

**Name of work : Widening and Strengthening of Santrampur - Khedapa Road Km 00+000 to 22+689.956 (SH-152
Section)**

Item No.			DESCRIPTION	ESTIMATE				Ketan Contruccion limited	
				Unit	Quantity	Unit Rate Figures	Amount	Unit Rate	Amount
1			GENERAL ITEMS						
1.02			Supply of master CD / DVD's of important site activities with four copies complete as per Technical Specifications clause 126	Set	12	10000.00	1,20,000	3000	36000.00
1.03			Construction of temporary diversion for passage of traffic, complete as per Technical Specifications Section Clause 112.3. (separate items are given for CD/ bridge work diversions)	Lm	2500	3670.00	91,75,000	500	1250000.00
			Total General Items carried to Grand Summary				92,95,000		1286000
2			SITE CLEARANCE AND DISMANTLING						
2.01			Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned complete as per technical specification clause 201 or as directed by the Engineer.	ha	24	29520.00	6,94,288	10000	240000.00
2.02			Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, disposal of unserviceable as well serviceable material with all leads and lifts beyond the ROW complete as per technical specification clause 202.						0.00
	a)		Plain cement concrete	Cum	10	278.00	2,780	50	500.00
	b)		Reinforced cement concrete	Cum	10	463.00	4,630	50	500.00
	c)		Stone / Brick masonry structures	Cum	10	189.00	1,890	50	500.00
	d)		Guide/Hand rails / Fencing / kerb / NP3 Pipes / NP4 Pipes	Lm	50	151.00	7,550	25	1250.00
	e)		Kilometre stone	Nr	18	136.00	2,448	25	450.00

Item No.		DESCRIPTION	Unit	Quantity	Unit Rate	Amount	Unit Rate	Amount
					Figures			
	f)	5 km stone	Nr	5	226.00	1,130	25	125.00
	g)	Hectometre / Boundary stones	Nr	90	27.00	2,430	25	2250.00
	h)	Utilities	Nr	10	101.00	1,010	25	250.00
	i)	Bituminous Pavement	Cum	5405	174.00	9,40,422	25	135125.00
	j)	Non- Bituminous Pavement	Cum	11610	307.00	35,64,316	25	290250.00
2.03		Cutting of trees from 300mm and above girth size, the work shall consist of cutting of all such trees as per the direction of the Engineer and further as per duly approved plan by the Forest Department. This shall include duly approved stacking, transport and final handing over to Forest Department with all leads and lifts. Work to comply strictly in accordance with Technical Specifications Clause 201						0.00
	a)	above 300mm to 600mm girth	Nr	293	156.00	45,708	25	7325.00
	b)	above 600mm to 900mm girth	Nr	176	278.00	48,928	25	4400.00
	c)	above 900mm to 1800mm girth	Nr	88	542.00	47,696	500	44000.00
	d)	above 1800m	Nr	28	1029.00	28,812	1000	28000.00
2.04		Removal of tree stumps and roots, disposal and filling of pits complete as per Technical Specifications Clause 201. The work shall follow the directions of the Engineer and further approval of plan by the Forest Department, where necessary. This shall include all leads and lifts.						0.00
	a)	above 300mm to 600mm girth	Nr	293	307.00	89,951	25	7325.00
	b)	above 600mm to 900mm girth	Nr	176	519.00	91,344	25	4400.00
	c)	above 900mm to 1800mm girth	Nr	88	777.00	68,376	500	44000.00
	d)	above 1800mm	Nr	28	2052.00	57,456	1000	28000.00
		Total Site Clearance and Dismantling carried to Grand Summary				57,01,165		838650.00
3		EARTH WORKS						

Item No.		DESCRIPTION	Unit	Quantity	Unit Rate	Amount	Unit Rate	Amount
					Figures			
3.01		Roadway excavation necessary for construction of roadway including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to the embankment location within all leads and lifts upto 1000 m complete as per technical specification clause 301 and 305.						
	b)	Ordinary soil / Hard soil	Cum	482591	28.00	1,35,12,558	30	14477730.00
	e)	Loosening and re-compacting the original ground/ sub-grade up to the required depths as directed by the Engineer and as per Technical Specifications Clause 301 & 305	Cum	6000	43.00	2,58,000	25	150000.00
3.02		Construction of embankment with approved material obtained from borrow area with all lifts and leads, transporting to site, spreading, grading to required slope and compacting complete as per drawings and technical specification clause 305.	Cum	23265	142.00	33,03,632	40	930600.00
3.03		Construction of embankment with approved materials deposited at site from roadway cutting and excavation from drain and foundation of other structures graded and compacted complete as per drawings and technical specification clause 305.	Cum	72317	74.00	53,51,449	25	1807925.00
3.04		Construction of subgrade and Earthen shoulder with approved material obtained from borrow area with all lifts & leads, transporting to site, spreading, grading to required slope and compacted complete as per drawings and technical specification clause 305.	Cum	140396	167.00	2,34,46,119	75	10529700.00
3.05		Construction of Earthen shoulder with approved material obtained from dismantling of existing sub base layers complete as per drawings and technical specification clause 305.	Cum	27197	95.00	25,83,760	60	1631820.00
3.08		Construction of Median and Island above road level with approved material deposited at site from roadway cutting and excavation for drain and foundation of other structures, spread, graded and compacted complete as per drawings and technical specification clause 407.	Cum	239	121.00	28,970	50	11950.00
		Total Earth Works carried to Grand Summary				4,84,84,488		29539725.00
4		SUB-BASE, BASE COURSES (NON-BITUMINOUS) AND SHOULDERS						
4.01		Constructing Hard shoulder with Naturally obtained Granular sub-base (GSB) complete as per drawings and Technical Specification Clause 401 (Grading I, Table 400-1)	Cu.m.	30068	581.00	1,74,69,435	175	5261900.00

Item No.		DESCRIPTION	Unit	Quantity	Unit Rate Figures	Amount	Unit Rate	Amount
4.02		Construction of granular sub-base with crushed stone aggregated only, by mixing material in a mechanical mix plant at OMC, carriage of mixed Material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per technical specification clause 401						0.00
	a)	As per Table 400-1, Close-Graded Grading I	Cum	34898	642.00	2,24,04,647	450	15704100.00
	b)	As per Table 400-2, Coarse- Graded Grading I	Cum	26749	580.00	1,55,14,699	450	12037050.00
4.03		Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver in sub- base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density complete as per drawing and technical specification clause 406.						0.00
	a)	Mechanically laid base (Spread by motor grader) including profile corrective course and access roads if applicable	Cum	10139	733.00	74,31,810	615	6235485.00
	b)	Mechanically laid base (laid by Electronic Sensor Paver)	Cum	34192	746.00	2,55,07,037	620	21199040.00
4.04		Surface preparation: Light scarification/ roughening of existing bituminous road surface for overlay sections as directed by the Engineer	Sqm	0	10.00	-		
		Total Sub-Base, Base Courses (Non-Bituminous) and Shoulders carried to Grand Summary				8,83,27,628		60437575.00
5		BASE AND SURFACE COURSES (BITUMINOUS)						
5.01		Providing and applying primer coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying primer at the rate of 0.60 kg/sqm using mechanical means complete as per drawings and technical specification clause 502.	Sqm	166404	26.00	43,26,517	22	3660888.00
5.02		Providing surface dressing with aggregate using Bitumen over primed water bound macadam/ wet mix macadam complete as per Technical Specifications Clause 510						0.00
	b)	Second Coat Surface Dressing	Sqm	78757	56.00	44,10,392	10	787570.00
5.03		Providing and applying tack coat with bitumen complete as per drawings and Technical Specification clause 503.						0.00
	a)	@ 2.0 to 2.5 kg/10m2 on bituminous surface	Sqm	223165	9.00	20,08,481	10	2231650.00
	b)	@ 2.5 to 3.0 kg/10m2 on granular surface treated with primer/hungry bituminous surface.	Sqm	170679	11.00	18,77,474	15	2560185.00

Item No.		DESCRIPTION	Unit	Quantity	Unit Rate	Amount	Unit Rate	Amount
					Figures			
5.06		Providing and laying dense bituminous macadam with 100-120 TPH batch type HMP producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder (VG-30) as per the approved mixed design, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction complete as per drawings and technical specification clause 507.	Cum	12527	5653.00	7,08,17,484	5700	71403900.00
5.08		Providing and laying semi dense bituminous concrete with 100-120 TPH batch type HMP producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder (VG-30) as per approved mixed design, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction complete as per drawings and Technical Specification clause 508.	Cum	4501	5898.00	2,65,44,613	6950	31281950.00
5.10		Variation of quantity of VG 30 grade bitumen in bituminous courses as per Technical Specification Clause 507.9 and 509.9	MT	107	39234.31	41,79,573	10	1070.00
5.11		Variation of quantity of rapid emulsion in Tack coat as per Technical Specification Clause 503.						0.00
	a)	0.5 kg extra for normal bituminous surface	MT	11	34658.31	3,84,997	10	110.00
	b)	0.5 kg extra for Granular Surface	MT	8	34658.31	2,90,587	10	80.00
5.12		Variation of quantity of slow emulsion for prime coat as per Technical Specification clause 502.	MT	17	33493.51	5,54,006	10	170.00
5.13		Removal of all failed material, trimming of completed excavation to provide firm vertical faces, cleaning of surface, painting of tack coat on the sides and base of excavation as per clause 503, back filling the pot holes with hot bituminous material of grading I as per clause 504, compacting, trimming and finishing the surface to form a smooth continuous surface, all as per clause 3004.2	sqm	5101	267.00	13,61,887	80	408080.00
5.14		Providing and applying low viscosity bitumen emulsion for sealing cracks less than 3 mm wide or incipient fretting or disintegration in an existing bituminous surfacing.	sqm	10201	35.00	3,57,049	30	306030.00
5.15		Providing and laying slurry seal consisting of a mixture of fine aggregates, portland cement filler, bituminous emulsion and water on a road surface including cleaning of surface, mixing of slurry seal in a suitable mobile plant, laying and compacting to provide even riding surface	sqm	15302	54.00	8,26,313	30	459060.00
5.16		Full depth repair of section in case of poor pavement complete as per drawings or as directed by the engineer	sqm	152	1248.92	1,89,242	2500	380000.00
		Rigid Pavement				-		

Item No.	DESCRIPTION	Unit	Quantity	Unit Rate	Amount	Unit Rate	Amount
				Figures			
	Total Base and Surface Courses (Bituminous) carried to Grand Summary				11,81,28,615		113480743.00
6	STRUCTURES						
6A	CULVERTS:						
6A02	Excavation of foundation for culverts including preparation of foundation bed complete as per drawing and Technical Specifications Clause 304 in the following strata						
	a) Ordinary soil / Hard soil	Cum	1360	32.00	43,528	60	81600.00
	b) Ordinary rock / Soft rock	Cum	363	40.00	14,509	60	21780.00
	c) Hard Rock (Blasting Prohibited)	Cum	91	254.00	23,033	250	22750.00
6A03	Providing and laying granular material for pipe bedding of Hume Pipe culverts and replacement of soft and loose patches in the bearing area of the Box structure with layers not exceeding 300 mm as per drawing and Technical Specifications Clause 2904	Cum	549	378.00	2,07,706	200	109800.00
6A04	Plain cement concrete in levelling course in open foundation, concrete pipe bedding and apron complete as per drawing and Technical Specifications Section 1500 and 1700						0.00
	a) M15 grade	Cum	99	3496.00	3,46,239	3000	297000.00
6A16	Providing, laying and jointing RCC. NP-4 machine finish Hume Pipes for culverts or equivalent pipes under IS:458-1988, approved by the Engineer complete as per Technical Specifications section 2900						0.00
	c) Diameter 900mm	Lm	90	2446.00	2,20,140	3000	270000.00
	e) Diameter 1200mm	Lm	518	3842.00	19,91,693	4500	2331000.00
6A17	Plain cement concrete grade M-20 in Headwall of Access Road Culverts complete as per drawing and Technical Specifications Clause 1500 and 1700	Cum	902	3890.00	35,07,110	3500	3157000.00
6A18	Painting of culvert reference number complete as per Technical Specifications section 800 or as directed by the Engineer.	Nr	28	57.00	1,596	75	2100.00
6A22	Geo textiles filter membrane underneath pitching complete as per drawings and technical specification clause 2504 and as directed by the Engineer.	Sqm	699	659.00	4,60,521	300	209700.00
6A23	Filter media beneath the pitching/revetment on slopes for protection of embankment as per drawings and Technical Specifications clause 2504 and as directed by the Engineer	Cum	105	416.00	43,606	100	10500.00
6A24	Pitching/revetment on slopes with Cement Concrete blocks in M15 grade conforming to Section 1700 complete as per drawings Technical Specifications 2504 and as directed by the Engineer.	Cum	210	3566.00	7,47,595	3500	735000.00
6A27	750 thick flexible stone apron as per Clause No. 2503.1 of Technical Specification and as directed by the Engineer	Cum	318	749.00	2,38,436	250	79500.00

Item No.		DESCRIPTION	Unit	Quantity	Unit Rate	Amount	Unit Rate	Amount
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6A29		Construction and fixing of PCC Pillar with M15 grade of concrete of size 400 x 400 x 1000 mm for inscribing Structure Number as per drawing and Technical Specification section 1500, 1700 or as directed by the Engineer	Nr	56	116.00	6,496	500	28000.00
		Total Culverts carried to Grand Summary				78,52,209		7355730.00
6C		REPAIR & REHABILITATION						
6C02		Dismantle of various items of structures complete as per Technical specification clause 202 or as directed by the Engineer.						
		a) RCC	Cum	24	463.00	11,004	50	1200.00
		c) Existing Wearing coat	sqm	1110	53.00	58,830	50	55500.00
		d) Stone/Brick masonry	Cum	358	189.00	67,737	50	17900.00
		f) NP4 Pipe	Lm	273	151.00	41,185	50	13650.00
		g) Spalling of Concrete	Sqm	10	100.00	1,000	50	500.00
6C11		Cleaning and removal of vegetation growth from structures channel and protective works complete as per Technical specification clause 202 or as directed by the Engineer.	Sqm	1932	20.00	38,640	10	19320.00
6C12		Replacement of RCC railing including reinforcement as per Technical Specifications Section 1500, 1600, 1700,1900, 2200, 2800 and Clause 2703.						0.00
	a)	Railing in M30 grade	Lm	32	136.00	4,352	2000	64000.00
	c)	Mild Steel Railing	Lm	128	240.00	30,720	5000	640000.00
6C22		Providing 25 mm thick mastic asphalt over the top of the deck after applying prime coat underneath wearing course complete as per Technical Specifications Clause 2702, 503 and 515 (Cost of Prime Coat Included)	Sqm	1110	408.00	4,52,880	750	832500.00
6C23		Providing 40 mm thick asphaltic concrete in one layer in wearing course complete as directed by the Engineer and as per Technical Specifications Clause 2702/509 (Cost of Tack Coat Included)	Cum	56	6770.00	3,75,735	6950	389200.00
6C31		Providing & laying random rubble stone masonry in cement mortar 1:3 (1 cement : 3 coarse sand) works complete as per drg. and Technical Specifications Section 1400.	Cum	14035	2382.00	3,34,30,876	2500	35087500.00
6C36		Repair of spalling and patches by PMC mortar 50 to 70mm thick at soffit of slab as per clause 2804 of specification and additional specification A-3 and as directed by the Engineer	Sqm	10	1769.00	17,690	1500	15000.00

Item No.	DESCRIPTION	Unit	Quantity	Unit Rate	Amount	Unit Rate	Amount
				Figures			
6C49	Cement plaster 12mm thick in cement mortar 1:3 complete as per drawing and Technical Specifications Section 1000 and 1300 and as directed by the Engineer	Sqm	111	83.00	9,213	250	27750.00
6C50	Cement pointing with cement mortar 1:3 on brick/stone work complete as per drawings and Technical Specifications section 1000 and 1300	Sqm	24	35.00	823	150	3600.00
6C51	Removal of accumulated debris in Pipe Culverts complete as per Technical Specification clause 202.	Lm	25	100.00	2,500	100	2500.00
6C53	Providing and laying boulders apron without wire crates on river bed for protection against scour with stone boulders weighing not less than 40 kg each complete as per drawing and Technical specification section 2500	Cum	92	710.00	65,320	500	46000.00
	Total Repair & Rehabilitation carried to Grand Summary				3,46,08,504		37216120.00
6D	RETAINING WALLS						
6D02	Excavation of foundation for structures including preparation of foundation bed complete as per drawing and Technical Specifications Clause 304 in the following strata						
	a) Ordinary soil	Cum	11767	32.00	3,76,539	60	706020.00
6D03	Providing & laying Plain cement concrete grade M15 as levelling course including form work but excluding the cost of reinforcement complete as per drawings and Technical specifications sections 1500, 1700 and 2100.	Cum	7120	3496.00	2,48,89,773	3000	21360000.00
6D04	Providing & laying Reinforced Cement Concrete in foundations including form work but excluding the cost of reinforcement complete as per drawings and Technical Specifications sections 1500, 1700 and 2100.						0.00
	a) M-25 grade	Cum	6211	4037.00	2,50,73,161	3600	22359600.00
6D08	Supplying, placing and fixing TMT Fe 500 bar reinforcement complete as per drg. and Technical specifications section 1600.						0.00
	a) Foundation	MT	151	64359.00	96,91,925	53500	8078500.00
	b) Substructure	MT	296	64449.00	1,90,81,957	55000	16280000.00
6D09	Providing weep holes in brick masonry / plain / reinforced concrete abutments, wing walls / return walls etc. with 100mm dia A.C. pipe, extending through the full width of structure with slope of IV:20H towards draining face including porous concrete blocks complete as per drawing and Technical Specifications clause 2706.	Nr	15656	78.00	12,21,168	75	1174200.00
6D10	Filter material behind abutment, wing walls and return walls complete as per drawing and Technical Specifications Clause 305	Cum	4637	318.00	14,74,521	125	579625.00
	Total Retaining Walls carried to Grand Summary				8,18,09,045		70537945.00
7	DRAINAGE AND PROTECTION WORK						

Item No.		DESCRIPTION	Unit	Quantity	Unit Rate	Amount	Unit Rate	Amount
					Figures			
7.01		Earthwork in excavation in all types of soil including rock complete as per Technical Specification Clauses 304 & 309.	Cum	650	28.00	18,194	30	19500.00
7.02		Plain Cement concrete M-15 grade in levelling course in drain including centering and shuttering all complete as per drawing and Technical Specification Sections 309, 1500 & 1700.	Cum	25	3496.00	87,512	3000	75000.00
7.03		Construction of open unlined drains as per proper slope and dimension as shown in drawing and technical specification clause 309.	Lm	44874	38.00	17,05,212	30	1346220.00
7.07		Construction of chute drain in cement concrete M-15 with M-15 foundation concrete including construction of bell mouth at entry as per drawings and Technical Specification Sections 309, 1500 and 1700.	Lm	173	755.00	1,30,496	750	129750.00
7.08		Construction of energy dissipation basin in M-15 as per drawing and Technical Specification Sections 309, 1500 & 1700.	Nr	22	1456.00	32,032	1500	33000.00
7.10		Providing, laying and jointing RCC. NP-4 machine finished hume pipes under IS:458-1988, Hume Pipes to discharge storm water from catch basins as per drawings and complete as per Technical Specifications section 2900	Lm					0.00
	a)	450 mm diameter	Lm	310	1470.00	4,55,700	1500	465000.00
	b)	900 mm diameter	Lm	266	2446.00	6,50,636	3000	798000.00
7.11		Providing and laying granular material for pipe bedding of Hume Pipe culverts and replacement of soft and loose patches in the bearing area of the Box structure with layers not exceeding 300 mm as per drawing and Technical Specifications Clause 2904	Cum	180	378.00	68,027	100	18000.00
7.12		Plain cement concrete grade M-20 in Headwall of Access Road Culverts complete as per drawing and Technical Specifications Clause 1500 and 1700	Cum	227	3890.00	8,83,623	3500	794500.00
7.13		Providing and laying interlocking paver blocks of high density 65 mm thick M-25 grade in pedestrian pathway and in Island of major intersections areas as shown in the drawing, close jointed over bed of 50mm thick river sand to a tight pattern, laid to proper line and level including bedding down the completed surface with a plate vibrator or by firmly topping level with mallet and a large flat piece of timber, finishing by brushing clean dry sand over the surface to fill all the joints thoroughly and as per Additional Technical Specification A 15 or as directed by the Engineer.	sqm	5233	498.00	26,05,863	500	2616500.00
7.15		Providing and laying Grade M15 Concrete perforated erosion protection scour blocks laid on the slopes and bed of the river including the rebar, trimming of earth to required lines and levels, including capping with concrete on the tops of slopes as per drawings and Specifications	cum	80	4666.00	3,75,426	3500	280000.00

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7.16		Providing and laying plain cement concrete in medians and in sidewalks, foundations complete as per respective drawings, Technical Specifications section 1500 and 1700 and as directed by the Engineer						0.00
	b)	Construction of median kerb and island kerb Type A grade M20 (including base preparation, foundation and haunch concrete)	Lm	718	224.00	1,60,832	400	287200.00
7.18		Pitching/revetment on slopes with Cement Concrete blocks in M15 grade conforming to Section 1700 complete as per drawings, technical Specifications 2504 and as directed by the Engineer	Cum	473	3566.00	16,85,460	3500	1655500.00
7.20		Geo textile filters membrane as per Technical Specifications Clause 2504 and as directed by the Engineer.	Sqm	4393	659.00	28,94,906	100	439300.00
7.21		Filter media beneath the pitching/revetment on slopes for protection of embankment as per drawings and Technical Specifications clause 2504 and as directed by the Engineer				-		0.00
	b)	Granular Material	Cum	659	318.00	2,09,540	25	16475.00
7.23		Providing and fixing of man hole including excavation, concrete, C.I. Cover, C.I. Steps complete as per drawing and Technical Specifications sections 300, 1500, 1600, 1700 and manufacture specification approved by the Engineer.	Nr	3	7000.00	21,000	5500	16500.00
		Total Drainage and Protection Work rates carried to Grand Summary				1,19,84,460		8990445.00
8		TRAFFIC SIGNAGE AND ROAD APPURTENANCES						
8.01		Providing and erecting a "W" metal beam crash barrier comprising of 3 mm thick corrugated sheet metal beam rail, 70 cm above road/ground level, fixed on ISMC series channel vertical post, 150 x 75 x 5 mm spaced 2 m centre to centre, 1.8 m high, 1.1 m below ground/road level, all steel parts and fitments to be galvanised by hot dip process, all fittings to conform to IS:1367 and IS:1364, metal beam rail to be fixed on the vertical post with a spacer of channel section 150 x 75 x 5 mm, 330 mm long complete as per clause 810	Lm	12918	2713.00	3,50,46,534	2250	29065500.00

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					Figures			
8.02		Providing and fixing of retro-reflectorised cautionary, mandatory and informatory sign made of 1.5mm thick Aluminium Sheet/3mm Aluminium Composite Material , face to be fully covered with Class B Type-IV High Intensity Micro Prismatic Grade Sheeting as defined in IRC: 67-2010 having approved messages e.g. letter, numerals,symbols/legend/arrow etc. in Regional and/or Hindi and /or English as per drawing and Technical Specifications for Road and Bridge works (Fourth Revision). The sign plate will be fixed with minimum 6 mm dia aluminium rivets back supported on a mild steel angle iron frame 35x35x5 mm and one vertical Mild Steel post of NB65 Dia Pipe (height from crown level of the road and bottom of the sign board shall not be less than 2.10 m.) firmly fixed to the ground by means of properly designed foundation with M -15 grade cement concrete 45 cm x 45 cm x 60 cm, 60 cm below ground level as per approved drawing including painting of vertical post as per specification.						0.00
	a)	Informatory Signs						0.00
	i)	Facility information 800 mm x 600 mm complete as per drawings and Technical Specifications Clause 801	Nr	35	5679.64	1,98,787	3500	122500.00
	ii)	Advance direction sign complete as per drawings and Technical Specifications Clause 801	Sq m	215	10626.24	22,81,985	10000	2150000.00
	iii)	Route marker sign 450mm x 600 mm complete as per drawings and Technical Specifications Clause 801	Nr	22	4867.88	1,07,093	3500	77000.00
	b)	Cautionary Signs						0.00
	i)	Triangular 900 mm side complete as per drawings and Technical Specifications Clause 801	Nr	244	5285.23	12,89,596	4500	1098000.00
	ii)	Hazard marker 180 x 1200 mm complete as per drawings and Technical Specifications Clause 801	Nr	2	18478.92	36,958	7500	15000.00
	iii)	Hazard marker 300 x 900 mm complete as per drawings and Technical Specifications Clause 801	Nr	4	3582.79	14,331	3000	12000.00
	c)	Mandatory Signs						0.00
	i)	Triangular 900 mm side (for "GIVE WAY" sign) complete as per drawings and Technical Specifications Clause 801	Nr	32	5285.23	1,69,127	4500	144000.00
	ii)	Stop sign - Octagon of size 900 mm complete as per drawings and Technical Specifications Clause 801	Nr	49	7485.53	3,66,791	6000	294000.00

Item No.		DESCRIPTION	Unit	Quantity	Unit Rate	Amount	Unit Rate	Amount
					Figures			
	iii)	Speed limit compulsory keep left 600 mm dia meter complete as per drawings and Technical Specifications Clause 801	Nr	31	4923.27	1,52,621	3500	108500.00
8.03		Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads @ 250 gms per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35 .The finished surface to be level, uniform and free from streaks and holes complete as per drawings and technical specification clause 803.						0.00
	a)	Lane/centerline/edge marking or any other marking	Sqm	8563	471.00	40,33,314	275	2354825.00
	b)	Directional arrows, lettering etc						0.00
	i)	Straight (nr) RM13	Nr	134	518.00	69,567	500	67000.00
	ii)	Left/right (nr) RM14 & 15	Nr	42	533.00	22,557	500	21000.00
	iii)	Comb (nr) RM 16& 17	Nr	234	661.00	1,54,859	500	117000.00
	iv)	Lettering	Nr	45	141.00	6,303	100	4500.00
	v)	Chevron Marking	Sqm	614	471.00	2,89,266	275	168850.00
	vi)	Diagonal Marking	Sqm	122	471.00	57,368	275	33550.00
	vii)	Pedestrian Crossing	Sqm	1090	471.00	5,13,390	275	299750.00
8.04		Reinforced cement concrete M15 grade kilometre stone of standard design as per IRC:8-1980, fixing in position including painting and printing etc complete as per drawings and technical specification clause 804.						0.00
	a)	Hectometer Stone	Nr	90	423.00	38,070	200	18000.00
	b)	Kilometer Stone	Nr	18	1420.00	25,560	1000	18000.00
	c)	5th kilometer stone	Nr	5	2349.00	11,745	2000	10000.00
8.05		Supplying and fixing of boundary stones of M15 grade concrete complete as per drawing and Technical Specifications clause 806	Nr	113	319.00	36,047	250	28250.00
8.06		Providing and fixing retro-reflectorised road delineators complete as per drawing and Technical Specification Clause 805.						0.00

Item No.		DESCRIPTION	Unit	Quantity	Unit Rate	Amount	Unit Rate	Amount
					Figures			
	a)	Cluster of Red Reflectors.	Nr	4	2278.07	9,112	2200	8800.00
	b)	Road way delineators.	Nr	559	1920.00	10,73,280	1500	838500.00
8.08		Supply and install single guide rails (crash barriers) as approved by the Engineer as per drawings and Additional Specifications A-12	Lm	3904	2688.00	1,04,94,961	1500	5856000.00
8.09		Providing and fixing Raised Pavement Marker (Cats Eye, Road Stud), made of high strength engineering Plastic Body having at least 13 tons load bearing capacity of pneumatic tyre. Size of marker 9 cms x 10 cms x 1.6 cm having shape so that no water penetration or dust accumulation takes place on reflective surface, fitted with electronically welded tough polycarbonate micro prismatic reflective panels having 16 sq.cms surface area of each side having long distance visibility at night and in wet weather condition. The body of the marker having finger grip for easy and accurate placement fitted with two number polymer shanks to anchor the marker with the road for avoiding dislocation of the marker where the road is bleeding or made with softer grade of bitumen and application with adhesive on Bituminous road complete as per Additional Technical Specification Clause A-16	Nr	1471	425.00	6,25,175	175	257425.00
8.10		Solar Powered Traffic Blinkers LED based 300 mm/200 mm dia signal head with In built blinker unit having battery & battery charger unit with photo electric switch complete as per technical specification clause 112 and as directed by the Engineer.	Nr	8	75000.00	6,00,000	35000	280000.00
8.11		Construction of bus shelters for commuters including all building and furnishing works, etc. complete as per drawings and additional Technical Specifications A-17 or as directed by the Engineer.	Nr	8	110875.65	8,87,005	100000	800000.00
8.12		Repairing of existing Bus Shelter complete as per drawings and Technical Specifications section 800, 1300, 2500 or as directed by the Engineer.						0.00
	a)	Painting	sqm	70	35.00	2,450	500	35000.00
	b)	Plastering	sqm	140	83.00	11,620	700	98000.00
8.13		Providing and fixing of litter bins complete as per Manufacturer drawing and specification and approved by the Engineer.	Nr	15	10000.00	1,50,000	10000	150000.00
8.20		Plantation of shrubs in central median including planting with manure, gardening and maintenance complete as per Technical Specifications Clause 308.	Nr	95	463.00	43,985	400	38000.00

Item No.		DESCRIPTION	Unit	Quantity	Unit Rate	Amount	Unit Rate	Amount
					Figures			
8.25		Providing and Construction of Rain water Harvesting complete as per drawings and Technical Specification section 300, 1300, 1500, 1700 or as directed by the Engineer.	Nr	45	50000.00	22,50,000	25000	1125000.00
8.26		Providing and construction of Raised Pedestrian Crossing / Speed Hump across the road of 150 mm height and width of 2.5 m with M25 grade concrete considering side slope in 1:10. 100mm dia steel bollard to be fixed on sides. The surface to be painted with brick red colour complete as per drawings and Additional Technical Specification clause A15 or as directed by the Engineer.	Sqm	506	2006.52	10,15,298	1000	506000.00
8.27		Providing and laying Tactile Block of yellow colour conforming to IS 13801:1993 (Reaffirmed 1998) of size 250 x 250 x 65 mm on pedestrian pathway as shown in drawing and directed by Eng in charge. The tile should be subjected to a pressure of not less than 14N/sqmm. Sample must be approved complete as per Additional Technical Specification A18	sqm	949	520.00	4,93,529	400	379600.00
8.29		Providing and Construction of raised Rumble strip complete as per drawings and technical specifications section 500 and 800 or as directed by the Engineer.	Lin.m	2074	158.91	3,29,572	100	207400.00
8.30		Providing and fixing Aluminum backed flexible prismatic sheeting , consisting of yellow/black colored flexible prismatic sheet with non-mettalic prismatic lens as retro reflective elements and confirming to ASTM D4946 Type VI specifications for reboundable retro reflective sheeting. The prismatic sheet shall be laminated at the back with 50micron aluminum Foil sensitive adhesive and liner with screen printed arrow/slant pattern in yellow/black color. The AFP shall be applied with adhesive , the edge of the sheeting shall be sealed all around with epoxy based structural adhesive and shall be extremely resistant to pill-off complete as per manufacturer drawings approved by the Engineer.	sqm	30	5377.00	1,60,794	5500	165000.00
8.31		Providing and applying Geru paint of approved brand on Trees withing ROW complete as per drawings and Technical Specification section 800 or as directed by the Engineer	Nr	546	10.00	5,460	25	13650.00
8.32		Providing and Constructing Welcome Sign at Start and End of Project corridor complete as drawings and Technical Specification 300, 800, 1500, 1600 and 1700 or as directed by the Engineer.	Nr	2	21900.00	43,800	40000	80000.00
8.33		Street Lighting in urban areas				-		0.00
	xxix)	Solar Street Light				-		0.00

Item No.		DESCRIPTION	Unit	Quantity	Unit Rate	Amount	Unit Rate	Amount
					Figures			
		a) Supplying and erecting MNES certified SOLAR STREET LIGHT fitting made from M.S. Body powder coated / painted with corrosion resistant paint with gasket & transparent cover with following CFL non retro lamp with choke, holder & accessories. Fitting shall be mounted on 75/80 mm B class G.I. pipe pole up to 5.5 mtr load complete erected with C.C. Foundation duly painted with two coats of red oxide and corrosive resistant paint. Complete with tubular battery, inverter, charge controller with photo sensor switch & necessary wiring complete erected connected & commissioned in approved manner.						0.00
		b) 2 x 11 W CFL (Single luminaire with 2 CFL) PV Module:120 W Battery Capacity 12V, 100 AH	Each set	195	33000.00	64,35,000	25000	4875000.00
		c) 2 x 11 W CFL (Double Luminaire with One CFL each), PV Module : 120W Battery Capacity : 12V, 100 AH	Each set	100	34000.00	34,00,000	25000	2500000.00
		b) Supplying & erecting Solar Home light system with structure as per MNES specification consisting of following non retrofit CFL fitting complete with following CFL lamps & battery capacity dully connected with built in inverter & commissioned as per directed with necessary wiring & fittings.						0.00
		(b) Two No CFL 11 watt non retrofit ceiling / wall mounting features with battery capacity 12 watt, 40 AH	Each set	295	12300.00	36,28,500	10000	2950000.00
		Total Traffic Signage and Road Appurtenances carried to Grand Summary				7,65,81,411		57390600.00
9		SAFETY IN ROAD CONSTRUCTION ZONE						
9.01		Supplying and fixing sign boards including the cost of posts, fixtures, foundation, fitting and fixing. Sheeting will be made of encapsulated lens type of Retro-reflective type and messages/ borders will be screen printed complete as per Technical Specification clause 801 and as directed by Engineer.						
	a)	Speed Limit sign (600mm dia)	Nr	10	3938.61	39,386	3000	30000.00
	b)	Overtaking Prohibited (900 mm dia)	Nr	10	5988.42	59,884	4000	40000.00
	c)	Diversion Board (450mm x 600mm)	Nr	30	3894.31	1,16,829	3000	90000.00
	d)	Men at Work Sign (900mm triangular)	Nr	20	4228.18	84,564	4000	80000.00
		Direction Sign (Right / Left) (600 mm Circular)	Nr	10	3938.61	39,386	3000	30000.00

Item No.		DESCRIPTION	Unit	Quantity	Unit Rate	Amount	Unit Rate	Amount
					Figures			
9.02		Providing of red fluorescent with white reflective sleeve traffic cone made of low density polyethylene(LDPE) material with a square base of 390x390x35mm and a height of 770mm, 4Kg in weight, placed at 1.5m interval, all as per BS 873 including cost of all materials, labour, loading, unloading, lead, lift, transporting etc complete Technical Specification section & IRC SP 55-2001.	Nr	1480	238.00	3,52,240	250	370000.00
9.03		Installation of a steel portable barricade with horizontal rail 300mm wide,2.5m in length fitted on a frame made with 45X45X5 mm angle iron section, 1.5m in height, horizontal rail painted(2coat) with yellow and white strips,150mm in width at angle of 45degree, A frame painted with 2 coats of yellow paint, complete as per IRC:SP:55-2001 including cost of all materials, labour, loading, unloading, lead, lift, transporting etc complete as per drawings or as directed by the Engineer.	Nr	1480	2562.00	37,91,760	1700	2516000.00
9.04		Solar Street Light						0.00
	i)	Supplying and erecting MNES certified SOLAR STREET LIGHT fitting made from M.S. Body powder coated / painted with corrosion resistant paint with gasket & transparent cover with following CFL non retro lamp with choke, holder & accessories. Fitting shall be mounted on 75/80 mm B class G.I. pipe pole up to 5.5 mtr load complete erected with C.C. Foundation duly painted with two coats of red oxide and corrosive resistant paint. Complete with tubular battery, inverter, charge controller with photo sensor switch & necessary wiring complete erected connected & commissioned in approved manner.						0.00
		a) 1 x 11 w CFL PV Module : 74 W Battery Capacity : 12V, 75 AH	Each set	40	24000.00	9,60,000	20000	800000.00
	ii)	Supplying & erecting Solar Home light system with structure as per MNES specification consisting of following non retrofit CFL fitting complete with following CFL lamps & battery capacity dully connected with built in inverter & commissioned as per directed with necessary wiring & fittings.						0.00
		(a) One No CFL 11 watt non retrofit ceiling / wall mounting features with battery capacity 12 watt, 20 AH	Each set	40	6900.00	2,76,000	6000	240000.00
9.05		Construction of a permanent type barricade made of steel components, 1.5 m high from road level, fitted with 3 horizontal rails 200 mm wide and 4 m long on 50 x 50 x 5 mm angle iron vertical support, painted with yellow and white strips, 150 mm in width at an angle of 45, complete as per IRC:SP:55-2001	Nr.	6	4123.00	24,738	3500	21000.00
Total of Safety in Road Construction Zone carried to Grand Summary						57,44,787		4217000.00

Item No.		DESCRIPTION	Unit	Quantity	Unit Rate	Amount	Unit Rate	Amount	
					Figures				
10		Implementation of Environmental Management Action Plan to be executed under Civil Works Contract							
10.03		Periodic air quality monitoring during construction stage at construction camp sites, bitumen hot mix plants, crusher plants (if specifically established for Project), at major settlement areas along project road. The parameters to be monitored are SPM, RPM, SO2, NOx and CO, Lead. Each monitoring schedule shall be over a duration of 24 hours (in 8 hour shifts) for three seasons per year. (as per the Environmental monitoring plan referred in the EMP)							
		a)	Construction Phase	Nr	12	7500.00	90,000	10000	120000.00
		b)	Operation Phase	Nr	6	7500.00	45,000	10000	60000.00
10.04		Water quality monitoring during construction phase at locations . The sampling shall be carried out for three seasons per year and cover all parameters as per IS10500 including heavy metals . (as per the Environmental monitoring plan referred in the EMP).							0.00
		a)	Construction Phase	Nr	12	6000.00	72,000	6000	72000.00
10.05		Noise quality monitoring at specified silent receptors along Project Road, at construction camp sites, bitumen hot mix plants, crusher plants(if specifically established for Project), and at major settlement areas along project road. – Each monitoring schedule shall be over a duration of 12hours (6Am to 6PM) for three seasons per year. (as per the Environmental monitoring plan referred in the EMP)The monitoring shall be carried out in accordance with CPCB norms at locations given .							0.00
		a)	Construction Phase	Nr	12	3000.00	36,000	10000	120000.00
		b)	Operation Phase	Nr	6	3000.00	18,000	10000	60000.00
10.06		Soil quality monitoring at construction camp sites, work shop areas, oil/lubricant handling areas, bitumen hot mix plants, at all parking lay byes, vehicle servicing stations along Project Road. Parameters shall include N, P, oil and grease, heavy metals, C/N ratio, pH, organic matter to be monitored for three seasons per year.(as per the Environmental monitoring plan referred in the EMP)							0.00
		a)	Construction Phase	Nr	2	6000.00	12,000	7000	14000.00

Item No.	DESCRIPTION	Unit	Quantity	Unit Rate	Amount	Unit Rate	Amount
				Figures			
10.12	Enhancement of Cultural Properties (bill no 10.18)						0.00
	a) Simaliya Primary School (13+850)	Nr.	1	65676.00	65,676	300000	300000.00
	b) Malanpur Primary School (1+050)	Nr.	1	9218.09	9,218	300000	300000.00
10.13	HIV prevention / alleviation programme comprising of conduction information, Education and comunication (IEC) campaigns at least every other month, providing condoms, providing STI and HIV / AIDS screening, diagnosis and referal to dedicated national STI and HIV / AIDS programme and programme management support throughout the contract period (including the defect notification period).						0.00
	a) IEC materials - printing, publishing	Nr	9	3000.00	27,000	2000	18000.00
	b) Healthcare clinic	Nr.	3	30000.00	90,000	25000	75000.00
	c) Condom vending machines	Nr.	1	15000.00	15,000	15000	15000.00
	d) Condom supplies	Nr.	9	5000.00	45,000	5000	45000.00
	e) Testing	Nr.	200	1500.00	3,00,000	1000	200000.00
	f) Signages and hoardings	Nr.	6	15000.00	90,000	10000	60000.00
	Total Implementation of Environmental Management Action Plan to be executed under Civil Works Contract carried to Grand Summary					9,14,894	1459000.00
	Total						
11	DAY WORKS						
11.01	Providing labour at site supplied with all necessary hand tools inclusive of all costs, overheads and profit margin complete as directed by the Engineer	As per details in Schedule "A"	1	257810.25	2,57,810	250000	250000.00
11.02	Providing equipment at site with operators, P.O.L. etc. complete in good working condition including all types of maintenance during contract period	As per details in Schedule "B"	1	169241.25	1,69,241	150000	150000.00
11.03	Providing material at site inclusive of all costs, overheads and profit margin complete as directed by the Engineer	As per details in Schedule "C"	1	536870.00	5,36,870	450000	450000.00
	Total Day work rates carried to Grand Summary					9,63,922	850000.00
12	MAINTAINANCE						
12.01	Maintainance of project road for first year of maintainance period after Defect Liability Period as directed by the Engineers	per km	23	180000.00	40,84,200	25000	575000.00

Item No.			DESCRIPTION	Unit	Quantity	Unit Rate	Amount	Unit Rate	Amount
						Figures			
12.02			Maintainance of project road for 2nd year of maintainance period after Defect Liability Period as directed by the Engineers	per km	23	220000.00	49,91,800	50000	1150000.00
			Total for mainatenance cost				90,76,000		1725000.00

Total Construction Cost

49,94,72,128

39,53,24,533