

CONSTRUCTION - I DIVISION
ESTIMATE

Name of Work: Development of Land From Junction of West Gate 1 & 2 to LC236B at Kandla (Phase-I)

Sr.No.	Description	QTY	Unit	Amount
1	Earth work in excavation by mechanical means (Hydraulic excavator) /manual means in foundation trenches or drains (not 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	48050.00	m3	
2	Supplying and filling in plinth with sand under floors, including watering, ramming, consolidating and dressing complete	480.00	m3	
3	Soling with trap stone boulders of 15 cm thick or more each side including packing with stone chips to proper chamber etc.,	20610.00	m3	
4	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)	540.00	m3	
5	Providing and laying in position machine batched and machine mixed design mix M-30grade 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 @ 340 kg/cum. Excess/ less cement used as per design mix is payable/recoverable separately)	3972.00	m3	
6	Steel reinforcement for R.C.C. work including straightening, cutting,bending, placing in position and binding all complete upto plinth level. Thermo-Mechanically Treated bars of grade Fe- 500D or more.	714960.00	kg	
7	Centering and shuttering including strutting, propping etc. and removal of form for all heights Foundations, footings, bases of columns, etc. formass concrete	7200.00	m2	
8	Providing and applying tack coat using bitumen emulsion conforming to IS: 8887, using emulsion pressure distributor including preparing the surface & cleaning with mechanical broom.On W.B.M / W.M.M./ DBM/BC	88000.00	m2	
9	Providing embankment for approach road with quarry spall / granular material material including cost of excavation, royalty, loading, unloading, transportation, spreading in layers, comaction with truck in first layer of 500mm 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.	158000.00	m3	
10	Providing embankment for approach road with quarry spall / granular material material including cost of excavation, royalty, loading, unloading, transportation, spreading in layers, comaction with road roller 8 to 10 t capacity for remaining layers to achive 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.	872500.00	m3	
11	Providing and laying bituminous macadam using crushed stone aggregates of specified grading premixed with bituminous binder, transported to site by tippers, laid over a previously prepared surface 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 specifcations and directions of Engineer-in-Charge.			
(A)	50 to 100 mm average compacted thickness with bitumen of grade VG-30 @ 3.50% (percentage by weight of total mix) prepared in Drum Type Hot Mix Plant of 60-90 TPH capacity.	4400.00	m3	

12	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 equipped 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 specifications and directions of Engineer-in-Charge	4400.00	m3
(A)	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.		
13	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 equipped 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 direction of EIC	2640.00	m3
(A)	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 capacity.		
14	Supplying and fixing Bi-Axial Geogrid (100KN/mx100KN/m) over a sand layer complete all labour and material as directed by EIC. The laying and construction of the Geogrid basal reinforcement layer should be carried out as per IRC- 113 (No additional payment for overlapping in joints will be made)	66000.00	m2
15	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.	2640.00	m2
16	Providing and fixing Glow studs of size 100x20mm made of heavy duty body shall be moulded ASA (Acrylic styrene Acryloretite) or HIP (High impact polystyrene) or ABS having electronically welded micro-prismatic lens with abrasion resistant coating as approved by Engineer in charge. The glow stud shall support a load of 13635 kg tested in accordance with ASTM D4280. The slope of retro- reflective surface shall be 35 (+/-5) degrees to base .The reflective panels on both sides with at least 12 cm of reflective area up each side. The luminance intensity should be as per the specification and shall be tested as described in ASTM I: 809 as recommended in BS: 873 part 4 : 1973. The studs shall be fixed to the Road surface using the adhesive conforming to IS, as per procedure recommended by the manufacturer complete and as per direction of EIC	880.00	no
17	Painting with high gloss synthetic enamel paint two coats to give an even and smooth surface for protection of exposed concrete/masonry portion of parapet, kerb painting and repairing wherever necessary complete as approval of Engineer in Charge	4400.00	m2
18	Manufacturing, supplying and fixing retro reflective overhead signage boards made up of 2 mm thick aluminium sheet, face to be fully covered with high intensity and encapsulated lens type heat activated retro reflective sheeting conforming to type III of ASTM-D-4956-01 as approved by Engineer-in-charge, letters, borders etc. as per IRC 67-2001 in silver white with blue colour background and with high intensity grade, pasted on substrate by pressure sensitive adhesive backing which shall be activated by applying pressure conforming to class II of ASTM-D-4956-01 and fixing the same to the plate of structural frame work by means of suitable sized aluminium alloys, rivets or bolts & nuts @ 300 mm centre to centre all along the periphery as well as in two vertical rows along with theft resistant measures, including the cost of painting with two or more coats of epoxy paint in grey colour on the back side of aluminium sheet including appropriate priming coat. The rate includes the cost of rounding off the 186 corners, lowering down the structural frame work from the gantry, fixing and erecting the same in position all complete as per drawings, specification and direction of the engineer-in charge. (Structural frame work including M.S. plate to be provided separately. Rectangular area of the sheet only shall be measured for payment).	60.00	m2
19	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.	36000.00	kg
20	Supplying and filling in plinth with slag/fly ash under floors, including watering, ramming, consolidating and dressing complete	39600.00	m2
Total Part A			
Maintenance of Road and other structures for 2 and 3rd year			

1	Providing embankment for approach road with quarry spill/ granular material material including cost of excavation, royalty, loading, unloading, transportation, spreading in layers, comaction with road roller 8 to 10 t capacity for remaining layers to achive 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.	21812.50	m3
2	Providing and laying Bitumen Penetration Macadam with hard stone aggregate of quality, size and grading as specified, with bitumen of suitable penetration grade, including required key aggregate as specified, spreading coarse aggregate with the help of self propelled/tipper tail mounted aggregate spreader and applying bitumen by a pressure distributor and then spreading key aggregate with the help of aggregate spreader complete, including consolidation with road roller of minimum 8 to 10 tonne capacity to achieve specified values of compaction and surface accuracy		
(A)	For 75 mm compacted thickness in two layers using stone aggregate of size 63-41 mm graded @ 0.90 cum per 10 sqm key aggregate of size 20.0 mm graded @ 0.18 cum per 10 sqm. With paving asphalt grade VG-10 @ 68 ka/10 sam.	1100.00	m2
3	Providing treatment and repair to pot holes/patch repair of all types of bitumen pavement by using instant patch repair cold readymix material complete as technical specificaiton as directed EIC		
a	Filling potholes and patch repair having depth more than 50 mm with instant patch repair cold ready mix material after remocl of all failed material trimming of comlete excavation to provide firm vrtical faces, cleaning of surface painting of tach coat on the sides and base of excation as per clause 503 of morth back filling the patch/potholes with instant patch repair cold ready mix material. Compacting trimming and finishing the surface to form a smooth continous surfaces	1099.956	m2
4	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-incharge and accordance with applicable specifications.	1980.00	m2
5	Carrying out proper Cleaning and removing of dust/silt/trash/plastic/rubbish/garbage/waste cargo from the cariageway vertes by mechanical brooms Automatically or manually as required and as directed by EIC. The cleaning includes full width of both sides of carriaawwav and service road if anv.	52800.00	Rmt.
6	Construction and laying case in situ cement kerb in M-20 grade and matching with the existing kerv section complee including dismantling and disposal of existing damaged broken kerbs. The job includes jointing of adjacent kerbs and carrying out pointing as per exisiting patter as direced by EIC	400.00	m2
7	Painting with higloss sunthetic enamel paint two coats to give an even and smooth surface for protection of exposed concrete/masonry portion of paratet, kerb painting and repairing wherever necessary complete as approval of Enqineer in Charge	2200.00	m2
			Total Part B
		TOTAL PART A + B	
Contractor			Executive Engineer (C-I)