1 cement : 6 coarse sand) : a) With Modular bricks	134.00			1M ³	One Cubic Metre	
20	Random rubble masonry with hard stone in foundation and plinth including levelling up with cement concrete 1:6:12 (1 cement : 6 coarse sand : 12 graded stone aggregate 20 mm nominal size) upto plinth level with : a) Cement mortar 1:6 (1 cement : 6 coarse sand)	57.00			1M ³	One Cubic Metre	
21	Plastering with cement mortar 1:4, including raking out joints, scrubbing and cleaning, finishing smooth, curing etc complete for interior and exterior plastering upto floor two level. 12 mm cement plaster of mix : 1:4 (1 cement: 4 coarse sand)	3061.00			1M ²	One Square Metre	
22	18 mm cement plaster in two coats under layer 12 mm thick cement plaster 1:5 (1 cement : 5 coarse sand) finished with a top layer 6 mm thick cement plaster 1:6 (1 cement : 6 fine sand).	2317.00			1M ²	One Square Metre	
23	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	3882.00			1M ²	One Square Metre	
24	Wall painting with acrylic emulsion paint of approved brand and manufacture to give an even shade : a) Two or more coats on new work	2805.00			1M ²	One Square Metre	
25	Finishing walls with Acrylic Smooth exterior paint of required shade : New work (Two or more coat applied @ 1.67 ltr/10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/10 sqm)	2463.00			1M ²	One Square Metre	

26	Finishing walls with textured exterior paint of required shade : New work (Two or more coats applied @ 3.28 ltr/10 sqm) over and including priming coat of exterior primer applied @ 2.20kg/10 sqm	20.00				1M ²	One Square Metre
27	Providing and laying damp-proof course 40mm thick with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 12.5mm nominal size)	313.00				1M ²	One Square Metre
28	Providing and fixing 18 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills, facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels. : i) Granite of any colour and shade : a) Area of slab over 0.50 sqm	262.00				1M ²	One Square Metre
29	Providing and laying Vitrified tiles in floor with different sizes (thickness to be specified by the manufacturer), with water absorption less than 0.08% and conforming to IS:15622, of approved brand & manufacturer, in all colours and shade, laid with cement based high polymer modified quick set tile adhesive (water based) conforming to IS : 15477, in average 6 mm thickness, including grouting of joints (Payment for grouting of joints to be made separately). : a) Size of Tile 600x600 mm	463.00				1M ²	One Square Metre
30	Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in- Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.	794.00				1M ²	One Square Metre

31	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) : a) 25 mm thick	27.00				1M ²	One Square Metre	
32	Providing and fixing white vitreous china flat back or wall corner type lipped front urinal basin of 430x260x350 mm or 340x410x265 mm sizes respectively.	4.00				1No.	Each	
33	Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100 mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required: a) White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests	1.00				1No.	Each	
34	Providing and fixing white vitreous china pedestal type water closet (European type W.C. pan) with seat and lid, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever), conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required : a) W.C. pan with ISI marked white solid plastic seat and lid	7.00				1No.	Each	
35	Providing and fixing wash basin with C.I. brackets, 15 mm dia CP Brass single hole basin mixer of approved quality and make, including painting of fittings and brackets, cutting and making good the walls wherever required:- (a) White Vitreous China Wash basin size 550x400 mm with a 15 mm CP Brass single hole basin mixer	5.00				1No.	Each	
36	Providing and fixing brass bib cock of approved quality : 15 mm nominal bore	21.00				1No.	Each	
37	Providing and fixing brass stop cock of approved quality : 15 mm nominal bore	13.00				1No.	Each	

38	Providing and fixing PTMT pillar cock of approved quality and colour 15 mm nominal bore, 107 mm long, weighing not less than 110 gms	2.00				1No.	Each
39	Constructing brick masonry manhole in cement mortar 1:4 (1 cement : 4 coarse sand) with R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), foundation concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement complete as per standard design : Inside size 120x90 cm and 90 cm deep including C.I. cover with frame (medium duty) 500 mm internal diameter, total weight of cover and frame to be not less than 116 kg (weight of cover 58 kg and weight of frame 58 kg) : With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	6.00				1No.	Each
40	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge. (Concealed work, including cutting chases and making good the walls etc)						
	a) - 15 mm nominal outer dia Pipes	150.00				1Rmt	One Running Metre
	b) - 20 mm nominal outer dia Pipes	60.00				1Rmt	One Running Metre
	c) - 25 mm nominal outer dia Pipes	89.00				1Rmt	One Running Metre
	d) - 32 mm nominal outer dia Pipes	40.00				1Rmt	One Running Metre
41	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion,(i) Single socketed pipes. 110 mm diameter	40.00				1Rmt	One Running Metre

42	Providing and fixing unplasticised -PVC pipe clips of approved design to unplasticised - PVC rain water pipes by means of 50x50x50 mm hard wood plugs, screwed with M.S. screws of required length,including cutting brick work and fixing in cement mortar 1:4 (1 cement : 4 coarse sand) and making good the wall etc. complete. 110 mm	16.00			1No.	Each
43	Cutting holes of required size in brick masonry wall for fixing of exhaust fan including providing and fixing 300 mm dia PVC pipe conforming BIS-12818 and making good the same etc. complete as per direction of Engineer-in-charge.	4.00			1No.	Each
44	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings This includes jointing of pipes & fittings with one step CPVC solvent cement, trenching, refilling & testing of joints complete as per direction of Engineer in Charge.					
	75 mm nominal inner dia Pipes	42.00			1Rmt	One Running Metre
	100 mm nominal inner dia Pipes	21.00			1Rmt	One Running Metre
	150 mm nominal inner dia Pipes	46.00			1Rmt	One Running Metre
45	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	6.00			1No.	Each
46	Providing and fixing soil, waste and vent pipes : a) 100 mm dia.	20.00			1Rmt	One Running Metre
47	Providing & Fixing Fly proof stainless steel grade 304 wire gauge with 0.5 mm dia. wire and 1.4 mm wide aperture for uPVC Sliding track window	74.00			1M ²	One Square Metre

48	Providing and fixing panelling or panelling and glazing in panelled or panelled and glazed shutters for doors, windows and clerestory windows (Area of opening for panel inserts excluding portion inside grooves or rebates to be measured). Panelling for panelled or panelled and glazed shutters 25 mm to 40 mm thick : Float glass panes : a) 5.5 mm thick glass panes	139.00			1M ²	One Square Metre	
49	Providing and fixing bright finished brass hanging type floor door stopper with necessary screws, etc.	29.00			1No.	Each	
50	Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	22027.00			1Kg	One Kilogram	
51	Structural steel work in single section, fixed with or without connecting plate, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete. In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works : a) In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	6932.00			1Kg	One Kilogram	
52	Supply, Erection, Installation and commissioning of Sewage Treatment Plant (STP) of 2 KLD at pumphouse including sewage lifting pump, air blower, STP module, filter feed pump, chlorine dosing pump, chlorine dosing tank, multi grade filter, activated carbon filter, MBBR media, sludge drying bed, starter, wire, panel, pipes and fittings and tube settler media, consumables, materials, labour, etc., all complete.	1.00			1No.	Each	
53	Providing and laying water proofing treatment in sunken portion of WCs, bathroom etc., by applying cement slurry mixed with water proofing cement compound consisting of applying : First layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/ sqm. This layer will be allowed to air cure for 4 hours.						

	Second layer of slurry of cement @ 0.242 kg/sqm mixed with water proofing cement compound @ 0.126 kg/sqm. This layer will be allowed to air cure for 4 hours followed with water curing for 48 hours. The rate includes preparation of surface, treatment and sealing of all joints, corners, junctions of pipes and masonry with polymer mixed slurry.	4.00			1M ²	One Square Metre	
54	Providing and laying integral cement based water proofing treatment including preparation of surface as required for treatment of roofs, balconies, terraces etc consisting of following operations: Applying a slurry coat of neat cement using 2.75 kg/sqm of cement admixed with water proofing compound conforming to IS. 2645 and approved by Engineer-in-charge over the RCC slab including adjoining walls upto 300 mm height including cleaning the surface before treatment. Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115 mm size with 50% of cement mortar 1:5 (1 cement : 5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge over 20 mm thick layer of cement mortar of mix 1:5 (1 cement :5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge to required slope and treating similarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs. After two days of proper curing applying a second coat of cement slurry using 2.75 kg/ sqm of cement admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge. Finishing the surface with 20 mm thick jointless cement mortar of mix 1:4 (1 cement :4 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge including laying glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300 mm square 3 mm deep. The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test. All above operations to be done in order and as directed and specified by the Engineer-in-Charge : With average thickness of 120 mm and minimum thickness at khurra as 65 mm.	905.00			1M ²	One Square Metre	

55	Providing and fixing concertina coil fencing with punched tape concertina coil 600 mm dia 10 metre openable length (total length 90 m), having 50 nos rounds per 6 metre length, upto 3 m height of wall with existing angle iron 'Y' shaped placed 2.4 m or 3.00 m apart and with 9 horizontal R.B.T. reinforced barbed wire, stud tied with G.I. staples and G.I. clips to retain horizontal, including necessary bolts or G.I. barbed wire tied to angle iron, all complete as per direction of Engineer-in-charge, with reinforced barbed tape(R.B.T.) / Spring core (2.5mm thick) wire of high tensile strength of 165 kg/ sq.mm with tape (0.52 mm thick) and weight 43.478 gm/ metre (cost of M.S. angle, C.C. blocks shall be paid separately)	400.00			1Rmt	One Running Metre	
56	Providing and placing on terrace (at all floor levels) polyethylene water storage tank, IS : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank.	6000.00			ltr	One Litre	
57	Painting Steel work with Deluxe Multi Surface Paint to give an even shade. Two or more coat applied @ 0.90 ltr/ 10 sqm over an under coat of primer applied @ 0.80 ltr/ 10 sqm of approved brand and manufacture	1537.00			1M ²	One Square Metre	
58	Providing and fixing anodised aluminium grill (anodised transparent or dyed to required shade according to IS: 1868 with minimum anodic coating of grade AC 15) of approved design/pattern, with approved standard section and fixed to the existing window frame with C.P. brass/ stainless steel screws @ 200 mm centre to centre, including cutting the grill to proper opening size for fixing and operation of handles and fixing approved anodised aluminium standard section around the opening, all complete as per requirement and direction of Engineer- in-charge. (Orequirement and direction of Engineer-in-charge. (Only weight of grill to be measured for payment).	1030.00			1Kg	One Kilogram	
59	Providing and fixing bright finished brass 100 mm mortice latch and lock with 6 levers and a pair of lever handles of approved quality with necessary screws etc. complete.	31.00			1No.	Each	
60	Providing and fixing bright finished brass tower bolts (barrel type) with necessary screws etc. complete : 250x10 mm	31.00			1No.	Each	

61	Providing and fixing bright finished brass handles with screws etc.complete: 125 mm	31.00				1No.	Each	
62	Providing and fixing bright finished brass door latch with necessary screws etc. complete : 300x16x5 mm	31.00				1No.	Each	
63	colour sliding glazed window upto 1.50 m in height dimension comprising of uPVC multi-chambered frame with in-built roller track and sash extruded profiles duly reinforced with 1.60 ± 0.2 mm thick galvanized mild steel section made from roll forming process of required length (shape & size according to uPVC profile),appropriate dimension of uPVC extruded glazing beads and uPVC extruded interlocks, EPDM gasket, wool pile, zinc alloy (white powder coated) touch locks with hook, zinc alloy body with single nylon rollers (weight bearing capacity to be 40 kg),G.I fasteners 100 x 8 mm size for fixing frame to finished wall and necessary stainless steel screws etc. Profile of frame & sash shall be mitred cut and fusion welded at all corners, including drilling of holes for fixing hardware's and drainage of water etc.After fixing frame the gap between frame and adjacent finished wall shall be filled with weather proof silicon sealent over backer rod of required size and of approved quality, all complete as per approved drawing & direction of Engineer-in-charge. Three track three panels sliding window with fly proof S.S wire mesh (Two nos. glazed & one no. wire mesh panels) made of (big series) frame 116 x 45 mm & sash 46 x 62 mm both having wall thickness of 2.3 ± 0.2 mm and single glazing bead / double glazing bead of appropriate dimension. (Area of window above 1.75 sqm)	143.00				1M ²	One Square Metre	
64	Providing and Fixing factory made uPVC door frame, made of uPVC exturded sections , of size 65 mm x 55 mm with wall thickness 2.0 mm (± 0.2 mm), corners of the door frame to be mitred cut and jointed with plastic brackets and stainless steel screws, reinforcing hinge side vertical of the frames with PVC profile of Size 28 mm x 30 mm having wall thickness 2 mm (±0.2 mm), including providing & fixing 3 nos of 125 mm long stainless steel hinges to the frame, fixing the frame with jamb with required number & size of anchor dash fastners, all complete as per manufacturer's specification and direction of Engineer-in-charge.	103.00				1Rmt	One Running Metre	

65	Providing and fixing 37 mm thick factory made PVC door shutter, styles and rails made of PVC hollow section of size 100 mm x 37 mm with wall thickness 2 mm (± 0.2 mm), with inbuilt bead on one side, styles and rails mitered cut and joint at the corners by means of 2 nos of plastic brackets of size 75 mm x 220 mm at each corner and stainless steel screws, reinforcing the hinge side of style by inserting PVC profile of size 28 mm x 30 mm, with wall thickness 2 mm (± 0.2 mm). Lockrail of size 100 mm x 37 mm, wall thickness 2 mm (± 0.2 mm) will be fixed to the vertical styles. Providing with PVC snapfit beads and panel of size 100 mm x 20 mm, and inserting 2 nos tie bar of 6 mm dia and fastening with nuts and washers complete, all as per manufacturer's specification and direction of Engineer-in-charge.	38.00				1M ²	One Square Metre	
66	Providing & Fixing Zinc alloy (white powder coated) handles with zinc plated mild steel multi point locking having transmission gear, cylinder with keeps and one side key for uPVC casement door	25.00				1Set	Set	
67	Providing and fixing factory made uPVC white colour fixed glazed windows/ventilators comprising of uPVC multi-chambered frame and mullion (where ever required) extruded profiles duly reinforced with 1.60 $\pm$ 0.2 mm thick galvanized mild steel section made from roll forming process of required length (shape & size according to uPVC profile), , uPVC extruded glazing beads of appropriate dimension, EPDM gasket, G.I fasteners 100 x 8 mm size for fixing frame to finished wall, plastic packers, plastic caps and necessary stainless steel screws etc. Profile of frame shall be mitred cut and fusion welded at all corners, mullion (if required) shall be also fusion welded including drilling of holes for fixing hardware's and drainage of water etc. After fixing frame the gap between frame and adjacent finished wall shall be filled with weather proof silicon sealant over backer rod of required size and of approved quality, all complete as per approved drawing & direction of Engineer-in-Charge. (Single / double glass panes and silicon sealant shall be paid separately). Fixed window / ventilator made of (small series) frame 47 x 50 mm & mullion 47 x 68 mm both having wall thickness of 1.9 $\pm$ 0.2 mm and single glazing bead of appropriate dimension. (Area upto 0.75 sqm.)	14.00				1M ²	One Square Metre	

68	Providing and fixing factory made uPVC door frame made of uPVC extruded sections having an overall dimension as below (tolerance $\pm 1\text{mm}$), with wall thickness 2.0 mm ($\pm 0.2\text{ mm}$), corners of the door frame to be Jointed with galvanized brackets and stainless steel screws, joints mitred and Plastic welded. The hinge side vertical of the frames reinforced by galvanized M.S. tube of size 19 X 19 mm and 1mm ($\pm 0.1\text{ mm}$) wall thickness and 3 nos. stainless steel hinges fixed to the frame complete as per manufacturer's specification and direction of Engineer-in-charge Extruded section profile size 48x40 mm	62.00			1Rmt	One Running Metre
69	made of styles and rails of a uPVC hollow section of size 59x24 mm and wall thickness 2 mm ($\pm 0.2\text{ mm}$) with inbuilt edging on both sides. The styles and rails mitred and joint at the corners by means of M.S. galvanised/ plastic brackets of size 75x220 mm having wall thickness 1.0 mm and stainless steel screws. The styles of the shutter reinforced by inserting galvanised M.S. tube of size 20x20 mm and 1 mm ($\pm 0.1\text{ mm}$) wall thickness. The lock rail made up of 'H' section, a uPVC hollow section of size 100x24 mm and 2 mm ($\pm 0.2\text{ mm}$) wall thickness, fixed to the shutter styles by means of plastic/galvanised M.S. 'U' cleats. The shutter frame filled with a uPVC multi-chambered single panel of size not less than 620 mm, having over all thickness of 20 mm and 1 mm ($\pm 0.1\text{ mm}$) wall thickness. The panels filled vertically and tie bar at two places by inserting horizontally 6 mm galvanised M.S. rod and fastened with nuts and washers, complete as per manufacturer's specification and direction of Engineer-in-charge. (For W.C. and bathroom door shutter).	17.00			1M ²	One Square Metre

70	Supplying and fixing rolling shutters of approved make, made of required size M.S. laths, interlocked together through their entire length and jointed together at the end by end locks, mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation complete, including the cost of providing and fixing necessary 27.5 cm long wire springs manufactured from high tensile steel wire of adequate strength conforming to IS: 4454 - part 1 and M.S. top cover of required thickness for rolling shutters. : a) 80x1.20 mm M.S. laths with 1.20 mm thick top cover	26.00				1M ²	One Square Metre	
71	Providing and fixing 12 mm thick frameless toughened glass door shutter of approved brand and manufacture, including providing and fixing top & bottom pivot & spring type fixing arrangement and making necessary holes etc. for fixing required door fittings, all complete as per direction of Engineer-in-charge (Door handle, lock and stopper etc.to be paid separately).	6.00				1M ²	One Square Metre	
72	Providing and laying factory made chamfered edge Cement Concrete paver blocks In foot path, park & lawns driveway or light & traffic parking etc. of required strength, thickness & size/ shape, made by table vibratory method using PU mould, laid in required colour & pattern over 50mm thick compacted bed of course sand, compacting and proper embedding/laying of inter locking paver blocks into the sand bedding layer through vibratory compaction by using plate vibrator, filling the joints with sand and cutting of paver blocks as per required size and pattern, finishing and sweeping extra sand, all complete as per manufacturer's specifications & 60mm thick Cement concrete paver block of M-35 grade with approved colour, design & pattern. Interlock paving sourrounding all the Civil structure	3000.00				1M ²	One Square Metre	

73	Providing and applying integral crystalline dry shake of hydrophilic in nature for waterproofing treatment to the RCC structures like basement raft, foundation slab, sewage & water treatment plant slab, warehouses floor, parking structures and water tank base slab etc. sprinkled @ 0.60kg per sqm or higher as recommended by the manufacturer's specification over the lean concrete of above cited structures. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e. by reducing permeability of concrete by more than 85%, compared control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline dry-shake shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer-in-charge. The product performance shall carry guarantee for 10 years against any leakage.	84.00			1M ²	One Square Metre	
74	Providing and fixing in position pre-cast R.C.C. manhole cover and frame of required shape and approved quality L D- 2.5 Rectangular shape 600x450 mm internal dimensions	2.00			1No.	Each	
75	Providing and supplying portable cabins of M.S. Container of size L-20' x W-10' with all fitting, fixtures, material labour as directed and as approved by EIC with below mentioned specifications. For Office: A) Electric Fittings: 8 lights, 2 fans, 1 split AC (1.5 TON), main switch board with MCB box, AC point, compoter point, outside light, etc. B) Furniture: File box (18mm ply), Table (18mm ply), Wall paneling (8mm ply), 2 main chairs, 4 custmor chair, all the furniture of Godgrej make or equivalent) C) PVC Flooring D) oil paint outside E) Wooden flush door of size 3' x 7' with locking arrangement F) Glazed alumunium window 3; x 3' G) Membrane tar sheet for Roof's waterproofing 1. for Staff - 04 Nos	4.00			1No.	Each	