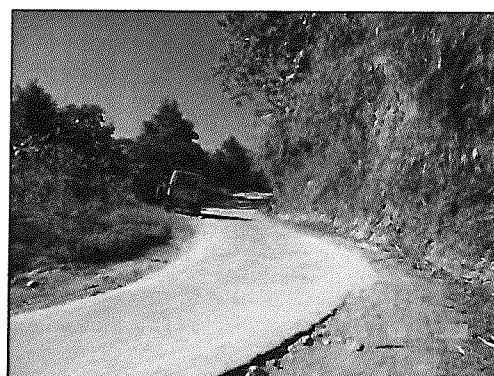
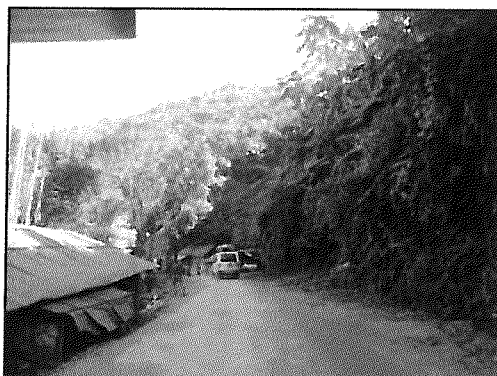




**NATIONAL HIGHWAYS & INFRASTRUCTURE
DEVELOPMENT CORPORATION LTD. (NHIDCL)**

**Ministry of Road, Transport & Highways
Government of India**

3rd Flr, PTI Building, 4 Parliament Street, New Delhi 11001,



Consultancy Services for preparation of Feasibility Study and Detailed Project Report for Two laning of Joram - Koloriang Road (NH-713) from Km. 20.00 to Km. 70.00 & Km. 138.00 to Km. 158.00 (Total Length 70 Km) in the State of Arunachal Pradesh on EPC mode

DETAILED PROJECT REPORT

Volume VII -Cost Estimate

(Package II: km 32+050 - km 44+000)

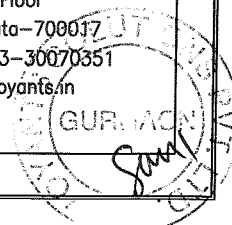
Revision : R0, September 2016

VOYANTS SOLUTIONS PVT LTD.



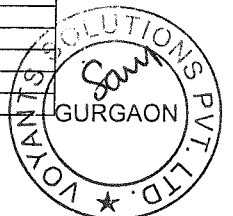
Corporate Office :
403, 4th Floor, Park Centra,
Sector-30, NH-8, Gurgaon-122001
Ph :0124-4018652-53, Fax :0124-4019051
CIN- U74140HR2004PTC046918

Regional Office :
Jindal Towers, Block-A, 4th Floor
21/1A/3, Darga Road, Kolkata-700037
Ph :033-30070350, Fax: 033-30070351
email-info@voyants.in, www.voyants.in



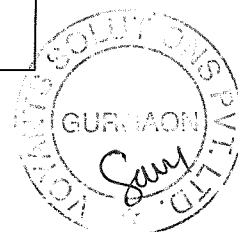
ABSTRACT OF COST : PACKAGE- II (KM 32+050 to KM 44+000)

Item	Description	Weightage in percentage to the Contact Price	Amount (in RS)	percentage Weightage vis a vis Overall Project Cost	References
	Design Length in Km	11.950			
	A- Widening and strengthening of existing road				
Road works including culverts, minor bridges, underpasses, overpasses, approaches to ROB/RUB/ Major Bridges/ Structures	(1) Earthwork up to top of the sub-grade including excavation in soil, soft rock and hard rock including Cleaning and Grubbing with required site clearance etc.	73.19%	105443117	8.46%	Bill 1a, 1b, 1d, 1e
	(2) Granular work (sub-base, shoulders)		27241048	2.19%	Bill 1a, 1b, 1d, 1e
	(3) Bituminous work				
	a) DBM		31906879	2.56%	Bill 1a, 1b, 1d, 1e
	b) BC with Tack coat and prime coat		17364819	1.39%	Bill 1a, 1b, 1d, 1e
	c) Site Clearance		0	0.00%	Bill 1a, 1b, 1d, 1e
	B - New 2-Lane alignment				
	(1) Earthwork up to top of the sub-grade including excavation in soil, soft rock and hard rock including Cleaning and Grubbing with required site clearance etc.		375821828	30.15%	Bill 1c
	(2) Granular work (sub-base, shoulders)		79906647	6.41%	Bill 1c
	(3) Bituminous work				
	a) DBM		94185678	7.55%	Bill 1c
	b) BC with Tack coat and prime coat		51327692	4.12%	Bill 1c
	c) Site Clearance		0	0.00%	Bill 1c
	C- New culverts, minor bridges, underpasses, overpasses on existing road, realignments, bypasses:				
	(1) Box / Slab culvert		103966492	8.34%	Bill 4
	(2) Minor Bridge		25238910	2.02%	Bill 2
	D-Other Engineering Works				
Other Works	Road Appurtenances	26.81%	665883	0.05%	Bill 9
	Protection Work (Rip-rap)		1654400	0.13%	Bill 10
	Road side drain & toe wall		55058103	4.42%	Bill 10
	Traffic Sign		632032	0.05%	Bill 9
	Pavement Marking		4711114	0.38%	Bill 9
	Crash barrier/W metal crash barrier		14220946	1.14%	Bill 10
	Boundary stone, km Stone, 5th km stone and hectometer stone		99109	0.01%	Bill 10
	Traffic blinker LED delineator, stud, reflective pavement marker, tree reflector		329284	0.03%	Bill 10
	Bus bays and Bus Shelter		363156	0.03%	Bill 6
	Minor Junction		11556716	0.93%	Bill 5
	Native Plantation (Hydro seeding and Mulching)		0	0.00%	Bill 10
	Plantation		22548360	1.81%	Bill 10
	Road side catch water drain		13345500	1.07%	Bill 10
	Maintenance of existing road		0	0.00%	Bill 11
	Passing Places		1018039	0.08%	Bill 8
	Breast Wall		180085115	14.45%	Bill 10
	Retaining Wall		18881012	1.51%	Bill 10
	Breast Wall Sausage Type		0	0.00%	Bill 10
	Parapet		9116000	0.73%	Bill 10
A	Civil Cost		1246687879	124.67	
	Cost/KM at Civil Cost		104325346	10.43	
B	Contingency Charges @ 2.8% of Civil Cost (A)	2.80%	34907261	3.49	
C	SUB TOTAL (A+B)		1281595139	128.16	
D	Supervision @ 3% on C	3.00%	38447854	3.84	
E	Agency Charges @ 3% on C	3.00%	38447854	3.84	
F	Quality Control @ 0.25 % on C	0.25%	3203988	0.32	
G	Road Safety Cell Audit Charges @ 0.25% on C	0.25%	3203988	0.32	
H	Sub-Total (C+D+E+F+G)		1364898823	136.49	
I	Maintenance for 4 years @ 5% on C	5.00%	64079757	6.41	
J	Escalation @ 5% per annum for 3 years on C	5.00%	192239271	19.22	
K	Grand Total (H+I+J)		1621217851	162.12	
	Cost of Land Acquisition etc.		6455000	0.65	
	Solatium Charges @ 30% on land value		1936500	0.19	
	Establishment Charges @ 8% on land value		516400	0.05	
	Contingency Charges @ 2% on land value		129100	0.01	
	Total Cost of Land Acquisition etc.		9037000	0.90	
	Total Cost of R&R		7500000	0.75	
	Shifting of Utility Service		6061000	0.61	
	Environment Cost		6061000	0.61	
	Total Cost		1649876851	164.99	
	Cost/KM at Total Cost		138065008	13.81	



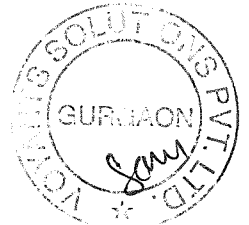
BILL OF QUANTITIES

Item	Description	Unit	No	Length (m)	Breadth (m)	Height (m)	Area (sqm)	Quantity	Rate	Amount
Bill No. 1 a :	TCS 1 Typical Cross Section of 2 Lane CW(Mountainous Terrain with Retaining Wall & Parapet)			435.000						
1.01	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, up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Sqm	1	435.000	17.500			7612.500	5.25	39996.84
1.02	Construction of sub-grade and earthen shoulders with approved material obtained from borrow pits with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of table No. 300-2									
	a) For Subgrade	Cum	1	435.000	13.000	0.500		2827.500		
	b) For Earthen Shoulder	Cum	1	435.000	0.500	0.370		80.475		
	Total of Subgrade							2907.975	242.00	703729.95
1.03	Construction of lined trapezoidal surface drains (Ref. dwg. VSPL/1438/JK/DFSR/MISC-05) in soil to specified lines, grades, levels and dimensions to the requirement of clause 301 and 309. Excavated material to be used in embankment within a lead of 50 metres (average lead 25 metres)	Rm	1	435.000			1.792	779.364	2542.00	1981142.63
1.04	Construction of granular sub-base by providing coarse graded material, spreading in uniform layers with motor grader on prepared surface, mixing by <u>mix in place method</u> with rotavator at OMC, and compacting with vibratory roller to achieve the desired density, complete as per	Cum	1	435.000	12.440	0.200		1082.280	1479.00	1600692.12
1.05	Providing, laying, spreading and compacting graded stone aggregate to <u>wet mix macadam</u> 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.	Cum	1	435.000	10.500	0.250		1141.875	1905.00	2175271.88
1.06	Providing and applying Prime coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying Prime at the rate of 0.60 kg/sqm using mechanical means.	Sqm	1	435.000	10.500			4567.500	33.00	150727.50
1.07	Providing and applying <u>tack coat</u> with bitumen emulsion using emulsion pressure distributor at the rate of 0.20 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom.	Sqm	2	435.000	10.000			8700.000	12.00	104400.00



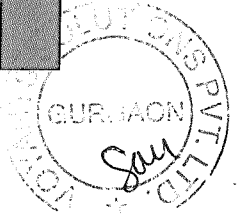
BILL OF QUANTITIES

Item	Description	Unit	No	Length (m)	Breadth (m)	Height (m)	Area (sqm)	Quantity	Rate	Amount
1.08	Providing and laying 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 @ 5.4 to 5.6 per cent by weight of total mix and filler, 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 as per MoRTH specification clause No. 507 complete in all respects.	Cum	1	435.000	10.000	0.040		174.000	13402.00	2331948.00
1.09	Providing and laying dense graded bituminous macadam with 100-120 TPH batch type hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 4.5 to 5. per cent of mix and filler, 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 as per MoRTH specification clause No. 509 complete in all	Cum	1	435.000	10.000	0.080		348.000	12009.00	4179132.00
Total of TCS I										
Bill No. 1 a :	TCS II Typical Cross Section of 2 Lane C/W(Mountainous Terrain without Retaining and Parapet Wall)			2150.000						
1.01	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, up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Sqm	1	2150.000	20.000			43000.000	5.25	225926.30
1.02	Construction of sub-grade and earthen shoulders with approved material obtained from borrow pits with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of table No. 300-2									
a) For Subgrade		Cum	1	2150.000	14.640	0.500		15738.000		
b) For Earthen Shoulder		Cum	2	2150.000	1.990	0.370		3166.090		
Total of Subgrade										4574789.78



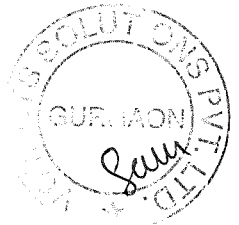
BILL OF QUANTITIES

Item	Description	Unit	No	Length (m)	Breadth (m)	Height (m)	Area (sqm)	Quantity	Rate	Amount
1.03	Construction of lined trapezoidal surface drains (Ref. dwg. VSP/L1438/JK/DFSR/MISC-05) in soil to specified lines, grades, levels and dimensions to the requirement of clause 301 and 309. Excavated material to be used in embankment within a lead of 50 metres (average lead 25 metres)	Rm	1	2150.000			1.792	2150.000	2542.00	5465300.00
1.04	Construction of granular sub-base by providing coarse graded material, spreading in uniform layers with motor grader on prepared surface, mixing by <u>mix in place method</u> with rotavator at OMC, and compacting with vibratory roller to achieve the desired density, complete as per	Cum	1	2150.000	12.910	0.200		5551.300	1479.00	8210372.70
1.05	Providing, laying, spreading and compacting graded stone aggregate to <u>wet mix macadam</u> 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.	Cum	1	2150.000	10.500	0.250		5643.750	1905.00	10751343.75
1.06	Providing and applying Prime coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying Prime at the rate of 0.60 kg/sqm using mechanical means.	Sqm	1	2150.000	10.500			22575.000	33.00	744975.00
1.07	Providing and applying <u>tack coat</u> with bitumen emulsion using emulsion pressure distributor at the rate of 0.20 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom.	Sqm	2	2150.000	10.000			43000.000	12.00	516000.00
1.08	Providing and laying <u>bituminous concrete</u> 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 @ 5.4 to 5.6 per cent by weight of total mix and filler, 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 as per MoRTH specification clause No. 507 complete in all respects.	Cum	1	2150.000	10.000	0.040		860.000	13402.00	11525720.00
1.09	Providing and laying <u>dense graded bituminous macadam</u> with 100-120 TPH batch type hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 4.5 to 5. per cent of mix and filler, 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 as per MoRTH specification clause No. 509 complete in all	Cum	1	2150.000	10.000	0.080		1720.000	12009.00	20655480.00
Total of TCS II										62669907.53



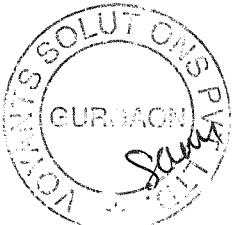
BILL OF QUANTITIES

Item	Description	Unit	No	Length (m)	Breadth (m)	Height (m)	Area (sqm)	Quantity	Rate	Amount
Bill No. 1 c :	TCS III (Typical Cross Section of Realignment By Hill Cutting)			9365.000						
1.01	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, up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Sqm	1	9365.000	20.500			191982.500	5.25	1008695.25
1.02	Construction of sub-grade and earthen shoulders with approved material obtained from borrow pits with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of table No. 300-2									
	a) For Subgrade	Cum	1	9365.000	0.000	0.500		0.000		
	b) For Earthen Shoulder	Cum	2	9365.000	0.500	0.370		3465.050		
	Total of Subgrade							3465.050	242.00	838542.10
	Loosening, leveling and Compacting original ground supporting embankment / Subgrade to facilitate placement of first layer of embankment / Subgrade, scarified to a depth of 150 mm, mixed with water at OMC and then compacted by rolling so as to achieve minimum dry density for GSB construction.	Sqm	1	9365.000	14.500	0.150		20368.875	63.00	1283239.13
1.03	Construction of lined trapezoidal surface drains (Ref. dwg. VSPL/1438/JK/DFSR/MISC-05) in soil to specified lines, grades, levels and dimensions to the requirement of clause 301 and 309. Excavated material to be used in embankment within a lead of 50 metres (average lead 25 metres)	Rm	2	9365.000			1.792	18730.000	2542.00	47611660.00
1.04	Construction of granular sub-base by providing coarse graded material, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with vibratory roller to achieve the desired density, complete as per	Cum	1	9365.000	11.940	0.200		22363.620	1479.00	33075793.98
1.05	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.	Cum	1	9365.000	10.500	0.250		24583.125	1905.00	46830853.13



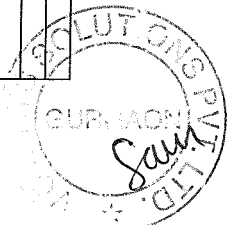
BILL OF QUANTITIES

Item	Description	Unit	No	Length (m)	Breadth (m)	Height (m)	Area (sqm)	Quantity	Rate	Amount
1.06	Providing and applying Prime coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying Prime at the rate of 0.60 kg/sqm using mechanical means.	Sqm	1	9365.000	10.000			93650.000	33.00	3090450.00



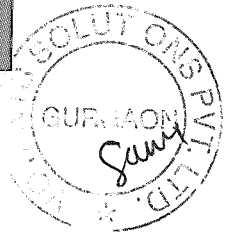
BILL OF QUANTITIES

Item	Description	Unit	No	Length (m)	Breadth (m)	Height (m)	Area (sqm)	Quantity	Rate	Amount
1.07	Providing and applying tack coat with bitumen emulsion using emulsion pressure distributor at the rate of 0.20 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom.	Sqm	2	9365.000	10.000			187300.000	12.00	2247600.00
1.08	Providing and laying 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 @ 5.4 to 5.6 per cent by weight of total mix and filler, 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 as per MoRTH specification clause No. 507 complete in all respects.	Cum	1	9365.000	10.000	0.040		3746.000	13402.00	50203892.00
1.09	Providing and laying dense graded bituminous macadam with 100-120 TPH batch type hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 4.5 to 5. per cent of mix and filler, 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 as per MoRTH specification clause No. 509 complete in all respects	Cum	1	9365.000	10.000	0.080		7492.000	12009.00	89971428.00
Total of TCS III										
Total of TCS III										
276162153.58										
Bill No. 1 d : TCS IV (Typical Cross Section at Built up Stretch)										
1.01	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, up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Sqm	1	0.000	14.000			0.000	5.25	0.00
1.02	Construction of sub-grade and earthen shoulders with approved material obtained from borrow pits with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of table No. 300-2									
a) For Subgrade		Cum	1	0.000	10.000	0.500		0.000		
b) For Earthen Shoulder		Cum	2	0.000	0.000	0.000		0.000		
Total of Subgrade										0.00



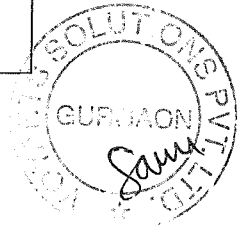
BILL OF QUANTITIES

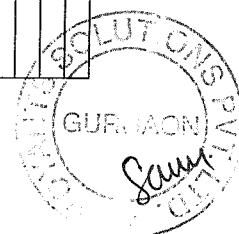
Item	Description	Unit	No	Length (m)	Breadth (m)	Height (m)	Area (sqm)	Quantity	Rate	Amount
1.03	Construction of granular sub-base by providing coarse graded material, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with vibratory roller to achieve the desired density, complete as per clause 401.	Cum	1	0.000	10.000	0.200		0.000	1479.00	0.00
1.04	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.	Cum	1	0.000	10.000	0.250		0.000	1905.00	0.00
1.05	Providing and applying Prime coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying Prime at the rate of 0.60 kg/sqm using mechanical means.	Sqm	1	0.000	10.000			0.000	33.00	0.00
1.06	Providing and applying tack coat with bitumen emulsion using emulsion pressure distributor at the rate of 0.20 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom.	Sqm	2	0.000	10.000			0.000	12.00	0.00
1.07	Providing and laying 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 @ 5.4 to 5.6 per cent by weight of total mix and filler, 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 as per MoRTH specification clause No. 507 complete in all respects.	Cum	1	0.000	10.000	0.040		0.000	13402.00	0.00
1.08	Providing and laying dense graded bituminous concrete with 100-120 TPH batch type hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 4.5 to 5. per cent of mix and filler, 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 as per MoRTH specification clause No. 509 complete in all respects	Cum	1	0.000	10.000	0.080		0.000	12009.00	0.00
1.09	Providing RCC Covered Drain	Rm	2	0.000				0.000	10097.00	0.00
Total of TCS IV										0.00



BILL OF QUANTITIES

Item	Description	Unit	No	Length (m)	Breadth (m)	Height (m)	Area (sqm)	Quantity	Rate	Amount
Bill No. 1 a: Extra Widening										
1.01	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, up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Sqm	1				5833.000	5833.000	5.25	30647.17
1.02	Excavation for roadwork in soil with hydraulic excavator of 0.9 cum bucket capacity 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 lifts and lead upto 1000m									
	(i) Ordinary Soil	Cum	1				5833.000	0.850	78.00	66.30
	(ii) Ordinary Rock	Cum						0.100	302.00	30.20
	(iii) Hard Rock without Blasting	Cum						0.030	480.00	13.80
	(iv) Hard Rock with Control Blasting	Cum						0.020	383.00	7.66
1.03	Construction of sub-grade and earthen shoulders with approved material obtained from borrow pits with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of table No. 300-2									
	a) For Subgrade	Cum	1			0.500	5833.000	2916.500	242.00	705793.00
	Total of Subgrade									
1.04	Construction of granular sub-base by providing coarse graded material, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with vibratory roller to achieve the desired density, complete as per clause 401.	Cum	1			0.200	5833.000	1166.600	1479.00	1725401.40
1.05	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.	Cum	1			0.250	5833.000	1458.250	1905.00	2777966.25
1.06	Providing and applying Prime coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying Prime at the rate of 0.60 kg/sqm using mechanical means.	Sqm	1			0.000	5833.000	5833.000	33.00	192489.00

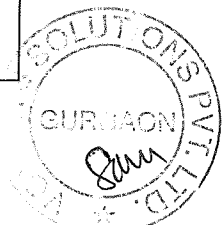


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BILL OF QUANTITIES

Item	Description	Unit	No	Length (m)	Breadth (m)	Height (m)	Area (sqm)	Quantity	Rate	Amount
5.04	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.	Cum	1			0.250	4800.000		1905.00	2286000.00
5.05	Providing and applying Prime coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying Prime at the rate of 0.60 kg/sqm using mechanical means.	Sqm	1				4800.000		33.00	158400.00
5.06	Providing and applying tack coat with bitumen emulsion using emulsion pressure distributor at the rate of 0.20 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom.	Sqm	2				4800.000		12.00	115200.00
5.07	Providing and laying dense graded 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 @ 4.0 to 4.5 per cent by weight of total mix and filler, 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 as per MoRTH specification clause No. 507 complete in all respects.	Cum	1			0.075	4800.000		12009.00	4323240.00
5.08	Providing and laying bituminous concrete with 100-120 TPH batch type hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 5.4 to 5.6 per cent of mix and filler, 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 as per MoRTH specification clause No. 509 complete in all respects	Cum	1			0.040	4800.000		13402.00	2573184.00
TOTAL OF BILL NO. 5										11656716.00
Bill No. 6: Bus Bays (0 Nos) BUS SHELTERS (01 Nos)										
6.01	Bus Shelters	Nos.	1					1.000	110000.00	110000.00
6.02	Chequered Tiles	Sqm	1	76.000	1.500			114.000	1146.00	130644.00



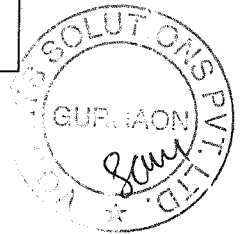
BILL OF QUANTITIES

Item	Description	Unit	No	Length (m)	Breadth (m)	Height (m)	Area (sqm)	Quantity	Rate	Amount
6.03	Construction of cement concrete kerb with top and bottom width 115 and 165 mm respectively, 250 mm high in M 20 grade PCC on M-10 grade foundation 150 mm thick, foundation having 50 mm projection beyond kerb stone, kerb stone laid with kerb laying machine	Rm	2	76.000				152.000	806.00	122512.00
	TOTAL OF BILL NO. 7									363166.00
	Bill No. 7 : Truck Lay bye (0 No.)	Sqm	881.250							
7.01	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, up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Sqm	0				881.250	0.000	5.25	0.00
7.02	Excavation for roadwork in soil with hydraulic excavator of 0.9 cum bucket capacity 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 lifts and lead upto 1000m to match link road profile	Cum	0			0.750	881.250	0.000	78.00	0.00
7.03	Construction of embankment with approved materials deposited at site from <u>roadway cutting and excavation</u> from drain and foundation of other structures graded and compacted to meet requirement of table 300-2.	Cum	0			0.600	881.250	0.000	118.00	0.00
7.04	Construction of sub-grade and earthen shoulders with approved material obtained from borrow pits with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of table No. 300-2	Cum	0			0.400	881.250	0.000	242.00	0.00
7.05	Construction of granular sub-base by providing coarse graded material, spreading in uniform layers with motor grader on prepared surface, mixing by <u>mix in place method</u> with rotavator at OMC, and compacting with vibratory roller to achieve the desired density, complete as per clause 401.	Cum	0			0.200	881.250	0.000	1479.00	0.00



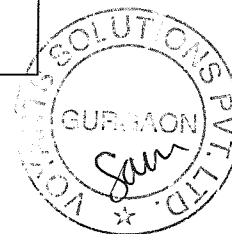
BILL OF QUANTITIES

Item	Description	Unit	No	Length (m)	Breadth (m)	Height (m)	Area (sqm)	Quantity	Rate	Amount
7.06	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.	Cum	0			0.250	881.250	0.000	1905.00	0.00
7.07	Providing and applying Prime coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying Prime at the rate of 0.60 kg/sqm using mechanical means.	Sqm	0				881.250	0.000	33.00	0.00
7.08	Providing and applying tack coat with bitumen emulsion using emulsion pressure distributor at the rate of 0.20 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom.	Sqm	0				881.250	0.000	12.00	0.00
7.09	Dry Lean Cement Concrete Sub- base (Construction of dry lean cement concrete Sub- base over a prepared sub-grade with coarse and fine aggregate conforming to IS: 383, the size of coarse aggregate not exceeding 25 mm, aggregate cement ratio not to exceed 1	Cum	0			0.150	881.250	0.000	0.00	0.00
7.10	Cement Concrete Pavement (Construction of un-reinforced, dowel jointed, plain cement concrete pavement over a prepared sub base with 43 grade cement @ 400 kg per cum, coarse and fine aggregate conforming to IS 383, maximum size of coarse aggregate not exc	Cum	0			0.340	881.250	0.000	0.00	0.00
7.11	Construction of cement concrete kerb with top and bottom width 115 and 165 mm respectively, 250 mm high in M 20 grade PCC on M-10 grade foundation 150 mm thick, foundation having 50 mm projection beyond kerb stone, kerb stone laid with kerb laying machine	Rm	0	185.841				0.000	802.00	0.00
7.12	Misc Items Like Tiles, Crash barriers, Road Markings etc	LS	0					0.000	350000.00	0.00
TOTAL OF BILL NO. - 8										
Bill No. 8 :	Passing Places (1No... @every 3km)	Sqm	2	235.000						
8.01	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, up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Sqm	1				470.000	470.000	5.25	2469.00



BILL OF QUANTITIES

Item	Description	Unit	No	Length (m)	Breadth (m)	Height (m)	Area (sqm)	Quantity	Rate	Amount
8.02	Excavation for roadwork in soil with hydraulic excavator of 0.9 cum bucket capacity 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 lifts and lead upto 1000m to match link road profile	Cum	1			0.750	470.000	353.000	78.00	27534.00
8.03	Construction of embankment with approved materials deposited at site from <u>roadway cutting and excavation</u> from drain and foundation of other structures graded and compacted to meet requirement of table 300-2.	Cum	1			0.600	470.000	282.000	116.00	32712.00
8.04	Construction of sub-grade and earthen shoulders with approved material obtained from borrow pits with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of table No. 300-2	Cum	1			0.400	470.000	188.000	242.00	45456.00
8.05	Construction of granular sub-base by providing coarse graded material, spreading in uniform layers with motor grader on prepared surface, mixing by <u>mix in place method</u> with rotavator at OMC, and compacting with vibratory roller to achieve the desired density, complete as per clause 401.	Cum	1			0.200	470.000	94.000	1479.00	139026.00
8.06	Providing, laying, spreading and compacting graded stone aggregate to <u>wet mix macadam</u> 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.	Cum	1			0.250	470.000	118.000	1905.00	224790.00
8.07	Providing and applying Prime coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying Prime at the rate of 0.60 kg/sqm using mechanical means.	Sqm	1				470.000	470.000	33.00	15510.00
8.08	Providing and applying <u>tack coat</u> with bitumen emulsion using emulsion pressure distributor at the rate of 0.20 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom.	Sqm	2				470.000	940.000	12.00	11280.00
8.09	Dry Lean Cement Concrete Sub- base (Construction of dry lean cement concrete Sub- base over a prepared sub-grade with coarse and fine aggregate conforming to IS: 383, the size of coarse aggregate not exceeding 25 mm, aggregate cement ratio not to exceed 1	Cum	1			0.150	470.000	71.000	0.00	0.00
8.10	Cement Concrete Pavement (Construction of un-reinforced, dowel jointed, plain cement concrete pavement over a prepared sub base with 43 grade cement @ 400 kg per cum, coarse and fine aggregate conforming to IS 383, maximum size of coarse aggregate not exc	Cum	1			0.340	470.000	160.000	0.00	0.00
8.11	Construction of cement concrete kerb with top and bottom width 115 and 165 mm respectively, 250 mm high in M 20 grade PCC on M-10 grade foundation 150 mm thick, foundation having 50 mm projection beyond kerb stone, kerb stone laid with kerb laying machine	Rm	2	105.341				211.000	802.00	169222.00



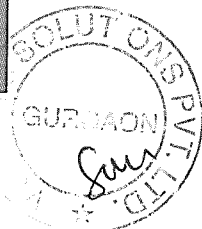
BILL OF QUANTITIES

Item	Description	Unit	No	Length (m)	Breadth (m)	Height (m)	Area (sqm)	Quantity	Rate	Amount
8.12	Misc Items Like Tiles, Crash barriers, Road Markings etc	LS	1					1.000	350000.00	350000.00
TOTAL OF BILL NO. - 8										
1018039.00										
Bill No. - 9										
Traffic Signages, Road Marking and other appurtenances										
9.01	Road Marking: - Lane, Centre Line, Pedestrian crossing			11950.000						
	Centre line on straight portion	Sqm	0.66	9560.000	0.150	-		946.440		
	Centre line on curve portion	Sqm	1	2390.000	0.150	-		358.500		
	Edge Line at Paved Shoulder	Sqm	4	11950.000	0.100	-		4780.000		
	Add 15% for Misc. including Pedestrian X-ings etc							912.741		
	Total							6998.000	668.00	4674664.00
9.02	Directional Arrows, letter marking etc.	Nos.						45.000	810.00	36450.00
9.03	Advance Direction signs size 1800X1200 mm	Nos.						5.000	8528.00	42640.00
9.04	Village name boards size 600X900 mm	Nos.						46.000	2652.00	121992.00
9.05	Place Identification signs size 1200X900 mm	Nos.						3.000	3630.00	10890.00
9.06	90 cm Triangle	Nos.						7.000	2627.00	18389.00
9.07	90 cm Octagon	Nos.						6.000	2689.00	16134.00
9.08	Hazard plate 300X900 mm	Nos.						34.000	2612.00	88808.00
9.09	800 x 600 mm Size	Nos.						14.000	2652.00	37128.00
9.10	60 Cm circular	Nos.						75.000	2472.00	185400.00
9.10	Enamel Paint over MBCB	Sqm						1286.640	86.00	110651.04
TOTAL OF BILL NO. - 10										
5343146.00										
Bill No. 10 :										
Other Miscellaneous Works										
10.01	Catch Pit (2 x 2 mtrs)	Nos.	10					10.000	0.00	0.00
10.02	Catch Pit above 2 x 2 mtrs.	Nos.	10					10.000	0.00	0.00



BILL OF QUANTITIES

Item	Description	Unit	No	Length (m)	Breadth (m)	Height (m)	Area (sqm)	Quantity	Rate	Amount
10.03	Providing & Maintaining HTMS	Rkm	0					0.000	1200000.00	0.00
10.04	Slow Speed Weigh-in- Motion System including Civil work for foundation	No	0					0.000	2800000.00	0.00
10.05	Environmental Management Plan including mitigation / enhancement measures, monitoring, prevention of ribbon development, etc.	Km	0					0.000	3800000.00	0.00
10.06	Supply installation, testing and commissioning of GSM technology based emergency call boxes (SOS Phones) a) Way side equipment(ECB Boxes) with complete in all respect	No	0					0.000	480000.00	0.00
10.07	Supply installation, testing and commissioning of GSM technology based emergency call boxes (SOS Phones) a) Control Room Equipment with complete in all respect	Complete Set	0					0.000	3800000.00	0.00
10.08	Way Side Amenities	No	0					0.000	3300000.00	0.00
10.09	Traffic Aid Post	LS	0					0.000	5000000.00	0
10.10	Transition Slab at Toll Plazas	Nos	0					0.000	256870.94	0.00
10.11	Parapet	Rm	1	2150.000				2150.000	4240.00	9116000.00
10.12	Breast Wall	Rm	1					1.000		0.00
	a) 1.5m height		2533						13715.00	34740095.00
	b) 2.0m height		2460						16951.00	41699460.00
	c) 3.0m height		2790						34364.00	95875560.00
10.13	d) Sausage type breast wall	Rm	1000					1000.000	7770.00	7770000.00
10.14	W Type metal Crash Barrier	LM								
	Along High Embankment		0					0.000		
	On Curves <360m		1	3574.000				3574.000		
	At Super elevated Stretch		0					0.000		
	Total							3574.000	3979.00	14220946.00
10.15	River Training Works		0							0.00
10.16	Catch water trapezoidal drain (cut ht. >3m)	Rm	1	5250.000				5250.000	2542.00	13345500.00
10.17	Rumble Strips (Provision of 3 nos rumble strips covered with bituminous concrete, 15-20 mm high at center, 250 mm wide placed at 1 m center to center at approved locations to control speed, marked with white strips of road marking paint.)	No	42						9780.00	410760.00
10.18	Provision of riprap protection at valley side	Rm		2585.000					640.00	1654400.00
10.19	Hydro seeding and mulching at hill side slope for erosion control	sqm		52500.000					400.00	21000000.00
10.20	Km stone	No		8.000					2888.00	23104.00
10.21	5th km stone	No		1.000					4705.00	4705.00
10.22	Boundary Stone	No		115.000					620.00	71300.00
10.23	Afforestation of trees	No		1530.000					1012.00	1548360.00
10.24	Canfliever Gantry	MT	2	1.500					89442.00	134163.00
10.25	Overhead Gantry	MT							89442.00	0.00
10.26	Delineator at reataing wall	No	862						382.00	329284.00
10.27	Convex Mirror at sharp curved	No	42						2880.00	120960.00
TOTAL OF BILL NO. 11										242064637.00



BILL OF QUANTITIES

Item	Description	Unit	No	Length (m)	Breadth (m)	Height (m)	Area (sqm)	Quantity	Rate	Amount
Bill No. 11 : Maintenance										
11.01	Maintenance of Existing Road	Rm	1	0.000				0.000	5827.00	0.00

Agriculture Area	Rs. 11 /Sq.m (Jhum Land)
Built up Area :	Rs. 86 / Sq.m
Fish Land (Standing) :	Rs. 300/ sq.m

278787.88
39393.939

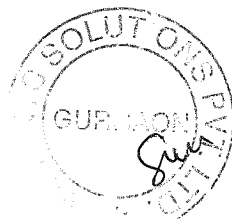
Total Area of acquisition (sqm)	318181.8182
Cost of acquisition	6455000



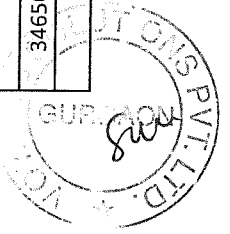
Item	Description	Unit	Qty	Rate	Amount
	Dismantling of flexible pavements and disposal of dismantled materials up to a lead of 1000 metres, stacking serviceable and unserviceable materials separately)				
	By Mechanical Means				
	Bituminous course	Cum	4116	328.00	1350048.00
	Granular courses	Cum	8232	267.00	2197944.00
					3547992

Item	Earth work	Unit	Qty	Rate	Amount
1	Excavation for roadwork in soil with hydraulic excavator of 0.9 cum bucket capacity 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 lifts and lead				
(i)	Ordinary Soil	Cum	191947.94	78.00	14971939.13
(ii)	Soft rock	Cum	1023722.33	302.00	309164144.75
(iii)	Hard rock(Blasting)	Cum	63982.65	383.00	24505353.36
2	Removal of unserviceable soil including excavation, loading and disposal upto 1000 metres lead but excluding replacement by suitable soil which shall be paid separately as per clause 305.	Cum	1204057.80	91.00	109569259.53
3	Construction of embankment with approved material obtained from borrow pits with all lifts and leads, transporting to site, spreading, grading to required slope and compacting to meet requirement of table 300-2.	Cum	18898.78	201.00	3798654.78
4	Construction of embankment with approved materials deposited at site from roadway cutting and excavation from drain and foundation of other structures graded and compacted to meet requirement of table 300-2.	Cum	75595.12	116.00	8769033.92
Total Earthwork Cost					470778385.46

From	To	Length- m	nature of rock	%
138000	145000	7000	Hard Rock	9000
146000	153000	7000	Soft Rock	8000
154000	156000	2000	Hard Rock	
157000	158000	1000	Soft Rock	
Total		20000	ordinary soil	3000
Total fill volume		94,494		
Total cut volume		12,79,653		



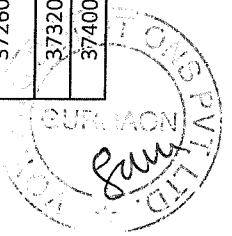
Breast Wall										Retaining Wall Height							
Left Side					Right Side					Left Side				Right Side			
From	To	Length Left	Height		From	To	Length Right	Height		From	To	Length	Left	From	To	Length	Right
33226.704	33300	73.296	1.5				0					0			33240	10	2
33360	33380	20	1.5				0					0			33300	33310	2
	33410		2				0					0			33320	33330	2
33420	33430	10	3				0					0			33370	33400	3
33440	33460	20	1.5				0					0					3
33470	33490	20	1.5				0					0					3
33500	33520	20	2		33510		0					0					
33760	33780	20	1.5				10	1.5				0					
33790	33830	40	3				0					0					
33840	33860	20	4		33830	33890	60	1.5				0				0	
33870	33890	20	2		33930	33940	10	1.5		33950		10	3			0	
		0					0			33960	33970	10	4			0	
34010			1.5				0					0				0	
34020			2		34020		10	2				0				0	
34030	34040	10	3		34030	34050	20	3				0				0	
	34050		1.5			34060	10	1.5				0				0	
34160	34190	30	1.5		34080	34150	70	1.5				0				0	
		0			34160	34180	20	2				0				0	
		0			34190		10	1.5				0				0	
34330	34360	30	1.5				0					0		34280	34290	10	4
	34380		1.5		34410	34430	20	1.5				0				0	
34390	34450	60	4				0					0				0	
34460	34470	10	3				0					0				0	
34480	34570	90	4		34520	34560	40	1.5				0				0	
	34580		1.5				0					0				0	
34650	34740	90	1.5				0					0				0	
	34770		1.5		34770		10	1.5				0				0	



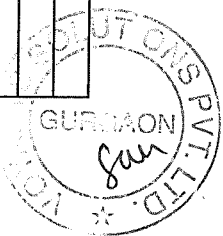
Breast Wall										Retaining Wall Height				
Left Side					Right Side					Left Side		Right Side		
34780	34790	10	3	34780	34820	40	2				0			0
34800	34830	30	4	34830	34890	60	1.5				0			0
34840						0					0			0
34850	34890	40	2			0					0			0
34900	34940	40	1.5	34930		10	1.5				0			0
34950	34960	10	3	34940	34950	10	3				0			0
34970	35100	130	4	34950	35020	70	3				0			0
35110	35130	20	2	35030	35090	60	3				0			0
		0		35100	35110	10	2				0			0
		0		35120	35130	10	1.5				0			0
35180	35200	20	2			0					0	35150		10
35210	35230	20	3			0					0	35180		10
35240	35250	10	1.5			0					0	35220		10
35290	35300	10	1.5	35290	35310	20	1.5			35270	10	35230		10
35310						0				35280	10	35270		10
			4								0			0
35320	35340	20	2	35400	35480	80	1.5				0			0
35400	35430	30	1.5	35490		10	2				0			0
35440	35490	50	2			0					0			0
35550	35600	50	2			0					0	35530	35540	10
		0		35620		10	2				0	35600	35610	10
35690	35800	110	1.5	35770	35850	80	3				0			0
35810	35860	50	4			0					0			0
35870	35890	20	1.5			0					0			0
35900	35910	10	2			0					0	35890	35900	10
35920	35980	60	4	35930	35970	40	3				0			0
35990	36000	10	2			0					0			0
36010						0					0			0
		0				0				36030	36040			0
36050	36060	10	1.5			0	1.5				10	2	36040	10
						10					0			0



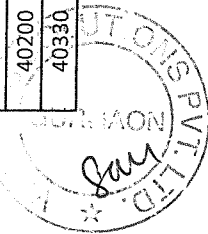
Breast Wall										Retaining Wall Height									
Left Side					Right Side					Left Side					Right Side				
36070	36090	20	4				0					0			36080	36090	10		1
36100	36120	20	3		36120	36140	20	1.5				0					0		
36130	36300	170	4		36150		10	3				0					0		
36310	36360	50	2		36160	36370	210	3				0					0		
36370			1.5		36380	36470	90	1.5				0					0		
		0			36530	36550	20	1.5		36480	36500	20	4				0		
36550	36680	130	1.5		36560	36590	30	3				0					0		
36690			2		36600	36730	130	3				0					0		
36700			3				0					0					0		
36710	36720	10	4		36740		10	3				0					0		
36730	36740	10	2		36750	36760	10	1.5				0					0		
		0					0					0					0		
		0					0			36820		10	4		36790	36810	20		2
		0			36830	36850	20	1.5		36850		10	3				0		
		0					0			36890	36930	40	4		36890	36920	30		4
		0					0					0			37010		10		4
		0					0					0			37020		10		3
37110	37130	20	1.5		37120	37130	10	1.5				0					0		
37140			3		37140		10	3				0					0		
37150	37170	20	4		37150	37190	40	3				0					0		
37180			3				0					0					0		
37190			2				0					0					0		
37200	37230	30	1.5		37200	37230	30	2				0					0		
37240	37250	10	2		37240		10	3				0					0		
37260		50	4		37250	37340	90	3				0					0		
37320	37390	70	2		37350	37380	30	2				0					0		
37400	37440	40	3		37390	37400	10	3				0					0		



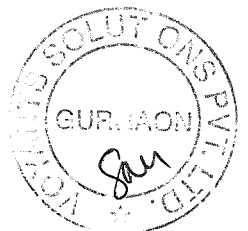
Breast Wall										Retaining Wall Height				
Left Side					Right Side					Left Side			Right Side	
37450	37460	10	2		37410	37460	50	4				0		0
		0			37470	37510	40	2				0		0
		0			37520	37530	10	3				0		0
37470	37620	150	1.5		37540	37610	70	2				0		0
37630	37650	20	1.5		37620	37650	30	1.5				0		0
		0			37720	37800	80	1.5		37720		10		0
37880	37950	70	1.5		37830	37840	10	1.5		37830	37850	20		0
	37960		2		37880	37940	60	1.5				0		0
37970	38050	80	3		37950	37960	10	3				0		0
38060	38150	90	4		37970	38230	260	3				0		0
38160	38220	60	3				0					0		0
38230	38290	60	2		38240	38290	50	3				0		0
38300	38450	150	1.5		38300	38380	80	2				0		0
38490	38510	20	1.5		38390	38400	10	3				0		0
		0			38410	38440	30	2				0		0
		0			38450	38510	60	1.5				0		0
38520	38540	20	2		38520	38530	10	3				0		0
	38550		1.5		38540	38580	40	1.5				0		0
		0			38620	38640	20	2		38590	38600	10		0
38640	38720	80	1.5		38650	38660	10	3				0		0
	38730		2		38670	38690	20	1.5				0		0
		0			38700	38710	10	3				0		0
38740	38780	40	4		38720	38800	80	3				0		0
	38790		3		38810		10	3				0		0
38800	38870	70	1.5		38820	38860	40	3				0		0
	38930		1.5		38870	38880	10	2				0		0
	38940		4		38890	38920	30	1.5				0		0
	38950		2		38930	38960	30	3				0		0



Breast Wall										Retaining Wall Height				
Left Side					Right Side					Left Side			Right Side	
38980			3		38970	39060	39070	90	3	38960	10	4		0
	0				39070			10	1.5	39010	10	4		0
39020	39030	10	4		39100	39120		20	1.5		0			0
39040	39050	10	2		39170	39220		50	1.5		0			0
	0				39230			10	2	39060	10	3		0
39240	39310	70	2		39240			10	3		0			0
39320			3		39250	39300		50	3	39160	10	3		0
39330			4		39310	39330		20	1.5		0			0
39340	39350	10	2		39340	39350		10	3		0			0
	0				39360			10	2		0			0
	0							0			0			0
	0							0		39460	39480	39400	39410	4
	0							0		39520	10	3		0
	0				39620	39660		40	1.5		0			0
39720	39770	50	1.5		39720			10	1.5		0			0
39850	39880	30	1.5		39730	39750		20	2		0			0
	0				39760	39780		20	1.5		0			0
	0				39840	39860		20	1.5		0			0
	0				39870	39890		20	2		0			0
39950	39960	10	1.5		39900	39950		50	1.5		0			0
39970	40000	30	2		39960			10	2		0			0
	0				39970	40000		30	3		0			0
40000	40030	30	2		40000	40030		30	3					
40030	40080	50	0		40030	40080		50	2					
40080	40100	20	1		40080	40100		20	2					
40100	40120	20	2		40100	40120		20	3					
40120	40160	40	3		40120	40160		40	3					
40160	40200	40	2		40160	40200		40	4					
40200	40310	110	3		40200	40310		110	4					
40330	40530	200	2		40330	40530		200	4					



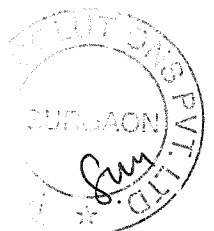
Breast Wall										Retaining Wall Height				
Left Side					Right Side					Left Side				
40530	40610	80	4	40530	40610	80	4	40530	40610	80	4	40530	40610	80
40610	40620	10	3	40610	40620	10	4	40610	40620	10	4	40610	40620	10
40620	40640	20	3	40620	40640	20	3	40620	40640	20	3	40620	40640	20
40640	40660	20	4	40640	40660	20	3	40640	40660	20	3	40640	40660	20
40660	40680	20	3	40660	40680	20	2	40660	40680	20	2	40660	40680	20
40680	40860	180	2	40680	40860	180	0	40680	40860	180	0	40680	40860	180
40860	40970	110	3	40860	40970	110	1	40860	40970	110	1	40860	40970	110
40970	41020	50	3	40970	41020	50	2	40970	41020	50	2	40970	41020	50
41020	41270	250	2	41020	41270	250	4	41020	41270	250	4	41020	41270	250
41270	41390	120	0	41270	41390	120	4	41270	41390	120	4	41270	41390	120
41390	41440	50	0	41390	41440	50	1	41390	41440	50	1	41390	41440	50
		0				0								
41570	41630	60	0	41570	41630	60	2	41570	41630	60	2	41570	41630	60
41630	41730	100	2	41630	41730	100	4	41630	41730	100	4	41630	41730	100
41730	41770	40	2	41730	41770	40	4	41730	41770	40	4	41730	41770	40
41770	41870	100	0	41770	41870	100	2	41770	41870	100	2	41770	41870	100
41920	42110	190	0	41920	42110	190	2	41920	42110	190	2	41920	42110	190
42180	42310	130	1	42180	42310	130	2	42180	42310	130	2	42180	42310	130
42320	42390	70	0	42320	42390	70	1	42320	42390	70	1	42320	42390	70
42390	42600	210	0	42390	42600	210	1	42390	42600	210	1	42390	42600	210
42600	42960	360	1	42600	42960	360	2	42600	42960	360	2	42600	42960	360
		0				0								
		0				0								
43120	43350	230	0	43120	43350	230	2	43120	43350	230	2	43120	43350	230
		0				0								
43480	43690	210	0	43480	43690	210	2	43480	43690	210	2	43480	43690	210
43690	43910	220	3	43690	43910	220	3	43690	43910	220	3	43690	43910	220
43910	44000	90	0	43910	44000	90	2	43910	44000	90	2	43910	44000	90



Breast Wall		Retaining Wall Height		
Left Side	Right Side	Left Side		
		Right Side		

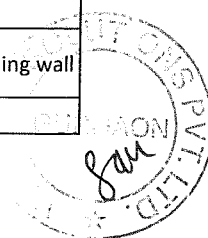
Breast Wall Left Side			Sausage Wall	Breast Wall Right Side			Sausage Wall
Breast Wall 1.5m	1.5	1363		Breast Wall 1.5m	1.5	1170	
Beast Wall 2m	2	970	500	Beast Wall 2m	2	1490	500
Breast wall 3m	3	890		Breast wall 3m	3	1900	

Retaining Wall Left Side			Retaining Wall Right Side		
Breast Wall 1.5m	2	30	Breast Wall 1.5m	2	60
Beast Wall 2m	3	70	Beast Wall 2m	3	70
Breast wall 3m	4	130	Breast wall 3m	4	80

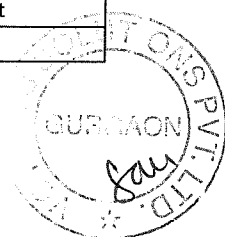


SCHEDULE OF TYPICAL CROSS SECTIONS OF NH-713

S.NO.	EXISTING CHAINAGE		DESIGN CHAINAGE		LENGTH (m)	Ded. (m)	CD (m)	Final	TYPE TCS	Remarks / Location
	FROM	TO	FROM	TO						
1			32050	33235	1185			1185	2	Reconstruction and widening
2			33235	33245	10			10	1	Reconstruction and widening with Retaining wall
3			33245	33300	55			55	2	Reconstruction and widening
4			33300	33310	10			10	1	Reconstruction and widening with Retaining wall
5			33310	33320	10			10	2	Reconstruction and widening
6			33320	33330	10			10	1	Reconstruction and widening with Retaining wall
7			33330	33370	40			40	2	Reconstruction and widening
8			33370	33400	30			30	1	Reconstruction and widening with Retaining wall
9			33400	33950	550			550	3	Realignment
10			33950	33970	20			20	1	Realignment with Retaining wall
11			33970	34280	310			310	3	Realignment
12			34280	34290	10			10	1	Realignment with Retaining wall
13			34290	35145	855			855	3	Realignment
14			35145	35155	10			10	1	Realignment with Retaining wall
15			35155	35175	20			20	3	Realignment
16			35175	35185	10			10	1	Realignment with Retaining wall
17			35185	35215	30			30	3	Realignment
18			35215	35235	20			20	1	Realignment with Retaining wall
19			35235	35265	30			30	3	Realignment
20			35265	35285	20			20	1	Realignment with Retaining wall
21			35285	35530	245			245	3	Realignment
22			35530	35540	10			10	1	Realignment with Retaining wall
23			35540	35600	60			60	3	Realignment
24			35600	35610	10			10	1	Realignment with Retaining wall
25			35610	35890	280			280	3	Realignment
26			35890	35900	10			10	1	Realignment with Retaining wall
27			35900	36030	130			130	3	Realignment
28			36030	36040	10			10	1	Realignment with Retaining wall
29			36040	36080	40			40	3	Realignment
30			36080	36090	10			10	1	Realignment with Retaining wall
31			36090	36480	390			390	3	Realignment
32			36480	36500	20			20	1	Realignment with Retaining wall
33			36500	36790	290			290	3	Realignment

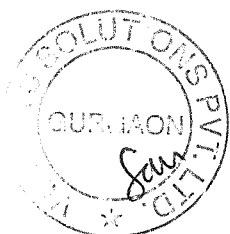


S.NO.	EXISTING CHAINAGE		DESIGN CHAINAGE		LENGTH (m)	Ded. (m)	CD (m)	Final	TYPE TCS	Remarks / Location
	FROM	TO	FROM	TO						
34			36790	36825	35			35	1	Realignment with Retaining wall
35			36825	36845	20			20	3	Realignment
36			36845	36855	10			10	1	Realignment with Retaining wall
37			36855	36890	35			35	3	Realignment
38			36890	36920	30			30	1	Realignment with Retaining wall
39			36920	37005	85			85	3	Realignment
40			37005	37025	20			20	1	Realignment with Retaining wall
41			37025	37715	690			690	3	Realignment
42			37715	37725	10			10	1	Realignment with Retaining wall
43			37725	37830	105			105	3	Realignment
44			37830	37850	20			20	1	Realignment with Retaining wall
45			37850	38000	150			150	3	Realignment
46			38000	38200	200			200	2	Reconstruction and widening
47			38200	38590	390			390	3	Realignment
48			38590	38600	10			10	1	Realignment with Retaining wall
49			38600	38955	355			355	3	Realignment
50			38955	38965	10			10	1	Realignment with Retaining wall
51			38965	39005	40			40	3	Realignment
52			39005	39015	10			10	1	Realignment with Retaining wall
53			39015	39055	40			40	3	Realignment
54			39055	39065	10			10	1	Realignment with Retaining wall
55			39065	39155	90			90	3	Realignment
56			39155	39165	10			10	1	Realignment with Retaining wall
57			39165	39400	235			235	3	Realignment
58			39400	39410	10			10	1	Realignment with Retaining wall
59			39410	39460	50			50	3	Realignment
60			39460	39480	20			20	1	Realignment with Retaining wall
61			39480	39515	35			35	3	Realignment
62			39515	39525	10			10	1	Realignment with Retaining wall
63			39525	41000	1475			1475	3	Realignment
64			41000	41200	200			200	2	Reconstruction and widening
65			41200	42300	1100			1100	3	Realignment
66			42300	42600	300			300	2	Reconstruction and widening
67			42600	42800	200			200	3	Realignment
68			42800	42960	160			160	2	Reconstruction and widening
69			42960	44000	1040			1040	3	Realignment
							Total	11950		

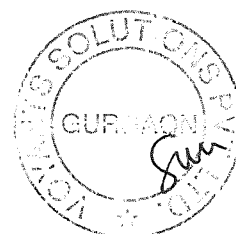


Junctions

Major Junctions					
S.No.	Junction Type	Nos	Per Junction Area (Sqm)	Total Area	Remarks
	4 legged	0	820	0	
Total				0	1
Minor Junctions					
S.No.	Junction Type	Nos	Per Junction Area (Sqm)	Total Area	Remarks
1	Y/T Junctions	16	300	4800	
Total				4800	2
Total (1+2)				4800	
				4800	



Extra-Widening								
SL. No	Design Chainage(m)		Length(m)	IRC-SP:73-2105		IRC-SP:48-1998		
	From	To		Radius of Curve		Radius of Curve		
				75-100	101-300	41-60	75-100	101-300
1	33+223.445	33+224.701	0+001.256	-	-	60	-	-
2	33+270.561	33+294.895	0+024.334	-	-	60	-	-
3	33+328.014	33+345.848	0+017.834	-	200	-	-	200
4	33+402.809	33+438.037	0+035.228	80	-	-	80	-
5	33+534.745	33+541.906	0+007.161	80	-	-	80	-
6	33+591.525	33+692.969	0+101.444	-	-	60	-	-
7	33+697.924	33+739.892	0+041.968	-	-	60	-	-
8	33+765.202	33+770.075	0+004.873	90	-	-	90	-
10	33+973.473	34+022.179	0+048.706	80	-	-	80	-
11	34+094.328	34+111.969	0+017.641	-	-	60	-	-
13	34+353.463	34+374.884	0+021.421	-	150	-	-	150
15	34+691.698	34+742.109	0+050.411	-	250	-	-	250
16	34+897.464	34+963.982	0+066.518	-	-	60	-	-
17	35+048.656	35+202.844	0+154.188	-	-	60	-	-
18	35+265.060	35+316.404	0+051.344	-	-	60	-	-
19	35+431.775	35+471.072	0+039.297	-	-	60	-	-
20	35+558.111	35+614.175	0+056.064	-	-	60	-	-
21	35+783.272	35+914.664	0+131.392	-	-	47	-	-
22	36+245.885	36+301.078	0+055.193	80	-	-	80	-
23	36+571.682	36+637.256	0+065.574	-	-	60	-	-
24	36+656.817	36+758.222	0+101.405	-	-	60	-	-
25	36+804.400	36+818.908	0+014.508	-	-	60	-	-
26	36+935.807	37+000.802	0+064.995	-	-	60	-	-
27	37+046.572	37+133.773	0+087.201	-	-	60	-	-
28	37+217.224	37+283.619	0+066.395	-	-	45	-	-
30	37+574.006	37+650.061	0+076.055	80	-	-	80	-
31	37+721.459	37+729.963	0+008.504	-	120	-	-	120
32	37+766.839	37+812.890	0+046.051	-	-	60	-	-
33	37+934.804	37+998.625	0+063.821	-	-	60	-	-
34	38+077.392	38+156.811	0+079.419	-	-	60	-	-
35	38+162.511	38+227.459	0+064.948	-	-	60	-	-
36	38+330.485	38+340.194	0+009.709	-	-	60	-	-
37	38+406.227	38+426.978	0+020.751	-	-	60	-	-
38	38+553.749	38+558.240	0+004.491	-	-	60	-	-
39	38+602.368	38+608.828	0+006.460	-	-	60	-	-
40	38+668.347	38+718.041	0+049.694	-	-	60	-	-
41	38+731.260	38+792.792	0+061.532	-	-	60	-	-
42	38+866.147	38+899.422	0+033.275	-	-	60	-	-
43	38+944.851	38+968.692	0+023.841	-	-	60	-	-
44	39+037.009	39+184.090	0+147.081	-	-	60	-	-
45	39+205.028	39+266.406	0+061.378	-	-	60	-	-
46	39+318.924	39+338.346	0+019.422	-	-	60	-	-



Extra-Widening								
SL. No	Design Chainage(m)		Length(m)	IRC-SP:73-2105		IRC-SP:48-1998		
				Radius of Curve		Radius of Curve		
	From	To		75-100	101-300	41-60	75-100	101-300
47	39+425.147	39+438.451	0+013.304	-	-	60	-	-
48	39+485.281	39+645.966	0+160.685	-	-	60	-	-
49	39+686.095	39+733.252	0+047.157	-	-	60	-	-
50	39+827.325	39+837.045	0+009.720	-	-	60	-	-
51	39+932.717	39+962.504	0+029.787	-	-	60	-	-
52	40+060.143	40+140.477	0+080.334	-	-	60	-	-
54	40+312.614	40+330.018	0+017.404	-	-	60	-	-
55	40+418.348	40+459.051	0+040.703	-	-	60	-	-
56	40+593.928	40+598.434	0+004.506	-	-	60	-	-
57	40+682.291	40+699.197	0+016.906	-	-	60	-	-
58	40+763.129	40+776.636	0+013.507	-	-	60	-	-
59	40+829.714	40+831.799	0+002.085	-	-	60	-	-
60	40+912.144	40+973.748	0+061.604	-	-	60	-	-
61	41+046.789	41+102.101	0+055.312	-	-	60	-	-
62	41+207.805	41+227.758	0+019.953	-	-	60	-	-
63	41+245.537	41+327.436	0+081.899	90	-	-	90	-
64	41+354.560	41+384.168	0+029.608	-	-	60	-	-
65	41+577.227	41+586.164	0+008.937	-	120	-	-	120
66	41+631.448	41+653.506	0+022.058	-	-	60	-	-
67	41+695.528	41+778.213	0+082.685	-	-	60	-	-
68	41+865.679	41+932.430	0+066.751	-	-	60	-	-
69	41+997.108	42+020.458	0+023.350	-	-	40	-	-
74	42+368.990	42+468.942	0+099.952	-	-	60	-	-
75	42+528.508	42+637.849	0+109.341	-	-	60	-	-
76	42+718.057	42+756.507	0+038.450	-	-	60	-	-
77	42+858.864	42+870.637	0+011.773	90	-	-	90	-
78	42+918.354	42+926.417	0+008.063	-	-	60	-	-
79	42+981.684	42+985.785	0+004.101	80	-	-	80	-
80	43+137.964	43+154.135	0+016.171	-	250	-	-	250
81	43+278.353	43+311.484	0+033.131	90	-	-	90	-
82	43+393.308	43+408.617	0+015.309	-	-	60	-	-
83	43+506.249	43+554.303	0+048.054	-	-	60	-	-
84	43+616.628	43+781.770	0+165.142	-	110	-	-	110
85	43+929.644	43+964.166	0+034.522	-	-	60	-	-

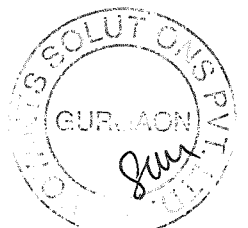
Radii	length (m)	Curve Length(sq m)	Transition Length (Avg. 20m)	Area of widening
40-60(59nos)	2928	3513.6	1416	4929.6
75-100(10nos)	358	322.2	240	562.2
101-300(7 nos)	288	172.8	168	340.8
Total	3574			5833



(ii) Sausage Wall for 2.0m height									
			No	L(m)	B(m)	H(m)	Qty(cum)	Rate	Ammount
1	Eartwork in excavation	Cum		1	0.5	2	1.00	70.00	70
2	Sausage Wall(0.6 * 1 *1)	Cum	3	1	1	0.60	1.80	4275.00	7695
									7765
								Say	7770

(iii) Sausage Wall for 3.5m height									
			No	L(m)	B(m)	H(m)	Qty(cum)	Rate	Ammount
1	Eartwork in excavation	Cum		1	0.5	3.5	1.75	70.00	122.5
2	Sausage Wall(0.6 * 1 *1)	Cum	6	1	1	0.60	3.60	4275.00	15390
									15512.5
								Say	15520

(iv) Sausage Wall for 5.0m height									
			No	L(m)	B(m)	H(m)	Qty(cum)	Rate	Ammount
1	Eartwork in excavation	Cum		1	0.5	5	2.50	70.00	175
2	Sausage Wall(0.6 * 1 *1)	Cum	8	1	1	0.60	4.80	4275.00	20520
									20695
								Say	20700

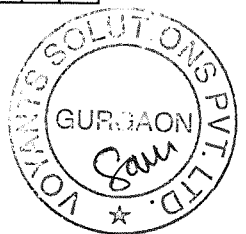


Sl. No.	Item Description	Unit	Nos	Length	Width	Height	Qty	Rate	Amount	Rate/m
1. Drain with RCC per m										
a	Earthwork in Excavation									
	Ordinary Soil	Cum	1	1	1.5	0.6	0.9			481
	Soft Rock	Cum	1	1	1.5	0.6	0.9			862
										2781
b	PCC M15 on bottom base	Cum	1	1	1.5	0.075	0.1125	267.00	481	1589
c	RCC M20 in Vertical wall M15	Cum	2	1	0.15	1.05	0.315	7705.00	867	
	PCC in Base M15	Cum	1	1	1.2	0.15	0.18	8873.00	2795	1324
							0			2720
d	Drain Cover RCC M20	Cum	1	1	1.5	0.1	0.15	8873.00	1331	
e	HYSD for Wall & Drain Cover	MT					0.0387	78203.00	3026	10097

(i) Parapet Wall per m										
a	Earthwork in excavation	Cum	1	1	0.75	0.7	0.53	267.00	140.18	
b	PCC M15	Cum	1	1	0.75	0.1	0.08	7705.00	577.88	
c	Rubble Masonry in Parapet	Cum	1	1	0.6	1.2	0.72	4570.00	3290.40	
d	Coping 5.0 cm thick	Cum	1	1	0.6	0.05	0.03	7705.00	231.15	4240.00

Trapezoidal Lined Drain		Quantity			Rate	
		Area	Thickness	Vol.		Amount
1	PCC M20	1.870	0.150	0.281		
	Total	1.870	0.150	0.281	8441.00	2368
2	Excavation	0.65		0.65	267.00	174
	Total				Total	2542.00

	L	B	H	Area	Rate	Amount
Road Maintenance						
Filling of Potholes with BC	1000	10	0.04	8000	536.40	4291200
Filling of Potholes with Open Graded Pre	1000	10	0.04	8000	192.00	1536000
				Total for 1km		5827200
					For 1m	5827

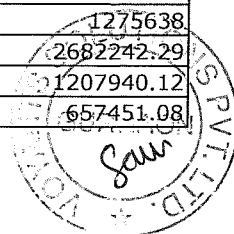


Breast Wall

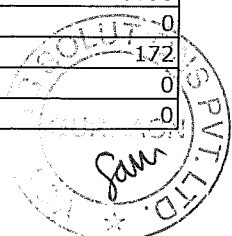
Concrete Area		Length	Area	Rate	Amount
1	1.5m Height	1950	1.78	7705.00	13715
2	2m Height	4270	2.2	7705.00	16951
3	3m Height	4030	4.46	7705.00	34364



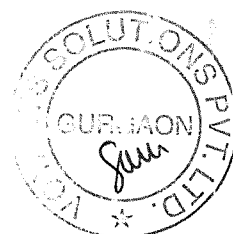
Project : NH-713 (Joram - Palin - Koloriang Road)					
MNBr. : 36+500 (1x31.0)			Total	Rate	Amount
Excavation					
Excavation in Hard Rock	Cum	1008.10	640.00	645180.8	
Excavation in Weathered Rock	Cum	160.02	190.00	30402.85	
Excavation in Soil	Cum	0.00		0	
Compacted Sand/Gravel Filling	Cum	0.00		0	
Concrete grade M 15 for levelling course	Cum	48.01	7705.00	369878.525	
Concrete grade M-15 in Open foundation of Retaining Wall	Cum	97.01	7705.00	747431.23	
Concrete grade M-35 in Open foundation	Cum	249.60	9659.00	2410886.4	
Sand & boulder filling below raft	Cum	0.00		0	
Rock anchoring in rock (Open foundation)	No.	0.00		0	
Bored cast-in-situ M-35 grade RCC piles 1200mm dia		0.00		0	
In soil	RM	0.00		0	
Rock Socketing	RM	0.00		0	
Concrete grade M-35 in pile cap	Cum	0.00		0	
Cutting edge	MT	0.00		0	
Curb Concrete (M-25 Grade)	Cum	0.00		0	
Bottom Plug Concrete (M-25 Grade)	Cum	0.00		0	
Intermediate Plug Concrete(M-25 Grade)	Cum	0.00		0	
Well Steining concrete(M-25 Grade)	Cum	0.00		0	
Well Top Plug Concrete(M-25 Grade)	Cum	0.00		0	
Well cap concrete(M-25 Grade)	Cum	0.00		0	
Sand filling in well	Cum	0.00		0	
Well Sinking (Measured from well cap top)	Lin.m	0.00		0	
7m Dia Well		0.00		0	
0-3 m	Lin.m	0.00		0	
3 -10 m	Lin.m	0.00		0	
10m - 15m	Lin.m	0.00		0	
15m - 20m	Lin.m	0.00		0	
20m - 25m	Lin.m	0.00		0	
25m - 30m	Lin.m	0.00		0	
30m - 35m	Lin.m	0.00		0	
35m - 40m	Lin.m	0.00		0	
8m Dia Well		0.00		0	
0-3 m	Lin.m	0.00		0	
3 -10 m	Lin.m	0.00		0	
10m - 15m	Lin.m	0.00		0	
15m - 20m	Lin.m	0.00		0	
20m - 25m	Lin.m	0.00		0	
25m - 30m	Lin.m	0.00		0	
30m - 35m	Lin.m	0.00		0	
35m - 40m	Lin.m	0.00		0	
10m Dia Well		0.00		0	
0-3 m	Lin.m	0.00		0	
3 -10 m	Lin.m	0.00		0	
10m - 15m	Lin.m	0.00		0	
15m - 20m	Lin.m	0.00		0	
20m - 25m	Lin.m	0.00		0	
25m - 30m	Lin.m	0.00		0	
30m - 35m	Lin.m	0.00		0	
35m - 40m	Lin.m	0.00		0	
11m Dia Well		0.00		0	
0-3 m	Lin.m	0.00		0	
3 -10 m	Lin.m	0.00		0	
10m - 15m	Lin.m	0.00		0	
15m - 20m	Lin.m	0.00		0	
20m - 25m	Lin.m	0.00		0	
25m - 30m	Lin.m	0.00		0	
30m - 35m	Lin.m	0.00		0	
35m - 40m	Lin.m	0.00		0	
Concrete grade M-15 in substructure of Retaining Wall	Cum	156.52	8150.00	1275638	
Concrete grade M-35 in substructure	Cum	256.31	10465.00	2682242.29	
Back filling	Cum	1128.92	1070.00	1207940.12	
Filter media	Cum	277.99	2365.00	657451.08	



Project : NH-713 (Joram - Palin - Koloriang Road)			Total	Rate	Amount
MNBr. : 36+500 (1x31.0)					
RCC in Slab,grade M-30	Cum	0.00			0
RCC in Slab,grade M-35	Cum	144.33	11070.00		1597699.89
RCC T-Girders concrete, grade M-35	Cum	0.00			0
i)PSC T-Girders concrete, grade M-45	Cum	156.72	12126.00		1900410.972
ii)PSC voided slab concrete, grade M-40	Cum	0.00			0
iii)PSC box concrete, grade M-40	Cum	0.00			0
PSC Plank concrete, grade M-40	Cum	0.00			0
Reinforcement (HYSD Bar)		0.00			0
Foundation	MT	24.96	78203.00		1951946.88
Sub-Structure	MT	25.75	78358.00		2017326.71
Super-Structure	MT	50.45	79759.00		4024080.827
PSC Strands	MT	10.19	131491.00		1339498.817
Void Former "800mm dia"	Lin.m	0.00			0
Structural Steel	MT	0.00			0
RCC Deck slab for Composite Girder M-35	Cum	0.00			0
Elastomeric Bearings	Cucm	17500	1.00		17500
POT-PTFE Bearings		0.00			0
A. For 100 MT		0.00			0
i)Fixed	No.	0.00			0
ii)Free	No.	0.00			0
iii)Sliding	No.	0.00			0
B. For 200 MT		0.00			0
i)Fixed	No.	1.00	42652.5		42652.5
ii)Free	No.	1.00	34897.5		34897.5
iii)Sliding	No.	8.00	52604.75		420838
C. For 300 MT		0.00			0
i)Fixed	No.	0.00			0
ii)Free	No.	0.00			0
iii)Sliding	No.	0.00			0
D. For 400 MT		0.00			0
i)Fixed	No.	0.00			0
ii)Free	No.	0.00			0
iii)Sliding	No.	0.00			0
E. For 500 MT		0.00			0
i)Fixed	No.	0.00			0
ii)Free	No.	0.00			0
iii)Sliding	No.	0.00			0
F. For 600 MT		0.00			0
i)Fixed	No.	0.00			0
ii)Free	No.	0.00			0
iii)Sliding	No.	0.00			0
G. For 700 MT		0.00			0
i)Fixed	No.	0.00			0
ii)Free	No.	0.00			0
iii)Sliding	No.	0.00			0
Tar paper Bearings	Sqm	9.60	450		4320
Seismic Restrainer	Sqm	5.04	18908.33		95298
Approch Slab		0.00			0
M15 grade concrete	Cum	17.52	7409.00		129805.68
M30 grade concrete	Cum	33.60	11053.00		371380.8
RCC in Crash Barrier, Grade M-40	Lin.m	76.00	4892.00		371792
Painting of RCC in Crash Barrier	Cum	0.00			0
Pedestrian Railing	Lin.m	0.00			0
Expansion joint		0.00			0
Strip seal joints(40mm thick)	Lin.m	32.00	18494.00		591808
Asphaltic Plug type joints(15mm thick)	Lin.m	0.00	3440.00		0
Wearing coat	sqm	418.00			0
Drainage spouts	No.	13.00	1220.00		15860
Weep holes	No.	481.00	153.00		73593
RE Wall for across the road	Sqm	0.00			0
Painting of structures	No.	2.00	86.00		172
Raised Footpath M 25 Grade	cum	0.00			0
Unmountable Krebs M25 Grade	cum	0.00			0



Project : NH-713 (Joram - Palin - Koloriang Road)					
MNBr. : 36+500 (1x31.0)			Total	Rate	Amount
Bed Protection Work			0.00		0
Excavation in soil	Cum		0.00	133.00	0
Concrete grade M 15 for levelling course	Cum		0.00	7705.00	0
Rigid Apron	Cum		0.00	1302.00	0
Flexible Apron	Cum		0.00	5810.00	0
Curtain Wall M-15	Cum		0.00	7705.00	0
Guide Bund in Upstream side	Lin.m		0.00		0
Filter media underneath stone pitching	Cum		41.62	2565.00	106755.3
Launching Apron	Cum		0.00		0
Stone Pitching on slopes	Cum		83.24	1252.00	104217.732
Rehabilitation			0.00		0
Dismantling of Rcc Concrete	Cum		0.00		0
Replacement of Railing M-30 Grade	M		0.00		0
Providing Reinforced cement concrete M-30 Grade in approach slab including reinforcement for existing bridge	Cu.m		0.00		0
Providing 75mm thick concrete wearing course	Sq.m		0.00		0
Providing & fixing new drainage spouts in replacement of existing drainage spouts	No.		0.00		0
OK					25238910



Summary of Quantity of each Box Culvert (32.050 Km to 44Km)

INR

S.No.	Description	Unit	0 1x1x2	68 1x2x2	0 1x2.5x2.0	1 1x3x3	2 1x6x4	Total Qty.	Rate	Cost
1	Earth work in excavation	cum	0.00	7363.15	0.00	158.60	555.04	8076.79	70.00	5,65,374.97
2	PCC M-15 for leveling course	cum	0.00	574.77	0.00	78.94	220.39	874.10	7705.00	67,34,918.39
3	PCC M-15	cum	0.00	315.52	0.00	4.64	9.28	329.44	7705.00	25,38,335.20
4	PCC M-15 for curtain wall	cum	0.00	173.40	0.00	3.88	14.28	191.56	7705.00	14,75,938.98
5	For Box Barrel									0.00
5.a.	RCC M-25 grade conc. For foundation	cum	0.00	612.00	0.00	16.87	92.40	721.27	9509.00	68,58,575.45
5.b.	RCC M-25 grade conc. For sub-structure	cum	0.00	852.72	0.00	29.34	97.08	979.14	10224.00	1,00,10,727.36
5.c	RCC M-25 grade conc. For super-structure (box)	cum	0.00	510.00	0.00	16.87	92.40	619.27	10733.00	66,46,646.38
6	For Return Wall									0.00
6.a	M15 PLUM CONCRETE .For foundation	cum	0.00	1776.84	0.00	35.70	93.26	1905.80	7705.00	1,46,84,201.33
6.b	M15 PLUM CONCRETE .For Sub-structure	cum	0.00	1524.90	0.00	30.64	80.04	1635.58	8150.00	1,33,29,944.40
7	Reinforcement	Mt	0.00	148.10	0.00	4.73	173.30	326.14	79759.00	2,60,12,544.43
8	Weep Hole	No.	0.00	3536.00	0.00	77.00	206.00	3819.00	153.00	5,84,307.00
9	Filter media	cum	0.00	2097.94	0.00	46.11	122.98	2267.02	2365.00	53,61,504.19
10	450mm thk floor apron	cum	0.00	229.50	0.00	5.13	18.90	253.53	5810.00	14,73,009.30
11	750 mm thk Stone Apron floor(flexible)	cum	0.00	382.50	0.00	8.55	31.50	422.55	1302.00	5,50,160.10
12	RCC Railing M30	Rm	0.00	680.00	0.00	15.20	56.00	751.20	2379.00	17,87,104.80
13	Guard Stone	No.	0.00	544.00	0.00	14.00	52.00	610.00	2317.00	14,13,370.00
14	Mark Post	No.	0.00	0.00	0.00	0.00	0.00	0.00		0.00
15	Back Filling	cum	0.00	1884.47	0.00	27.71	55.43	1967.61	1070.00	21,05,342.40
16	Stone Pitching on slop	cum	0.00	693.22	0.00	10.19	20.39	723.81	1252.00	9,06,205.59
17	Filter media under stone pitching	cum	0.00	346.61	0.00	5.10	10.19	361.90	2565.00	9,28,281.68
TOTAL									10,39,66,492.00	

