

General Abstract of Cost of Duhuria to Chandballi Road (Km 49/000 to Km 99/000 of SH-9A and Km 45/000 to Km 51/500 of SH-9)

Bill No.	Description	Amount in Rupees
1	Site clearance and Dismantling	6,100,273.00
2	Earth Work	478,453,623.00
3	Sub-base and Base Courses	311,552,580.00
4	Bituminous courses, DLC & PQC	478,752,049.00
5	Culverts	155,792,953.00
6	Bridges	131,511,675.00
7	Retaining Wall, Drainage & Protective works	201,661,843.00
8	Road Safety and Amenities	93,439,306.00
9	Maintenance, Repair and Rehabilitation works	11,854,456.00
10	Environmental Mitigation Measures	24,458,463.00
	SubTotal (A)	1,893,577,221.00
1	Total for Daywork : Labour	136,950.00
2	Total for Daywork : Materials	560,935.00
3	Total for Daywork : Contractor's Equipment	243,846.00
	Subtotal (B)	941,731.00
	Subtotal (C=A+B)	1,894,518,952.00
1	Contingency (D=1% of C)	18,945,189.52
2	Quality Control (E = 1% of C)	18,945,189.52
	Net Total (F = C+D+E)	1,932,409,331.04
		Say,
		1,932,409,000.00

T.S. No 2/13-14 DA 01.05.2013

Say,

Revised technical sanction is accorded for
Rs. 193,24,09,000.00 (Rupees one hundred ninety three crore
Twenty four lakh nine thousand) only


 Chief Engineer
 World Bank Project
 O/o the E.I.C.(Civil), Odisha
 Bhubaneswar

Detail Quantities
BILL NO.1 : SITE CLEARANCE

Item No.	Description	Unit	Quantity	Rate	Amount
	BILL NO.1 : SITE CLEARANCE				
1.01	Clearing and Grubbing for road land complete as per Technical Specification Clause 201 and as per the direction of the Engineer.	Hectare	102.00	30,945.30	3,156,421.00
1.02	Dismantling structures and pavement including disposal of resulting material and/or salvaging useful materials complete as per Technical Specification Clause 202, 2809 and as per the direction of the Engineer.				
	a) Brick/ Stone Structures of dry or in lime/cement mortar	Cum	569.00	171.00	97,299.00
	b) Concrete/ Reinforced concrete/ Prestressed concrete structures including cleaning straightening & cutting of bars and separating them out from RCC/PSC.				
	For Slab Culverts & Box Culverts and Bridges				
i)P.C.C.	Cum	234.00	274.50	64,233.00	
ii)R.C.C.	Cum	145.00	466.70	67,672.00	
c) Dismantalling of Pavement course	Cum	16080.00	164.80	2,649,984.00	
d) Hume pipe	Lm	229.00	96.70	22,144.00	
e) Kerb	Lm	27.00	8.40	227.00	
f) stone pitching	Cum	137.00	118.90	16,289.00	
g) Expansion joint	Rm	103.00	124.70	12,844.00	
h) Cement Concrete Wearing Coarse	Sqm	191.00	68.90	13,160.00	
			Total	6,100,273.00	
	SUB TOTAL				6,100,273.00
	BILL NO.2 : EARTH WORKS				
2.01	Roadway and Drainage excavation necessary for construction of roadway complete as per Technical Specification Clause 301 and as per the direction of Engineer.				
a) All kinds of soil	Cum	105443.00	48.40	5,103,441.00	
b) Softrock (blasting not required)	Cum	500.00	58.20	29,100.00	
c) Hard rock (blasting required)	Cum	500.00	154.90	77,450.00	
d) Hard rock (blasting not required)	Cum	500.00	171.00	85,500.00	
2.02	Construction of embankment with approved material from approved borrow areas complete as per Drawing and Technical Specification Clause 305 and as per the direction of the Engineer.	Cum	194689.00	395.20	76,941,093.00
2.03	Construction of embankment with sand from approved quarry complete as per Drawing and Technical Specification Clause 305 and as per the direction of the Engineer.	Cum	433394.00	509.30	220,727,564.00
2.04	Construction of subgrade and earthen shoulder with approved material as per Drawing complete and Technical Specification Clause 305 and as per the direction of the Engineer.	Cum	385595.00	443.10	170,857,145.00

Item No.	Description	Unit	Quantity	Rate	Amount
2.05	Construction of embankment and subgrade with suitable material deposited at site from roadway and drainage excavation all complete as per Drawing and Technical Specification Clause 305 and as per the direction of the Engineer.	Cum	31633.00	76.60	2,423,088.00
2.06	Loosening and recompacting the existing subgrade in all kinds of soil upto a depth of 300mm/500mm to meet the requirement of table 300-2 complete as per Technical Specification Clause 305 and as per the direction of the Engineer.	Cum	22454.00	43.60	978,994.00
2.07	Earthwork with agriculture soil for filling of median/island complete as per Technical Specification Clause 407 and as per the direction of the Engineer.	Cum	1458.00	162.20	236,488.00
2.08	Scarifying the existing bituminous surface layers without disturbing the base including carrying, processing, laying and disposal of waste material complete as per Technical Specification Clause 501 and as per the direction of the Engineer.	Sqm	47209.00	3.50	165,232.00
2.09	Stripping, storing of top soil by road side at 15 m internal and re-application on embankment slopes, cut slopes and other areas in localities where the available embankment material is not conducive to plant growth as directed by the Engineer and as per technical specification-305.	Cum	6736.00	123.00	828,528.00
SUB TOTAL				Total	478,453,623.00
SUB TOTAL					478,453,623.00
BILL NO.3 : SUB-BASE AND BASE COURSES					
3.01	Construction of Granular Sub-base course using crushed stone aggregate by providing the materials conforming to Gr-I of Table 400-2 complete as per Technical Specification Clause 401 and as per the direction of the Engineer.	Cum	128267.00	1,398.80	179,419,880.00
3.02	Construction of wet mix macadam Gr-I complete as per Technical Specification Clause 406 and as per the direction of the Engineer.	Cum	91126.00	1,450.00	132,132,700.00
SUB TOTAL				Total	311,552,580.00
SUB TOTAL					311,552,580.00
BILL NO.4 : BITUMINOUS COURSES					
4.01	Providing bituminous Primer coat over granular surface complete all as per Technical Specification Clause 502 and as per the direction of the Engineer.	Sqm	350204.00	23.60	8,264,814.00
4.02	Providing Tack coat complete as per Technical Specification Clause 503 and as per the direction of the Engineer.				
	(a) Granular Surface treated with primer	Sqm	350204.00	8.70	3,046,775.00
	(b) Over normal bituminous surface	Sqm	350204.00	8.70	3,046,775.00

Item No.	Description	Unit	Quantity	Rate	Amount
4.03	Providing Dense Bituminous Macadam course using Bitumen Grade-60/70 (VG-30) complete as per Technical Specification Clause 507 and as per the direction of Engineer.	Cum	18056.00	7,002.10	126,429,918.00
4.04	Providing bituminous concrete wearing course using CRMB-55 complete as per Technical Specification Clause 509 & 521 and as per the direction of the Engineer.	Cum	14008.00	7,979.10	111,771,233.00
4.05	Construction of dry lean cement concrete Sub-base over a prepared sub-grade with coarse and fine aggregate, concrete strength not to be less than 10 Mpa at 7 days, mixed in a batching plant, transported to site, laid with a paver with electronic sensor, compacting with 8-10 tonnes vibratory roller, finishing and curing as per Technical Specification Section 600 and as per the direction of the Engineer.	Cum	17083.00	2,884.50	49,275,914.00
4.06	Construction of un-reinforced, dowel jointed at expansion and construction joint only, plain cement concrete pavement, thickness as per design, over DLC with appropriate grade of cement as directed by the Engineer, M 40 grade mixed in a batching plant as per approved mixed design, transported in transit mixer to site, laid in approved fixed side form work (Steel channel, laying and fixing of 125 micron thick polythene film, wedges steel plates including levelling the form work as per drawing), spreading the concrete with shovels, rakes, compacted using needle, screed and plate vibrators and finished in continuous operation including provision of contraction and expansion, construction joints, applying debonding strips, primer, sealant, dowel bars, near approaches to bridge/culvert and construction joints, sealing of joints, admixtures as approved, curing of concrete slabs for the required period, finishing to lines and grade as per drawing, technical specification clause No-1501 of MORD and as directed by the Engineer.	Cum	34165.00	5,178.30	176,916,620.00
				Total	478,752,049
	SUB TOTAL				478,752,049
	BILL NO.5 : CULVERTS				
5.01	Earthwork in excavation of foundation for structures complete as per Drawing and Technical Specifications Clause 304 including all leads and lifts and as per the direction of the Engineer.	Cum	16430.00	34.60	568,478.00
5.02	Earth fill below pitching in quadrant portion with approved material complete as per Drawing and Technical Specification Clause 305 with all leads and lifts and as per the direction of the Engineer.	Cum	2807.00	162.20	455,295.00

Item No.	Description	Unit	Quantity	Rate	Amount
5.03	Providing and filling behind abutment, wing wall and return wall with granular material etc. and below pipe bed in layers not exceeding 150mm thick including All leads and lifts complete as per Drawing, direction of the Engineer and Technical Specification Clause 304 and as per the direction of the Engineer.	Cum	1640.00	1,132.30	1,856,972.00
5.04	Providing filter media behind abutment, wing wall and return wall complete as per Drawing and Technical Specification Clause 2504, 2509, 2510 and as per the direction of the Engineer.	Cum	603.00	2,363.40	1,425,130.00
5.05	Cement Concrete M-15 grade in levelling course etc. including centering and shuttering all complete as per Drawing and Technical Specification Sections 1500 and 1700 and as per the direction of the Engineer.	Cum	3295.00	4,496.10	14,814,650.00
5.06	Cement Concrete M-15 grade in substructure & headwall including centering and shuttering all complete as per Drawing and Technical Specification Sections 1500, 1700, 2200 and as per the direction of the Engineer.	Cum	6429.00	4,756.80	30,581,467.00
5.07	Reinforced cement concrete (M-20 grade) in all types of culverts as per Drawing and Technical Specification Section 1500, 1700 & 2200 and as per the direction of the Engineer.	Cum	2276.00	5,489.70	12,494,557.00
5.08	Reinforced cement concrete M-30 grade in approach slabs including cost of reinforcement all complete as per Drawing and Technical Specification Clause 2704 and as per the direction of the Engineer.	Cum	288.00	8,868.50	2,554,128.00
5.09	HYSD (TMT) bar reinforcement complete as per Drawing and Technical Specifications Clause 1600 and as per the direction of the Engineer.	MT	80.00	64,547.20	5,163,776.00
5.10	Providing laying and joining NP-4(I.S 458) hume pipes for culverts on concrete cradle bedding complete as per Drawing Tech. Specification section2900 and IRC special publication No.13 and as per the direction of the Engineer.				
	a) 1m dia. In Single Row	Lm	780.00	5,723.10	4,464,018.00
	b) 1.2m dia. In Single Row	Lm	838.00	7,543.50	6,321,453.00
	c) 1m dia. In Double Row	Double Row-Lm	210.00	11,645.80	2,445,618.00
	d) 1.2m dia. In Double Row	Double Row-Lm	3121.00	15,300.80	47,753,797.00
5.11	Providing & laying 0.3m dia NP-4 Hume Pipe with collars on first class bedding for utility duct and reptile pass including cost of transportation, loading & unloading, taxes, watering, curing, T&P etc. all complete as per Technical Specification Section 2900 & IRC SP-13 and as per the direction of the Engineer	Lm	1690.00	1,362.40	2,302,456.00

Item No.	Description	Unit	Quantity	Rate	Amount
5.12	Providing laying and joining NP-3(I.S 458) hume pipes with culvert complete as per drawing Tech. Specification section 2900 and IRC special publication no.13 and as per the direction of Engineer.				
	a) 0.6m dia in single row for cross drain	Lm	2740.00	2,115.10	5,795,374.00
5.13	Providing and laying filter material underneath stone pitching in slopes complete as per Drawing and Technical Specification section 2504, 2509, 2510 and as per the direction of the Engineer.	Cum	1039.00	2,363.40	2,455,573.00
5.14	Providing and laying stone Pitching on embankment slopes complete as per Drawing and Technical Specification Clause 2504 and as per the direction of the Engineer	Cum	2078.00	1,515.70	3,149,625.00
5.15	Providing rubble stone flooring in Cement mortar (1 Cement: 3 Sand) and joints complete as per Drawing and Technical Specification Section 1400, 2504 and as per the direction of the Engineer.	Cum	1750.00	4,441.90	7,773,325.00
5.16	Providing weep holes in box portion, return wall, wing wall etc. all complete as per Drawing and Technical Specification Clause. 2706 and as per the direction of the Engineer.	Nos	336	105.70	35,515.00
5.17	Supplying and fixing following types of expansion joints complete as per Drawing and as per IRC: SP: 69-2005 and as per the direction of the Engineer.				
	a) Asphaltic plug	Rmt	358.00	1,218.60	436,259.00
5.18	Cement Concrete Parapet in M-15 complete as per Drawing and Technical Specification Section	Cum	347.00	4,496.10	1,560,147.00
5.19	Bituminous wearing course 56mm thick comprising 50mm thick asphaltic concrete in a single layer over Bituminous mastic course 6mm thick with a prime coat complete as per Drawing and Technical Specification Section 2700, Clause 512 and as per the direction of the Engineer.	Sqm	2133.00	633.70	1,351,682.00
5.2	Synthetic enamel painting of culvert No. and span arrangement as per IRC - 7 - 1971 and as per the direction of the Engineer.	Nos.	48.00	68.30	3,278.00
5.21	Painting on concrete surface (Providing and applying 2 coats of water based cement paint to unplastered concrete surface after cleaning the surface of dirt, dust, oil, grease, efflorescence and applying paint @ of 1 litre for 2 Sq.m.)	Sqm	868.00	35.00	30,380.00
				Total	155,792,953.00
	SUB TOTAL				155,792,953.00

Item No.	Description	Unit	Quantity	Rate	Amount
	BILL NO.6 : BRIDGES				
6.01	Earthwork in excavation of foundation for structures complete as per Drawing and Technical Specification Clause 304 including all leads & lift and as per the direction of the Engineer.	Cum	21322.00	34.60	737,741.00
6.02	Providing and filling foundation and at the back of abutment, wing wall and return wall etc. and below pipe bed in layers not exceeding 150mm thick with granular material including all leads & lifts as per Technical Specification Clause 304 and as per the direction of the Engineer.	Cum	2568.00	1,132.30	2,907,746.00
6.03	Providing Filter media behind abutment, wing wall and return wall complete as per Drawing and Technical Specification Clause 2504 and as per the direction of the Engineer.	Cum	444.00	2,363.40	1,049,350.00
6.04	Cement concrete M-15 grade in levelling course etc including centering and shuttering all complete as per Drawing and Technical Specification Section 1500 and 1700 and as per the direction of the Engineer.	Cum	767.00	4,496.10	3,448,509.00
6.05	Cement concrete (M-15 grade) in foundation and substructure etc including centering and shuttering all complete as per Drawing and Technical Specification Section 1500, 1700, 2100, 2200 and as per the direction of the Engineer.	Cum	1305.00	4,756.80	6,207,624.00
6.06	Reinforced cement concrete in foundation complete as per Drawing & Technical Specification sections 1500, 1700, 2100, 2200 and as per the direction of the Engineer.				
	a) M-20 grade	Cum	175.00	5,190.20	908,285.00
	b) M-35 grade	Cum	713.00	5,792.10	4,129,767.00
6.07	Reinforced cement concrete in substructure complete as per Drawing & Technical Specification sections 1500, 1700, 2200 and as per the direction of the Engineer.				
	a) M-20 Grade	Cum	881.00	5,489.70	4,836,426.00
	b) M-25 Grade	Cum	59.00	6,010.60	354,625.00
	c) M-30 Grade	Cum	78.00	6,043.00	471,354.00
	d) M-35 Grade	Cum	4323.00	6,283.80	27,164,867.00
6.08	Reinforced cement concrete in super structure complete as per Drawing and Technical Specification section 1500, 1700, 2300 and as per the direction of the Engineer.				
	a) M-25 grade	Cum	584.00	6,793.10	3,967,170.00
	b) M-30 Grade	Cum	279.00	6,870.90	1,916,981.00
6.09	Bored cast-in-situ M-35 grade RCC Pile of 1200 mm diameter etc. complete as per Drawing and Technical Specification Clause 1100, 1700 and as per the direction of the Engineer.	Rmt	393.00	10,142.00	3,985,806.00

Item No.	Description	Unit	Quantity	Rate	Amount
6.10	HYSD (TMT) bar reinforcement complete as per Drawing and Technical Specifications Clause 1600 and as per the direction of the Engineer.				
	a) in foundation	MT	100.00	64,461.70	6,446,170.00
	b) in substructure	MT	502.00	64,547.20	32,402,694.00
	c) in superstructure	MT	94.00	65,295.60	6,137,786.00
6.11	Providing and fixing specified bearings complete as per Drawing and Technical Specification 2000 and as per the direction of the Engineer.				
	a) Elastomeric bearing	Cucm	237120.00	1.60	379,392.00
	b) Tarpaper Bearing	Sqm	152.00	50.00	7,600.00
6.12	Reinforced cement concrete M-30 grade for in approach slabs complete as per Drawing and Technical Specification section 1500, 1600, 1700, 2700 and as per the direction of the Engineer.	Cum	293.00	8,868.50	2,598,471.00
6.13	Bituminous wearing course 56mm thick comprising 50mm thick asphaltic Concrete in a single layer over Bituminous mastic course 6 mm thick with a prime Coat Complete as per Drawing and Technical Specification Section 509 & 2700 and as per the direction of the Engineer.	Sqm	4157.00	633.70	2,634,291.00
6.14	Providing and fixing Drainage Spouts Complete as per Drawing and Technical Specification Clause 2705 and as per the direction of the Engineer.	Nos.	86.00	849.20	73,031.00
6.15	Providing and laying Stone pitching in slopes complete as per Drawing and Technical Specification Section 2500 and as per the direction of the Engineer.	Cum	888.00	1,515.70	1,345,942.00
6.16	Providing as laying filter material underneath Stone pitching in slopes Complete as per Drawing and Technical Specification Clause 2504 and as per the direction of the Engineer.	Cum	543.00	2,462.80	1,337,300.00
6.17	Providing weep holes in abutments, wing walls and return walls etc. as per Drawing and Technical Specification Clause 2706 and as per the direction of the Engineer.	Nos.	1100.00	105.70	116,270.00
6.18	Providing rubble Stone flooring in Cement mortar (1Cement:3 sand) and joints Complete as per Drawing and Technical Specification Section 1400 and 2500 and as per the direction of the Engineer.	Cum	1771.00	4,441.90	7,866,605.00
6.19	Supplying as fixing the following types of expansion joints Complete as per Drawing and as per IRC: SP: 69-2005 and as per the direction of the Engineer.				
	a) Asphaltic plug	Lm	365.00	1,218.60	444,789.00
	b) Compression seal	Lm	80.00	4,938.90	395,112.00

Item No.	Description	Unit	Quantity	Rate	Amount
6.20	Synthetic enamel painting of culvert No. and span arrangement as per IRC - 7 - 1971 and as per the direction of the Engineer.	Nos.	44.00	68.30	3,005.00
6.21	Carrying and Confirmatory bores up to required depth at locations of bridges as directed by the Engineer complete in all respects, conducting all the tests required as directed by the Engineer and as per Technical Specification Section 2400 and interpretation of the bore data and presentation of the results and as per the direction of the Engineer.				
	a) In all types of soil (except hard rock)				
	i) depth from 0m to 10m	Lm	100.00	400.00	40,000.00
	ii) depth from 10m to 20m	Lm	15.00	450.00	6,750.00
	iii) depth from 20m to 30m	Lm	10.00	500.00	5,000.00
	b) In hard rock				
	i) depth from 0m to 5m	Lm	10.00	600.00	6,000.00
	ii) depth from 5m to 10m	Lm	10.00	650.00	6,500.00
6.22	Providing and painting of flood gauge on substructure is fall height and 500mm width and as per the direction of the Engineer.	Rm	60.00	422.90	25,374.00
6.23	Providing and laying 150mm dia. HDPE Service pipe as per Drawing and as per the direction of the Engineer.	Rm	1577.00	300.00	473,100.00
6.24	Earth fill below pitching in quadrant portion with approved material complete as per Drawing and Technical Specification Clause 305 with all leads and lifts and as per the direction of the Engineer.	Cum	1389.00	162.20	225,296.00
6.25	Sand Filling in Foundation Trenches as per Drawing & Technical Specification Clause 304, 305 and as per the direction of the Engineer.	Cum	2504.00	537.00	1,344,648.00
6.26	PCC in flooring as per Drawing & Technical Specification section 1700, 2500 and as per the direction of Engineer.				
	a) M-15	Cum	280.00	4,496.10	1,258,908.00
	b) M-20	Cum	93.00	5,169.80	480,791.00
6.27	Providing Reinforced cement concrete crash barrier constructed with M-40 grade concrete with HYSD reinforcement conforming to IRC:21, with MS vertical plate & base plate, 50mm dia pipe and dowel bars 25 mm dia, 450 mm long at expansion joints filled with pre-moulded asphalt filler board, keyed to the structure on which it is built and installed as per design and as per dimensions in the approved drawing and at locations directed by the Engineer and Technical Specification Clause 809, and section 1500, 1600, 1700.				
		Lm	767.00	4,386.70	3,364,599.00
				Total	131,511,675.00
	SUB TOTAL				131,511,675.00

Item No.	Description	Unit	Quantity	Rate	Amount
	BILL NO.7 : RETAINING WALL, DRAINAGE AND PROTECTIVE WORKS				
7.01	Retaining Wall				
(a)	Earthwork in excavation for foundation complete as per Drawing and Technical Specification Clause 304 in Retaining wall for high embankment stretches as per the direction of the Engineer.	Cum	34913.00	34.60	1,207,990.00
(b)	Providing Plain cement concrete M -15 in foundation levelling course etc. including centering and shuttering all complete as per Drawing and Technical Clauses 1500, 1700 and as per the direction of the Engineer.	Cum	2428.00	4,496.10	10,916,531.00
(c)	Providing Cement concrete M -20 for reinforced concrete in foundation and substructure including centering and shuttering all complete as per Drawing and Technical Clauses 1500, 1700, 2100 and as per the direction of the Engineer.	Cum	9795.00	5,339.95	52,304,810.00
(d)	Providing steel reinforcement HYSD (TMT) for retaining wall complete as per Drawing and Technical Specification Clause 1600 and as per the direction of the Engineer.	MT	784.00	64,504.45	50,571,489.00
(e)	Providing weep holes in retaining wall complete as per Drawing and Technical Specification Clause 2706 and as per the direction of the Engineer.	Nos.	13760.00	105.70	1,454,432.00
7.02	Providing and laying stone pitching on embankment slopes as per Drawing and Technical Specification Clause 2504 and as per the direction of the Engineer.				
	Near Bridge approaches where separate embankment exists	Cum	1278.00	1,515.70	1,937,065.00
7.03	Providing and laying filter material underneath stone pitching on embankment slopes as per Drawing and Technical Specification Clause 2504 and as per the direction of the Engineer.	Cum	639.00	2,462.80	1,573,729.00
7.04	Turfing side slopes of main road and service road with grass sods complete as per Technical Specification Clause 307 and as per the direction of the Engineer.	Sqm	149137.00	23.70	3,534,547.00
7.05	Constructing precast saucer drain to the required lines and grades as per Drawing and Technical Specification and as per the direction of the Engineer.	Lm	21000.00	3,231.90	67,869,900.00
7.06	Constructing box type drains to the required lines and grades including cost of steel and its fabrication as per Drawing No. OSRP/CEG/Dr- and technical specification section 1500, 1600, 1700, 2100 and as per the direction of the Engineer.	Lm	1500.00	6,860.90	10,291,350.00
				Total	201,661,843.00
	SUB TOTAL				201,661,843.00

Item No.	Description	Unit	Quantity	Rate	Amount
	BILL NO-8 : ROAD SAFETY AND AMENITIES				
8.01	Providing and laying plain cement concrete kerb as per Drawing and Technical Specifications Clauses 408 Section 1500, 1700 and as per the direction of the Engineer.	Lm	5094.00	249.90	1,272,991.00
8.02	Providing and laying service ducts with 160/136mm dia HDPE Double Walled Corrugated Pipe conforming to IS:14930 (Part-II) including cutting of trenches and as per the direction of Engineer.	Lm	11080.00	326.00	3,612,080.00
8.03	Providing and fixing RCC boundary posts complete as per Drawing and Technical Specification Clause 806 and as per the direction of the Engineer.	Nos.	620	475.90	295,058.00
8.04	Providing and fixing RCC/PCC hectometer, Kilometer and 5th kilometer stones complete as per Technical Specification Clause 804 and as per the direction of the Engineer.				
a)	No of (200) Hectometre Stone	Nos.	228	423.80	96,626.00
b)	No of Kilometre stone	Nos.	45	1,626.80	73,206.00
c)	No. of 5th Kilometre Stone	Nos.	12	2,619.00	31,428.00
8.05	Constructing footpath/ paved separator at toll plaza, passenger platform / paved part of medians and islands complete as per Drawing and Technical Specifications Clause 409 and 407 and as per the direction of the Engineer.	Sqm	3920.00	1,065.00	4,174,800.00
8.06	Providing passenger shelters for Bus Bays as per Drawing and Technical Specifications Section 1500, 1600, 1700, 2100, 2200, 2300 and as per the direction of the Engineer.	Nos.	38.00	80,000.00	3,040,000.00
8.07	Construction of temporary diversion including Cross drainage works where necessary and maintenance thereof including traffic control and safety complete as per Technical Specification Clause 112 and as per the direction of Engineer.	Lm	3030.00	8,487.20	25,716,216.00

Item No.	Description	Unit	Quantity	Rate	Amount
8.08 (a)	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, as per Technical Specification section 800 and as per direction of Engineer.				
	Lane line / Edge marking	Sqm	23153.00	558.20	12,924,005.00
8.08 (b)	Painting lines, dashes, arrows etc on roads in two coats on new work with ready mixed road marking paint conforming to IS:164 on bituminous surface, including cleaning the surface of all dirt, dust and other foreign matter, demarcation at site and traffic control				
	Directional arrows and lettering etc. (over 10cm width)	Sqm	550.00	71.00	39,050.00
8.09	Supplying and fixing sign boards complete as per Technical Specifications Clause 801. Including the cost of Posts, Fitting & fixing. Sheeting will be retro reflective type of high intensively grade and messages / boarders and as per the direction of the Engineer.				
(a)	Informatory Signs				
	(i) Facility Information (800 x 600)mm	Nos.	24	3,297.00	79,128.00
	(ii) Direction Signs (1200 x 700 mm)	Nos.	4	5,412.00	21,648.00
	(iii) Advance Direction (size 1800 x 1200mm) ,	Nos.	4	5,750.30	23,001.00
	(iv) Re-Assurance Sign (1800 X 1200 mm) ,	Nos.	4	5,750.30	23,001.00
	(v) Destination Sign (1500 X 900 mm) ,	Nos.	4	3,750.30	15,001.00
	(vi) Place Identification (1500 X 900 mm) ,	Nos.	56	3,750.30	210,017.00
	(vii) Bus Lane Sign (450mm x 600mm)	Nos.	38	2,548.60	96,847.00
	(viii) Other Informatory Signs (2100mm x 1500mm)	Nos.	4	5,750.30	23,001.00
(b)	CAUTIONARY SIGNS triangular 900mm side	Nos.	20	2,833.70	56,674.00
(c)	MANDATORY SIGNS				
	(i) Circular 600mm dia	Nos.	210	2,594.90	544,929.00
	(ii) Octagon 900 mm height	Nos.	151	3,981.30	601,176.00
	(iii) Triangular 900 mm side	Nos.	466	2,833.70	1,320,504.00
8.10	Providing & fixing retro - reflectorised road delineators complete as per Drawing , Technical Specifications Clause 805 and as per the direction of the Engineer.				
	(i) Roadway delineator	Nos.	1043	790.30	824,283.00
	(ii) Hazard Marker	Nos.	64	790.30	50,579.00
	(iii) Object Marker	Nos.	70	790.30	55,321.00
8.11	Providing and fixing RCC Guard post with reflective paint marking on the top 25mm width band complete including end anchorage as per Drawing and Technical Specifications Clause 806 and as per the direction of the Engineer.	Nos.	6387	475.60	3,037,657.00

Item No.	Description	Unit	Quantity	Rate	Amount
8.12	Providing and fixing of metal beam crash barrier made out of cold rolled steel strip W profile of 3 mm thick having a minimum yield strength of 2400 kg/sqcm, width of 313 mm and depth of corrugation as 83 mm hot dip galvanized of zinc coating @ 550 gm/sq.m. The post and spacer channel is made out of cold rolled channel 150x75x5 mm having minimum yield strength of 2400 kg/sqcm and hot dip galvanized of zinc coating @ 550 gm/sq.m. The total length of post shall be 1900 mm and minimum height of post above concrete foundation shall be 800 mm. The length of spacer channel shall be 330 mm. Job includes neatly fixing new post in cement concrete of M-20 grade complete (cost included) as directed by the Engineer including fasteners and fixing etc. complete. The spacing of the Steel posts shall be about 2 m. The guard rail reflectors of 100 mm dia circular made out of 2 mm thick GI sheet duly fixed with micro-prismatic type sheeting with Type 9 ASTM D 4956-01 standards @ every 5 meters. The work is to be executed as per drawing, Specifications and as directed by the Engineer.	Lm	4400.00	2,495.00	10,978,000.00
8.13	Providing and fixing Pedestrian guard rails in modules including painting with approved paint complete as per drawing and Technical Specification Clause 803,1008,1300 & 1700.	Lm	7680.00	2,547.20	19,562,496.00
8.14	Supply of colour video coverage in Digital format during construction as per Technical Specifications Clause 126 As per requirement and as per the direction of the Engineer.	set	30.00	20,000.00	600,000.00
8.15	Providing rumble strips for complete carriageway width at required places as per Drawing and as per the direction of the Engineer.	Mtr	684	1,740.00	1,190,160.00
8.16	Providing road hump complete at required places as per Drawing and as per the direction of the Engineer.	Mtr	220	2,190.00	481,800.00
8.17	Supplying and fixing of raised (Reflective)pavement marker -RPM (cat's eye) made of aluminium alloy size 75x100x22 having ZI biconvex lenses embedded in circular disc of ABS plastic near the locations of speed humps and at curves as per the direction of Engineer.	No	14897	159.00	2,368,623.00
				Total	93,439,306.00
	SUB TOTAL				93,439,306.00
	BILL NO.9 MAINTENANCE, REPAIR AND REHABILITATION				
9.01	Restoration of Rain Cuts (Restoration of rain cuts with soil, moorum, gravel or a mixture of these, clearing the loose soil, benching for 300 mm width, laying fresh material in layers not exceeding 250 mm and compacting with plate compactor or power rammers to restore the original alignment, levels and slopes)	cum	763.00	72.00	54,936.00

Item No.	Description	Unit	Quantity	Rate	Amount
9.02	Maintenance of Earthen Shoulder (filling with fresh soil) (Making up loss of material/ irregularities on shoulder to the design level by adding fresh approved soil and compacting it with appropriate equipment.)	sqm	61020.00	67.80	4,137,156.00
9.03	Maintenance of Earth Shoulder (stripping excess soil) (Stripping excess soil from the shoulder surface to achieve the approved level and compacting with plate compactor)	sqm	152550.00	9.40	1,433,970.00
9.04	Filling Pot- holes and Patch Repairs with open - graded Premix surfacing, 20mm. (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 as per clause 511, compacting, trimming and finishing the surface to form a smooth continuous surface, all as per clause 3004.2)	sqm	40044.00	137.00	5,486,028.00
9.05	Epoxy bonding of new concrete to old concrete for jacketing as Technical Specification clause 2805 and as per the direction of Engineer-in-charge.	Sqm	1301.00	556.60	724,137.00
9.06	Patching of damaged concrete surface with polymer concrete and curing compounds, initiator and promoter, available in present formulations, to be applied as per instructions of manufacturer and as approved by the Engineer.	Sqm	2.00	9,114.30	18,229.00
				Total	11,854,456.00
	SUB TOTAL				11,854,456.00
	BILL NO.10 : ENVIRONMENTAL MITIGATION MEASURES				
10.01	Earthwork in excavation of foundation for structures complete as per Drawing No. OSRP/CEG/SH/ENV/1 - A, B, C, D, 03, 04 - A, B, 05, 05 - A, 07, 09, 10, 12 and Technical Specifications Clause 304 including all leads and lifts and as per the direction of the Engineer.	Cum	2051.00	34.60	70,964.60
10.02	Sand filling below foundation of wing wall and return wall, pipe bed in layers not exceeding 150mm thick including All leads and lifts complete as per Drawing No. OSRP/CEG/SH/ENV/1 - A, B, C, D, 03, 04 - A, B, 05, 05 - A, 07, 09, 10, 12 direction of the Engineer and Technical Specification Clause 304 and as per the direction of the Engineer.	Cum	491.00	537.00	263,667.00
10.03	Providing & laying in position Cement Concrete M-15 grade in foundation, levelling course etc. including centering and shuttering all complete as per Drawing No. OSRP/CEG/SH/ENV/1 - A, B, C, D, 03, 04 - A, 05 - A, 07, 09, 10, 12 and Technical Specification Sections 1500 and 1700 and as per the direction of the Engineer.	Cum	1702.00	4,496.10	7,652,362.20

Item No.	Description	Unit	Quantity	Rate	Amount
10.04	Providing weep holes in PCC toe wall with 100mm dia AC pipe at 1mtrs horizontal interval all complete as per Drawing No. SRP/CEG/SH/ENV/03 and Technical Specification Section 2700 & 2200 and as per the direction of the Engineer.	Nos	1900.00	105.70	200,830.00
10.05	Providing & laying in position Reinforced cement concrete of M-20 Grade in foundation complete as per Drawing No. OSRP/CEG/SH/ENV/04 - A, B, C, 05, 05 -A, 06, 07, 10 & Technical Specification sections 1700, 2100 & 2200 and as per the direction of the Engineer.	Cum	65.00	5,339.00	347,035.00
10.06	HYSD (TMT) bar reinforcement complete as per Drawing No. OSRP/CEG/SH/ENV/04 - A, B, C, D, 05, 06, 07, 10 and Technical Specifications Clause 1600 and as per the direction of the Engineer.	MT	3.00	64,461.70	193,385.10
10.07	Providing and laying filter material underneath pitching in slopes at water bodies and ponds as per Technical Specification Section 2500 and as per Drawing No. OSRP/CEG/SH/ENV/03 and as per the direction of the Engineer.	Cum	982.00	2,462.80	2,418,469.60
10.08	Providing and laying stone pitching on slopes over filter media as per Technical Specification Section 2500 and as per Drawing No. OSRP/CEG/SH/ENV/03 and as per the direction of the Engineer.	Cum	1310.00	1,515.70	1,985,567.00
10.09	Providing cement paint two coats to the walls as per drawing no. OSRP/CEG/SH/ENV/03, 04-A, B, 05, 05A, 10 as per direction of Engineer-in-Charge.	Sqm	1917.00	8.00	15,336.00
10.10	Construction of approach road with GSB and moorum topping well mixed and compacted as hard sholder as per technical spection clause 400.2 drawing no OSRP/CEG/SH/ENV/05 and as per direction of Engineer-in-Charge.	Lm	420.00	250.00	105,000.00
10.11	Maintainance of haulage road for 4 occurrences as directed by the Engineer-in-chief through out the construction period as per technical specification cl.no.3002	Cum	22500.00	76.60	1,723,500.00
10.12	Stripping of top soil from borrow areas located in agriculture fields, storing at a suitable place, spreading and re-laying after taking the borrow earth to maintain fertility of the agricultural field, finishing it to the required levels and satisfaction of the farmer.	Cum	30000.00	123.00	3,690,000.00
10.13	Providing and maintenance of oil & Grease traps detailed as per the Drawing No OSRP/SH/ENV/06	Nos	1.00	145935.00	145,935.00
10.14	Silt fencing of water bodies to avoid incresce of turbidity of water & avoid soil erosion by filled up sand in bags of cement/jute with support of non-sal bullahs 50mm dia of 1.0m above and 0.50m depth below soil and as per drawing No OSRP/CEG/SH/ENV/	Lm	3500.00	196.00	686,000.00

Item No.	Description	Unit	Quantity	Rate	Amount
10.15	Grouting stone pitching on embankments of reptile passes for making trap drain 23cm deep with Cement Concrete M15 grade using 20mm down stone aggregates as per drawing no-OSRP/CEG/ENV/14, technical specifications including cost of all materials, labour, transportation, taxes, sundries, curing, T&P etc. and as per the direction of the Engineer.	Sqm	684.00	196.80	134,611.20
10.16	Providing erosion control blanket made from coconut fibre reinforced with closely woven HDPE nets on both sides with apperture size less than 5mm of weight not less than 600 gm/sqm, over embankment slopes including preparation of bed, dressing the slopes, removing boulders, pebbles, vegetations and fixed firmly to the slopes using "U" shape galvanized iron hooks of 4mm diametre having dimension 300x75mm and covered with 100mm thick top soil brought from the stock piles/approved area , spreading manure and spreading of native seeds or planting of shrubs/ grass and maintaining the same for one month by sprinkling water at regular interval as per drawing no-OSRP/PMU/ENV/02 technical specifications including cost of all materials, labour, transportation, taxes, sundries, watering, T&P etc. and as per the direction of the Engineer.	Sqm	18000.00	268.10	4,825,800.00
				Total	24,458,462.70
	SUB TOTAL				24,458,463.00

DAY WORK ITEMS

Sl. No.	Description	Unit	Quantity	Rate	Amount
Schedule of Daywork Rates: 1. Labour					
D101	Labour (Un-skilled)	Day	200	150.00	30000.00
D102	Mason (Special Class)	Day	25	205.00	5125.00
D103	Carpenter (Special Class)	Day	10	205.00	2050.00
D104	Mason (Second Class)	Day	25	190.00	4750.00
D105	Carpenter (Second Class)	Day	10	190.00	1900.00
D106	Steelworker Erector	Day	35	205.00	7175.00
D107	Driver for vehicle up to 10 tons	Day	25	205.00	5125.00
D108	Operator for excavator, dragline,	Day	25	205.00	5125.00
D109	Operator for tractor with dozer blade	Day	25	205.00	5125.00
D110	Operator grader	Day	25	205.00	5125.00
D111	Operator in other construction	Day	25	205.00	5125.00
D112	Chowkidars for watch & ward	Day	250	150.00	<u>37500.00</u>
				Total	114125.00
D113	Allow 20% percent of Subtotal for Contractor's overhead, profit, etc., in accordance with paragraph 3 (b) above				22825.00
				Total	136950.00

Schedule of Daywork Rates: 2. Materials

D201	Cement, ordinary Portland or equivalent in bags conforming to IS:269:1989 and IS 455:1989	Per Mt	10	6405.90	64059.00
D202	HYSD reinforcing bars upto 25 mm dia conforming to IS:1786:1989	Per Mt	3	44853.90	134561.70
D203	Bricks of class designation 75 as per IS:1077:1992	Per 1000 Nos	10000	5246.00	52460.00
D204	Anti Corrosive Bituminous paint	Per Lit	5	160.28	801.39
D205	Enamel Paint of any shade & colour (IS:2932-1964 & IS 137-1975)	Per Lit	5	160.28	801.39
D206	Coarse Sand as per IS 1542	Per Cum	25	304.10	7602.50
D207	R.R. Stone for masonry	Per Cum	25	<u>797.70</u>	19942.50
D208	Crusher broken stone aggregates up to 25 mm nominal size	Per Cum	25	608.00	15200.00
D209	Crusher broken stone aggregates Above 25 mm nominal size	Per Cum	25	608.00	15200.00
D210	Portable water at site	Per 1000 ltr	2500	10.00	25000.00
D211	Gravel/ Moorum for Road work	Per Cum	25	600.10	15002.50

D212	Bitumen-VG-30(60/70)	Per Mt	3	38938.26	116814.78
			Total		467445.77
D213	Allow 20% percent of Subtotal for Contractor's overhead, profit, etc., in accordance with paragraph 3 (b) above			93489.15	
			Total		560934.92
			Say		560935.00

Schedule of Daywork Rates: 2. Contractor's Equipment

D301	Excavator, face shovel, or draggling including the cost of operator:				
0.1	Up to and including 1 m ³	Hour	25	840.00	21000.00
0.2	Over 1 m ³ to 2 m ³	Hour	15	840.00	12600.00
0.3	Over 2 m ³	Hour	5	840.00	4200.00
D302	Tractor, including bull or angle dozer including the cost of operator:				
0.1	Up to and including 150 kW	Hour	25	231.00	5775.00
0.2	Over 150 kW to 200 kW	Hour	15	231.00	3465.00
0.3	Over 200 kW to 250 kW	Hour	5	231.00	1155.00
D303	Tractor with ripper including the cost of operator:				
0.1	Up to and including 200 kW	Hour	15	249.00	3735.00
0.2	Over 200 kW to 250 kW	Hour	5	249.00	1245.00
D304	Motor grader including the cost of operator:				
D305	Crane- 5 tonne including the cost of operator:				
D306	Diesel Road Roller, or Vibratory Compactor upto 10 t including the cost of operator:				
D307	Trucks, or Truck tipper, or Truck with mounted water tank or truck with crane for removal of accidental vehicles including the cost of operator.				
D308	Tractor with trolley, or tractor with including the cost of operator:				
(a)	upto 25 HP	Hour	20	249.00	4980.00
(b)	For 25-40 HP	Hour	15	249.00	3735.00
D309	Bitumen mixture (10-14 Cft.) C.C including the cost of operator:				
	Mix tyre (10-14 Cft.)				
D310	Water pumping sets mounted on trolley (diesel driven)with inlet & outlet pipes including the cost of operator.				
a)	Sets up to 10 HP	Hour	5	100.00	500.00

	b) Sets 11 to 20 HP	Hour	5	100.00	500.00
	c) Sets above 20 HP	Hour	5	100.00	500.00
D311	Generator sets mounted on trolley including the cost of operator:				
	a) Sets upto 5 Kva	Hour	5	240.00	1200.00
	b) Sets 5-15 Kva	Hour	5	240.00	1200.00
D312	Mobile Crane / Power winch including the cost of operator:	Hour	5	150.00	750.00
D313	Bull Dozer 100/110 Hp including the cost of operator:	Hour	5	2519.00	12595.00
D314	Plate compactors including the cost of operator:	Hour	5	100.00	500.00
D315	Jack hammers for dismantling including the cost of operator:	Hour	5	206.00	1030.00
D316	Utility Vehicles including the cost of driver:	Hour	5	206.00	1030.00
D317	Mini Hot Mix Plant (60-90TPH) including the cost of operator:	Hour	5	7150.00	35750.00
			Total		203205.00
D211	Allow 20% percent of Subtotal for Contractor's overhead, profit, etc., in accordance with paragraph 3 (b) above			40641.00	
			Total		243846.00