Sl. No.	Description	Rate	Unit

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This SOR is based on MORD Standard Data book (2004).
Specification Clause nos must be checked as per Current Specifications

Sl. No.	Description	Rate	Unit
Chapter 1 - LOADING, UNLOADING, CARRIAGE, CRUSHING OF MATERIALS AND SETTING OUT			
	Notes:- Rates are for net quantities after deduction of voids.		
1-1	Loading and Unloading of Lime, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Crushed Slag, Stone for Masonry Work by Manual Means		
1-1-1	Loading of Lime, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Crushed Slag, Stone for Masonry Work by manual means including a lead upto 30 m	115.80	Cum
1-1-2	Loading of Earth, Sand, Moorum, Manure, Flyash by manual means including a lead upto 30 m	57.90	Cum
1-1-3	Unloading of Lime, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Crushed Slag, Stone for Masonry Work by manual means including a lead upto 30 m	57.90	Cum
1-1-4	Unloading of Earth, Sand, Moorum, Manure, Flyash by manual means including a lead upto 30 m	34.40	Cum
1-2	Loading and Unloading Lime, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Crushed Slag, Stone for Masonry Work by Mechanical Means		
1-2-1	Loading of Lime, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Crushed Slag, Stone for Masonry Work by mechanical means including a lead upto 30 m. (Placing tipper at loading point, loading with front end loader excluding time for haulage and return trip.)	59.50	Cum
1-2-2	Loading of Earth, Sand, Moorum, Manure, Flyash by mechanical means including a lead upto 30 m. (Placing tipper at loading point, loading with front end loader excluding time for haulage and return trip.)	31.00	Cum
1-2-3	Unloading of Earth, Sand, Lime, Moorum, Aggregate, Stone Boulder, Brick Aggregate, Kankar, Building Rubbish, Manure, Crushed Slag, Flyash, Stone for Masonry Work by mechanical means. (Placing tipper at unloading point excluding time for haulage and return trip)	12.10	Cum
1-3	Loading, Unloading and Stacking of Bricks by Manual Means		
1-3-1	Loading of Bricks by manual means including a lead upto 30 m	188.20	1000 No.
1-3-2	Unloading and Stacking of Bricks by manual means including a lead upto 30 m	188.20	1000 No.
1-4	Loading and Unloading of Cement by Manual Means		
1-4-1	Loading of Bricks by manual means including a lead upto 30 m	154.80	Tonne
1-4-2	Unloading and Stacking of Bricks by manual means including a lead upto 30 m	154.80	Tonne
1-5	Loading and Unloading of Structural Steel and Steel Bars by manual means		

Sl. No.	Description	Rate	Unit
1-5-1	Loading of Structural Steel, Steel Bars by manual means including a lead upto 30 m	171.10	Tonne
1-5-2	Unloading of Structural Steel, Steel Bars by manual means including a lead upto 30 m	171.10	Tonne
1-6	Loading and Unloading of Bitumen Drums by Manual Means		
1-6-1	Loading of Bitumen Drums by manual means including a lead upto 30 m	178.20	Tonne
1-6-2	Unloading of Bitumen Drums by Manual Means including a lead upto 30 m	156.60	Tonne
1-7	Loading and Unloading of Timber by Manual Means		
1-7-1	Loading of Timber by manual means including a lead upto 30 m	254.70	Tonne
1-7-2	Unloading of Timber by manual means including a lead upto 30 m	254.70	Tonne
1-8	Loading and Unloading of C.C. Blocks, Kerb, etc.		
1-8-1	Loading with care C.C. Blocks, km Stone, 200 m Stone, Boundary Pillar, Kerb, Channel, Bond Stone, etc. by manual means including a lead upto 30 m	397.20	Cum
1-8-2	Unloading with care C.C. Blocks, km Stone, 200 m Stone, Boundary Pillar, Kerb, Channel, Bond Stone, etc. by manual means including a lead upto 30 m	397.20	Cum
1-9	Loading and Unloading of Hume Pipes		
1-9-1	Loading of RCC Hume pipes by mechanical means including a lead upto 30 m		
1-9-1-A	1000 / 1200 mm dia Hume pipe	94.50	Pipe
1-9-1-B	750 mm dia Hume pipe	56.70	Pipe
1-9-1-C	600/450 mm dia Hume pipe	40.50	Pipe
1-9-2	Unloading of RCC Hume pipe by manual means including a lead upto 30 m		
1-9-2-A	1000/1200 mm dia RCC Hume pipes	401.10	Pipe
1-9-2-B	750 mm dia Hume pipe	334.20	Pipe
1-9-2-C	600/450 mm dia Hume pipe	250.70	Pipe
1-9-3	Unloading of RCC Hume pipes by mechanical means including a lead upto 30 m		
1-9-3-A	1000/1200 mm dia Hume pipe	69.20	Pipe
1-9-3-B	750 mm dia Hume pipe	41.50	Pipe
1-9-3-C	600/450 mm dia Hume pipe	29.70	Pipe
1-10	Haulage excluding Loading & Unloading- Haulage of materials by tipper excluding cost of loading, unloading and stacking.		
	Notes: In case of carriage of Hume pipes, output of truck be taken as 8 t and the rate for t is to be divided by number of pipes of different diameters as indicated in item 1-9 to get the rate per pipe.		
1-10-1	Surfaced Road	5.70	Tonne-Km
1-10-2	Unsurfaced Gravel Road	6.90	Tonne-Km

Sl. No.	Description	Rate	Unit
1-10-3	Katcha Track and Track in River Bed/Nallah Bed and Choe Bed	13.90	Tonne-Km
1-11	Supply of Quarried stone and hand breaking		
1-11-1	Supply of quarried stone and hand breaking into coarse aggregate to Grading 1 (90 mm to 45 mm) as per Table 400.8 of Technical Specifications.	1164.10	Cum
1-11-2	Supply of quarried stone and hand breaking into coarse aggregate to Grading 2 (63 mm to 45 mm) as per Table 400.8 of Technical Specifications.	1328.60	Cum
1-11-3	Supply of quarried stone and hand breaking into coarse aggregate to Grading 3 (53 mm to 22.4 mm) as per Table 400.8 of Technical Specifications.	1493.10	Cum
1-12	Crushing of Stone Aggregates 100 per cent passing through 53 mm sieve as per Table 500.6 of Technical Specifications. (Crushing of stone boulders of 150 mm size in an integrated stone crushing unit of 200 t/h capacity comprising of primary and secondary crushing units, belt conveyor and vibrating screens to obtain stone aggregates 100 per cent passing through 53 mm sieve as per Table 500.6 of Technical Specifications including the cost of stone.)	948.10	Cum
1-13	Crushing of Stone Aggregates 100 per cent passing through 22.4 mm sieve as per Table 500.6 of Technical Specifications. (Crushing of stone boulders of 150 mm size in an integrated stone crushing unit of 200 t/h capacity comprising of primary and secondary crushing units, belt conveyor and vibrating screens to obtain stone aggregates 100 per cent passing through 22.4 mm sieve as per Table 500.6 of Technical Specifications including the cost of stone.)	1092.30	Cum
1-14	Crushing of Stone Aggregates Nominal Size 13.2 mm as per Table 500.9 of Technical Specifications. (Crushing of stone boulders of 150 mm size in an integrated stone crushing unit of 200 t/h capacity comprising of primary and secondary crushing units, belt conveyor and vibrating screens to obtain stone aggregates of 13.2 mm nominal size as per Table 500.9 of Technical Specifications including the cost of stone.)	1287.50	Cum
1-15	Crushing of Stone Aggregates 9.5 mm Nominal Size as per Table 500.9 of Technical Specifications. (Crushing of stone boulders of 150 mm size in an integrated stone crushing unit of 200 t/h capacity comprising of primary and secondary crushing units, belt conveyor and vibrating screens to obtain stone aggregates of 9.5 mm nominal size as per Table 500.9 of Technical Specifications including the cost of stone.)	1287.50	Cum
1-16	Setting Out		

Sl. No.	Description	Rate	Unit

Note:-The cross-section height and material for the Reference Benchmark, Working Benchmark and Reference Pillars shall be decided depending upon site conditions and availability of construction material. The cost thereof shall be worked out based on rates of relevant items of work to be picked up from relevant chapters of this book

The analysis of rate per km shall account for the following:

Reference benchmark one no.

Working benchmark 4 nos. per km and near all drainage structure and bridges

Reference Pillars/Burjees @ 50 m interval on both sides of the formation width

The marking of centre line setting out curves and recording of levels, etc. by the surveyor will be incidental to the work and no extra payment shall be made for the same

Sl. No.	Description	Rate	Unit
Chapter 2 - SITE CLEARANCE			
2-1	Clearing Grass and Removal of Rubbish Clearing grass and removal of rubbish up to a distance of 30 m outside the periphery of the area as per Technical Specification Clause 201. (By Manual Means)	21930.20	Hectare
2-2	Clearing and Grubbing Road Land Clearing and grubbing road land including uprooting wild vegetation, grass, bushes, shrubs, saplings and trees of girth upto 300 mm, removal of stumps of such trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned, upto a lead of 1000 m including removal and disposal of top organic soil not exceeding 150 mm in thickness as per Technical Specification Clause 201.		
2-2-1	By Manual Means		
2-2-1-A	In area of non-thorny jungle	82842.90	Hectare
2-2-1-B	In area of thorny jungle	110860.20	Hectare
2-2-2	By Mechanical Means *Notes:The top soil removed during clearing and grubbing of site, if suitable for re-use shall be transported, conserved and stacked as directed by the Engineer and shall be incidental to the work.*		
2-2-2-A	In area of non-thorny jungle	24287.00	Hectare
2-2-2-B	In area of thorny jungle	29983.60	Hectare
2-3	Cutting of Trees including Cutting of Trunks, Branches and Removal of Stumps Cutting of trees, including cutting of trunks, branches and removal of stumps & roots, refilling, compaction of backfilling and stacking of serviceable material by manual means with all lifts as per Technical Specification Clause 201.		
2-3-A	Lead upto 100 m		
2-3-A-1	Girth above 300 mm to 600 mm	371.30	No.
2-3-A-2	Girth above 600 mm to 900 mm	620.40	No.
2-3-A-3	Girth above 900 mm to 1800 mm	1265.80	No.
2-3-A-4	Girth above 1800 mm to 2700 mm	2446.90	No.
2-3-A-5	Girth above 2700 mm to 4500 mm	4990.50	No.
2-3-A-6	Girth above 4500 mm	14915.40	No.
2-3-B	Lead upto 1000 m		
2-3-B-1	Girth above 300 mm to 600 mm	389.40	No.
2-3-B-2	Girth above 600 mm to 900 mm	674.80	No.
2-3-B-3	Girth above 900 mm to 1800 mm	1338.30	No.
2-3-B-4	Girth above 1800 mm to 2700 mm	2555.70	No.
2-3-B-5	Girth above 2700 mm to 4500 mm	5111.40	No.
2-3-B-6	Girth above 4500 mm	15217.60	No.

Sl. No.	Description	Rate	Unit
2-4	Uprooting and Removing Stumps & Roots		
2-4-1	Lead upto 100 m		
2-4-A-1	Girth above 300 mm to 600 mm	230.20	No.
2-4-A-2	Girth above 600 mm to 900 mm	359.20	No.
2-4-A-3	Girth above 900 mm to 1800 mm	771.40	No.
2-4-A-4	Girth above 1800 mm to 2700 mm	1526.90	No.
2-4-A-5	Girth above 2700 mm to 4500 mm	3071.50	No.
2-4-A-6	Girth above 4500 mm	8677.20	No.
2-4-B	Lead upto 1000 m		
2-4-B-1	Girth above 300 mm to 600 mm	234.40	No.
2-4-B-2	Girth above 600 mm to 900 mm	374.30	No.
2-4-B-3	Girth above 900 mm to 1800 mm	789.50	No.
2-4-B-4	Girth above 1800 mm to 2700 mm	1551.00	No.
2-4-B-5	Girth above 2700 mm to 4500 mm	3101.80	No.
2-4-B-6	Girth above 4500 mm	8828.30	No.
2-5	Dismantling of Structures Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 m as per Technical Specification Clause 202.		
2-5-1	By Manual Means		
2-5-1-A	Lime Concrete	569.20	Cum
2-5-1-B	Cement Concrete	678.80	Cum
2-5-1-C	Reinforced Cement Concrete	1788.50	Cum
2-5-2	By Mechanical Means		
2-5-2-A	Cement Concrete	791.40	Cum
2-5-2-B	Reinforced Cement Concrete	1319.10	Cum
2-6	Dismantling Brick/Tile Work Dismantling of existing structures like culverts, bridges, retaining walls and other structures comprising of brick masonry, including disposal of unserviceable material and stacking the serviceable material with all lift and lead of 1000 m as per Technical Specification Clause 202.		
2-6-A	Lime mortar	349.90	Cum
2-6-B	Cement mortar	459.50	Cum
2-6-C	Mud Mortar	306.00	Cum
2-6-D	Dry Brick Pitching or Brick Soling	284.10	Cum

Sl. No.	Description	Rate	Unit
2-7	Dismantling Stone Masonry as per Technical Specification Clause 202. Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of stone masonry, including disposal of unserviceable material and stacking the serviceable material with all lift and lead of 1000 m as per Technical Specification Clause 202.		
2-7-A	Rubble Stone Masonry in Lime Mortar	393.70	Cum
2-7-B	Rubble Stone Masonry in Cement Mortar	459.50	Cum
2-7-C	Rubble Stone Masonry in Mud Mortar	349.90	Cum
2-7-D	Dry Rubble Masonry	327.90	Cum
2-7-E	Dismantling Stone Pitching / Dry Stone Spalls	306.00	Cum
2-7-F	Dismantling boulders laid in wire crates including opening of crates and stacking dismantled materials	349.90	Cum
2-8	Dismantling Wood Work Wrought and Planed Fixed in Frames of Trusses upto a height of 5 m above Plinth Level as per Technical Specification Clause 202.	814.80	Cum
2-9	Dismantling Steel Work in all Types of Sections upto a height of 5 m above Plinth Level excluding Cutting of rivet as per Technical Specification Clause 202.		
2-9-A	Including dismembering	2137.20	Tonne
2-9-B	Excluding dismembering	1541.40	Tonne
2-9-C	Extra over Items (A) and (B) for cutting rivets	15.10	No.
2-10	Scraping of bricks dismantled from brick work including stacking as per Technical Specification Clause 202.	1918.90	No.
2-11	Scraping of Stone from Dismantled Stone Masonry as per Technical Specification Clause 202. (In Cement or Lime Mortar)	769.80	Cum
2-12	Scraping Plaster in Lime or Cement Mortar from Brick / Stone Masonry as per Technical Specification Clause 202.	23.90	Sqm
2-13	Removing all types of Hume pipes and stacking within a lead of 1000 m including Earthwork and Dismantling of Masonry Works as per Technical Specification Clause 202.		
2-13-A	Upto 600 mm dia Hume pipe	284.60	Rmt
2-13-B	Above 600 mm to 900 mm dia Hume pipe	384.90	Rmt
2-13-C	Above 900 mm dia Hume pipe	659.00	Rmt
2-14	Dismantling of Flexible Pavements Dismantling of flexible pavements and disposal of dismantled materials upto a lead of 100 m, stacking serviceable and unserviceable materials separately as per Technical Specification Clause 202		
2-14-1	By Manual Means		
2-14-1-A	Bituminous Courses	1052.10	Cum
2-14-1-B	Granular Courses	747.70	Cum
2-14-2	By Mechanical Means		
2-14-2-A	Bituminous Courses	402.70	Cum

Sl. No.	Description	Rate	Unit
2-15	Dismantling of Cement Concrete Pavements as per Technical Specification Clause 202. Dismantling of cement concrete pavements by mechanical means using pneumatic tools breaking to pieces not exceeding 0.02 Cum in volume and stock piling at designated locations and disposal of dismantled materials upto a lead of 1000 m, stacking serviceable and unserviceable materials separately	2093.00	Cum
2-16	Dismantling Guard Rails Dismantling guard rails by manual means and disposal of dismantled material with all lifts and upto a lead of 1000 m, stacking serviceable materials and unserviceable materials separately as per Technical Specification Clause 202.	112.50	Rmt
2-17	Dismantling Kerb Stones Dismantling kerb stones by manual means and disposal of dismantled material with all lifts and upto a lead of 1000 m as per Technical Specification Clause 202.	20.30	Rmt
2-18	Dismantling Kerb Stone Channels Dismantling kerb stone channels by manual means and disposal of dismantled material with all lifts and upto a lead of 1000 m as per Technical Specification Clause 202.	30.80	Rmt
2-19	Dismantling Kilometre Stones Dismantling of kilometre stones including cutting of earth, foundation and disposal of dismantled material with all lifts and lead upto 1000 m and backfilling of pit as per Technical Specification Clause 202.		
2-19-A	5th km Stone	501.90	No.
2-19-B	Ordinary km Stones	322.50	No.
2-19-C	200 m Stones		
	Notes: Rate for boundary pillar will be same as that of 200 m stone	66.90	No.
2-20	Dismantling of Fencing Dismantling of barbed wire fencing / wire mesh fencing including posts, foundation concrete, backfilling of pit by manual means including disposal of dismantled material with all lifts and upto a lead of 1000 m, stacking serviceable material and unserviceable material separately as per Technical Specification Clause 202.	73.20	Rmt
2-21	Dismantling of CI Water Pipe Line Dismantling of CI water pipe line 600 mm dia including disposal with all lifts and lead upto 1000 m and stacking of serviceable material and unserviceable material separately under supervision of concerned department as per Technical Specification Clause 202.	194.10	Rmt

Sl. No.	Description	Rate	Unit
2-22	Removal of Cement Concrete Pipe of Sewer Gutter Removal of cement concrete pipe of sewer gutter 1500 mm dia under the supervision of concerned department including disposal with all lifts and upto a lead of 1000 m and stacking of serviceable and unserviceable material separately but excluding earth excavation and dismantling of masonry works as per Technical Specification Clause 202.	240.20	Rmt
2-23	Removal of Telephone/Electric Poles and Lines Removal of telephone/electric poles with wires including excavation and dismantling of foundation concrete and lines under the supervision of concerned department, disposal with all lifts and upto a lead of 1000 m and stacking the serviceable and unserviceable material separately as per Technical Specification Clause 202.	253.90	No.

Sl. No.	Description	Rate	Unit
Chapter 3- EARTHWORK, EROSION CONTROL AND DRAINAGE			
3-1	Preparation of Foundation for Embankment Scarifying Existing Granular Surface to a Depth of 50 mm by Manual Means Scarifying existing granular surface to a depth of 50 mm and disposal of scarified material with a lift upto 3 m and leads upto 1000 m as per Technical Specification Clause 301.4.	31.00	Sqm
3-2	Preparation of Foundation for Embankment Scarifying Existing Bituminous Surface to a Depth of 150 mm by Mechanical Means Scarifying the existing bituminous road surface to a depth of 150 mm and disposal of scarified material with a lift upto 3 m and lead upto 1000 m as per Technical Specification Clause 301.4.	13.10	Sqm
3-3	Construction of Embankment with Material Obtained from Roadway Cutting 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 Tables 300.1 and 300.2 as per Technical Specification Clause 301.5	64.00	Cum
3-4	Construction of Embankment with Material Obtained from Borrow Pits Construction of embankment with approved material obtained from borrow pits with a lift upto 1.5 m, transporting to site, spreading, grading to required slope and compacting to meet requirement of Tables 300.1 and 300.2 with a lead upto 1000 m as per Technical Specification Clause 301.5	523.30	Cum
3-5	Excavation in Cutting in Soil by manual means with lead upto 50 m		
3-5-1	Excavation for roadway in soil using manual means for carrying of cut earth to embankment site with a lift upto 1.5 m and lead upto 50 m as per Technical Specification Clause 302.3	205.60	Cum
3-5-2	Excavation in Soil with Dozer with lead upto 100 m Excavation for roadway in soil by mechanical means including cutting and pushing the earth to site of embankment upto a distance of 100 m, including trimming bottom and side slopes in accordance with requirements of lines, grades and cross-sections.	49.10	Cum
3-5-3	Excavation in Soil using Hydraulic Excavator and Tippers with disposal upto 1000 m 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 with a lift upto 1.5 m and lead upto 1000 m as per Technical Specification Clause 302.3	53.10	Cum

Sl. No.	Description	Rate	Unit
3-6	Excavation in Marshy Soil Excavation for roadway in marshy soil with hydraulic excavator 0.9 Cum bucket capacity including cutting and loading in tippers and disposal with a lift upto 1.5 m and lead upto 1000 m, trimming of bottom and side slopes in accordance with requirements of lines, grades and cross- sections as per Technical Specification Clause 302.3.6.	69.10	Cum
3-7	Removal of Unsuitable Soil with Disposal upto 1000 m Removal of unsuitable soil including excavation, loading and disposal upto 1000 m lead but excluding compaction ground supporting embankment subgrade replacement by suitable soil, which shall be paid separately as per Clause 303.5.2 as per Technical Specification Clause 302.3.11	53.10	Cum
3-8	Excavation in ordinary Rock by manual means		
3-8-1	Excavation in ordinary rock using manual means including loading in a truck and carrying of excavated material to embankment site with a lift upto 1.5 m and lead upto 50 m as per Technical Specification Clause 302.3.5.	319.80	Cum
3-8-2	Excavation in Ordinary Rock with Dozer with lead upto 100 m Excavation for roadway in ordinary rock by deploying a dozer D-50 including cutting and pushing the cut earth to site of embankment upto a distance of 100 m (average lead 50 m), trimming bottom and side slopes in accordance with the requirements of lines, grades and cross-sections with lift upto 1.5 m.	58.20	Cum
3-8-3	Excavation in Ordinary Rock using Hydraulic Excavator and Tippers with disposal upto 1000 m Excavation for roadway in ordinary rock with hydraulic excavator of 0.9 Cum bucket capacity including cutting and loading in tippers, transporting to embankment site with a lift upto 1.5 m and lead upto 1000 m, trimming bottom and side slopes in accordance with requirements of lines, grades and cross-sections as per Technical Specification Clause 302.3.5	82.90	Cum
3-9-A	**Excavation in Hard Rock (with Credit for useful Mateial Received)**		
3-9-A-1	Excavation for roadway in hard rock (requiring blasting) by drilling, blasting and breaking, trimming of bottom and side slopes in accordance with requirements of lines, grades and cross-sections, loading and disposal of cut rock with a lift upto 1.5 m and leads upto 1000 m as per Technical Specification Clause 302.3.5	241.10	Cum

Sl. No.	Description	Rate	Unit
3-9-A-2	Excavation in Hard Rock (blasting prohibited) Excavation for roadway in hard rock (blasting prohibited) with rock breakers including breaking rock, loading in tippers and disposal with a lift upto 1.5 m and lead upto 1000 metres, trimming bottom and side slopes in accordance with requirements of lines, grades and cross- sections as per Technical Specification Clause 302.3.5		
3-9-A-2-A	Manual Means	1558.00	Cum
3-9-A-2-B	Mechanical Means Excavation in Hard Rock (controlled blasting) with disposal upto 1000 m	508.10	Cum
3-9-A-3	Excavation for roadway in hard rock with controlled blasting by drilling, blasting and breaking, trimming of bottom and side slopes in accordance with requirements of lines, grades and cross-sections, loading and disposal of cut rock with a lift upto 1.5 m and leads upto 1000 m as per Technical Specification Clause 302.3.5	263.20	Cum
3-9-B	Excavation in Hard Rock (without Credit for useful Mateial Received)		
3-9-B-1	Excavation for roadway in hard rock (requiring blasting) by drilling, blasting and breaking, trimming of bottom and side slopes in accordance with requirements of lines, grades and cross-sections, loading and disposal of cut rock with a lift upto 1.5 m and leads upto 1000 m as per Technical Specification Clause 302.3.5	292.30	Cum
3-9-B-2	Excavation in Hard Rock (blasting prohibited) Excavation for roadway in hard rock (blasting prohibited) with rock breakers including breaking rock, loading in tippers and disposal with a lift upto 1.5 m and lead upto 1000 metres, trimming bottom and side slopes in accordance with requirements of lines, grades and cross- sections as per Technical Specification Clause 302.3.5		
3-9-B-2-A	Manual Means	1609.10	Cum
3-9-B-2-B	Mechanical Means Excavation in Hard Rock (controlled blasting) with disposal upto 1000 m	559.30	Cum
3-9-B-3	Excavation for roadway in hard rock with controlled blasting by drilling, blasting and breaking, trimming of bottom and side slopes in accordance with requirements of lines, grades and cross-sections, loading and disposal of cut rock with a lift upto 1.5 m and leads upto 1000 m as per Technical Specification Clause 302.3.5	314.30	Cum
3-10	Stripping, Storing and Relaying Top Soil from Right-of-Way (R.O.W) Stripping, storing and preservation of top soil by keeping it damp in stock piles and keep wet till it is used 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 per Technical Specification Clause 302.3.2	295.60	Cum

Sl. No.	Description	Rate	Unit
3-11	Stripping, Storing and Relaying Top Soil from Borrow Areas in Agricultural Fields Stripping of top soil from borrow areas located in agriculture fields, storing at a suitable place, spreading and relaying after taking the borrow earth to maintain fertility of the agricultural field, finishing it to the required levels to the satisfaction of the farmer/land owner as per Technical Specification Clause 302.3.2.	225.70	Cum
3-12	Turfing with Sods Furnishing and laying of the live sods of perennial turf forming grass on embankment slope, verges or other locations shown on the drawing or as directed by the Engineer including preparation of ground, fetching of sods and watering as per Technical Specification Clause 309.	101.00	Sqm
3-13	Seeding and Mulching Preparation of seed bed on previously laid top soil, furnishing and placing of seeds, fertilizer, mulching material, applying bituminous emulsion @ 0.23 litre per sqm and laying and fixing jute netting, including watering for 3 months all as per Technical Specification Clause 310.	148.30	Sqm
3-14	Construction of Subgrade and Earthen Shoulders Construction of subgrade and earthen shoulders with approved material obtained from borrow pits with all lifts and leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table 300.2 with lead upto 1000 m as per Technical Specification Clause 303.1.	422.10	Cum
3-15	Compacting Original Ground		
3-15-1	Compacting original ground supporting embankment Loosening, Levelling and Compacting original ground supporting embankment to facilitate placement of first layer of embankment, scarified to a depth of 150 mm, mixed with water at OMC and then compacted by rolling so as to achieve minimum dry density as given in Tables 300.1 and 300.2 for embankment construction as per Technical Specification Clause 301.4.1.	26.30	Cum
3-15-2	Compacting original ground supporting subgrade Loosening of the ground upto a level of 300 mm below the subgrade level, watered, graded and compacted in layers to meet requirement of Tables 300.1 and 300.2 for subgrade construction as per Technical Specification Clause 303.5.2.	64.90	Cum
3-16	Repairs of damages caused by rain/spillage of water Preparation and surface treatment of formation by removing mud and slurry, watering to the extent needed to maintain the desired moisture content, trimming to the required line, grade, profile and rolling with three wheel 80-100 kN static roller, complete as per Technical Specification Clause 301.5.5.1	2.50	Sqm

Sl. No.	Description	Rate	Unit
3-17	Presplitting Rock Excavation Slopes Carrying out excavation in hard rock to achive a specified slope of the rock face by controlled use of explosives and blasting accessories in properly aligned and spaced drill holes, collection of the excavated rock by a D-50 dozer, loading in tipper by a front end loader and disposing of the material with a lift upto 1.5 m and lead upto 1000 m as per Technical Specification Clause 304.3	139.90	Sqm
3-18	Construction of Embankment with Flyash/Pond ash available from Coal or Lignite Burning Thermal Plants as Waste Material Construction of embankment with flyash conforming to Table 1 of IRC:SP:58 obtained from coal or lignite burning thermal power stations as waste material, spread and compacted in layer of 200 mm thickness each at OMC, all as specified in IRC:SP:58 and as per approved plans with lead upto 1000 m as per Technical Specification Clause 306.	136.50	Cum
3-19	Surface Drains		
3-19-1	Surface Drains in Soil Construction of unlined surface drains of average cross-sectional area 0.40 sqm in soil to specified lines, grades, levels and dimensions. Excavated material to be used in embankment with a lift upto 3m and lead of 50 m (average lead 25 m) as per Technical Specification Clause 307.		
3-19-1-A	Manual Means	109.70	Rmt
3-19-1-B	Mechanical Means	19.90	Rmt
3-19-2	Surface Drains in Ordinary Rock Construction of unlined surface drain of average cross-sectional area 0.4 sqm in ordinary rock to specified lines, grades, levels and dimensions as per approved design and Technical Specification Clause 307. Excavated material to be used in embankment at site.		
3-19-2-A	Manual Means	164.50	Rmt
3-19-2-B	Mechanical Means	42.80	Rmt
3-19-2-B	Surface Drains in Hard Rock :- Rate per m may be worked out based on quantity of hard rock as per design. For rate of hard rock cutting, refer relevant item in this Chapter		
3-20	Chute Drains		
3-20-A	Providing chute drains across embankment slopes in approches of bridges and on horizontal curves as per drawings. :- Quantities & Rates are to be taken as per the designs and drawings		
3-20-B	Providing chute drains across embankment slopes in approches of bridges and on horizontal curves as per drawings. :- Quantities & Rates are to be taken as per the designs and drawings		

Sl. No.	Description	Rate	Unit
Chapter 4 - GRANULAR SUB-BASES, BASES (NON-BITUMINOUS) AND SHOULDERS			
4-1	Granular Sub-base with Well Graded Material (Table 400.1)		
4-1-A	By Mix in Place Method Construction of granular sub-base by providing well 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 smooth wheel roller to achieve the desired density, complete as per Technical Specification Clause 401.		
4-1-A-1	For Grading I Material	1993.70	Cum
4-1-A-2	For Grading II Material	2059.10	Cum
4-1-A-3	For Grading III Material	2123.20	Cum
4-2	Gravel/Soil-Aggregate Base (Table 400.2)		
4-2-1	Gravel/Soil-Aggregate Base (Table 400.2) Grading A Construction of gravel/soil-aggregate base by providing well 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 three wheel 80-100 kN static roller to achieve the desired density, complete as per Technical Specifications Clause 402	1846.90	Cum
4-2-2	Gravel/Soil-Aggregate Base (Table 400.2) Grading B Construction of granular sub-base by providing well 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 three wheel 80-100 kN static roller capacity to achieve the desired density, complete as per Technical Specification Clause 402	1872.80	Cum
4-2-3	Gravel/Soil-Aggregate Base (Table 400.2) Grading C Construction of granular sub-base by providing well 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 three wheel 80-100 kN static roller capacity to achieve the desired density, complete as per Technical Specification Clause 402	2119.60	Cum
4-2-4	Gravel/Soil Aggregate Base/Subbase Nominal Maximum size Grading 80 mm (Table 2.3 of IRC SP 77-2008) Construction of Gravel/ Soil Aggregate Subbase/ Base by providing well graded material of nominal maximum size grading 80 mm as per Table 2.3 of IRC SP 77-2008, spreading in uniform layers with tractor mount appropriate grading arrangements on prepared surface, mixing by mix in place method at OMC with tractor mount appropriate rotavator attachment and compaction with three wheel 80-100 kN Static Roller capacity to achieve the desired density complete as per specifications contained in Para 2.2, 3.6 and 3.7 of IRC SP 77-2008.	1731.00	Cum

Sl. No.	Description	Rate	Unit
4-2-5	Gravel/Soil Aggregate Base/Subbase Nominal Maximum size Grading 40 mm (Table 2.3 of IRC SP 77-2008) Construction of Gravel/ Soil Aggregate Subbase/ Base by providing well graded material of nominal maximum size grading 40 mm as per Table 2.3 of IRC SP 77-2008, spreading in uniform layers with tractor mount appropriate grading arrangements on prepared surface, mixing by mix in place method at OMC with tractor mount appropriate rotavator attachment and compaction with three wheel 80-100 kN Static Roller capacity to achieve the desired density complete as per specifications contained in Para 2.2, 3.6 and 3.7 of IRC SP 77-2008.	1731.00	Cum
4-2-6	Gravel/Soil Aggregate Base/Subbase Nominal Maximum size Grading 20 mm (Table 2.3 of IRC SP 77-2008) Construction of Gravel/ Soil Aggregate Subbase/ Base by providing well graded material of nominal maximum size grading 20 mm as per Table 2.3 of IRC SP 77-2008, spreading in uniform layers with tractor mount appropriate grading arrangements on prepared surface, mixing by mix in place method at OMC with tractor mount appropriate rotavator attachment and compaction with three wheel 80-100 kN Static Roller capacity to achieve the desired density complete as per specifications contained in Para 2.2, 3.6 and 3.7 of IRC SP 77-2008.	1731.00	Cum
4-3	Gravel/Soil-Aggregate Surface Course		
4-3-1	Gravel/Soil-Aggregate Surface Course (Table 400.3) Construction of granular surface course by providing well 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 three wheel 80-100 kN static roller capacity to achieve the desired density, complete as per Technical Specification Clause 402	2106.40	Cum

Sl. No.	Description	Rate	Unit
4-3-2	Gravel/Soil Aggregate Base/Surface Nominal Maximum size Grading 10 mm (Table 2.3 of IRC SP 77-2008) Construction of Gravel/ Soil Aggregate Base/Surface by providing well graded material of nominal maximum size grading 10 mm as per Table 2.3 of IRC SP 77-2008, spreading in uniform layers with tractor mount appropriate grading arrangements on prepared surface, mixing by mix in place method at OMC with tractor mount appropriate rotavator attachment and compaction with three wheel 80-100 kN Static Roller capacity to achieve the desired density complete as per specifications contained in Para 2.2, 3.6 and 3.7 of IRC SP 77-2008	1790.10	Cum
4-3-3	Gravel/Soil Aggregate Base/Surface Nominal Maximum size Grading 5 mm (Table 2.3 of IRC SP 77-2008) Construction of Gravel/ Soil Aggregate Base/Surface by providing well graded material of nominal maximum size grading 5 mm as per Table 2.3 of IRC SP 77-2008, spreading in uniform layers with tractor mount appropriate grading arrangements on prepared surface, mixing by mix in place method at OMC with tractor mount appropriate rotavator attachment and compaction with three wheel 80-100 kN Static Roller capacity to achieve the desired density complete as per specifications contained in Para 2.2, 3.6 and 3.7 of IRC SP 77-2008	1698.60	Cum
4-4	Lime Stabilisation for Improving Subgrade Laying and spreading available soil in the subgrade on a prepared surface, pulverising, mixing the spread soil in place with rotavator with 2 per cent slaked lime having minimum 70 per cent of contents of CaO, grading with motor grader and compacting with the smooth wheel road roller at OMC to the desired density to form a layer of improved Sub-grade as per Technical Specification Cluase 403.		
4-4-1	By Manual Means	497.30	Cum
4-4-2	By Mechanical Means	460.10	Cum
4-5	Lime Treated Soil for Sub-Base Providing, laying and spreading soil on a prepared sub-grade, pulverising, mixing the spread soil in place with rotavator with 4 per cent slaked lime with minimum content of 70 per cent of CaO, grading with motor grader and compacting with the road roller at OMC to achieve atleast 98 per cent of the max dry density to form a layer of sub-base as per Technical Specification Clause 403.	857.70	Cum

Sl. No.	Description	Rate	Unit
4-6	Cement Treated Soil Sub-Base/Base Providing, laying and spreading soil on a prepared sub-grade, pulverising, adding the designed quantity of cement to the spread soil, mixing in place with rotavator, grading with the motor grader and compacting with the road roller at OMC to achieve the desired unconfined compressive strength and to form a layer of sub-base/base as per Technical Specification Clause 404. (For 4 per cent quantity of cement by weight of soil)	806.60	Cum
4-7	Water Bound Macadam Sub-base/base		
4-7-1	WBM Grading 1 Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with three wheel 80-100 kN static roller in stages to proper grade and camber, applying and brooming, stone screening/binding materials to fill-up the interstices of coarse aggregate, watering and compacting to the required density Grading 1 as per Technical Specification Clause 404.		
4-7-1-A	By Manual Means	2914.90	Cum
4-7-1-B	By Mechanical Means	2616.00	Cum
4-7-2	WBM Grading 2 Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with smooth wheel roller 80-100 kN in stages to proper grade and camber, applying and brooming, stone screening/binding materials to fill-up the interstices of coarse aggregate, watering and compacting to the required density grading 2 as per Technical Specification Clause 405.		
4-7-2-A	By Manual Means	3082.00	Cum
4-7-2-B	By Mechanical Means	2783.00	Cum
4-7-3	WBM Grading 3 Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with smooth wheel roller 80-100 kN in stages to proper grade and camber, applying and brooming, stone screening to fill-up the interstices of coarse aggregate, watering and compacting to the required density Grading 3 as per Technical Specification Clause 405.		
4-7-3-A	By Manual Means	3150.70	Cum
4-7-3-B	By Mechanical Means	2851.70	Cum
4-8	Water Bound Macadam with Crushable Screenings		

Sl. No.	Description	Rate	Unit
4-8-1	WBM Grading 1 Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with three wheel 80-100 kN static roller in stages to proper grade and camber, applying and brooming, crushable screening to fill-up the interstices of coarse aggregate, watering and compacting to the required density Grading 1 as per Technical Specification Clause 405.		
4-8-1-A	By Manual Means	2371.20	Cum
4-8-1-B	By Mechanical Means	2072.20	Cum
4-8-2	WBM Grading 2 Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with three wheel 80-100 kN static roller in stages to proper grade and camber, applying and brooming, crushable screening to fill-up the interstices of coarse aggregate, watering and compacting to the required density Grading 2 as per Technical Specification Clause 405.		
4-8-2-A	By Manual Means	2543.30	Cum
4-8-2-B	By Mechanical Means	2244.30	Cum
4-8-3	WBM Grading 3 Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with three wheel 80-100 kN static roller in stages to proper grade and camber, applying and brooming, crushable screening to fill-up the interstices of coarse aggregate, watering and compacting to the required density Grading 3 as per Technical Specification Clause 405.		
4-8-3-A	By Manual Means	2700.00	Cum
4-8-3-B	By Mechanical Means	2401.00	Cum
4-9	Wet Mix Macadam Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the material with water at OMC in mechanical mixer (Pug Mill), carriage of mixed material by tipper to site, laying in uniform layers in sub-base/base course on a well prepared sub-base and compacting with smooth wheel roller of 80 to 100kN weight to achieve the desired density including lighting, barricading and maintenance of diversion, etc as per Tables 400.11 & 400.12 and Technical Specification Clause 406. (By Mechanical Means with 1 km lead)	3582.00	Cum
4-10	Construction of Shoulders as per Technical Specification Clause 407.		

Sl. No.	Description	Rate	Unit
	A. Earthen Shoulders - The rate as applicable for sub-grade construction may be adopted.		
	B. Hard Shoulders - Rate as applicable for sub-base and/or base may be adopted as per approved design.		
	C. Paved Shoulders - The rates may be adopted as applicable for different layers of pavement depending upon approved design of paved shoulders.		
4-11	Granular sub-base/base/surface course with local materials (Table 400.13) by mix in place method normal Construction of granular sub-base by providing local material spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at once and compacting with smooth wheel roller to achieve the desired density complete as per Clause 401.4 as per Technical Specification Clause 408.		
4-11-1	Using naturally occuring gravel	1563.70	Cum
4-11-2	Using Gravel mix soil	1560.00	Cum
4-12	Construction of Water Bound Macadam using locally available material (Table 400.13) Providing, laying spreading and compacting local material in block or large discrete particles, such as kankar, Laterite, Dhandla etc. as per Table 400.13 to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with three wheel 80-100 kN static roller in stages to proper grade and camber, applying and brooming requisite type of screening /binding materials to fill-up the interstices of laid material watering and compacting to the required density as per Clause 405.3 and Technical Specification Cluase 408.	1553.60	Cum
4-13	Lime- Flyash Stablised Soil Sub-base Construction of sub-base using lime-flyash admixture with granular soil, free from organic matter/deleterious material or clayey silts and low plasticity clays having PI between 5 and 20 and liquid limit less than 25 and commercial dry lime, slaked at site or pre-slaked with CaO content not less than 50 per cent, flyash to conform to gradation as per Clause 4.3 of IRC:SP:20, lime+flyash content ranging between 10 to 30 per cent, the minimum un-confined compressive strength and CBR value after 28-days curing and 4-days soaking to be 0.75 MPa and 25 per cent respectively, all as specified in IRC:88 including a lead upto 1000 m as per Technical Specification Cluase 409.	1033.80	Cum

Sl. No.	Description	Rate	Unit
4-14	Construction of Sub-base/Course Using Crushed Slag as per Table 400.19 Construction of Sub-base by providing crushed slag spreading in uniform layer with motor grader on prepared surface mixing by mix-in-place method with Rotavator @ OMC, and compacting with three wheel 80-100 kN static roller to achieve the desired density complete as per Technical Specifications Cluase 402.4 and 410.3.2	2812.70	Cum
4-15	Water Bound Macadam using crushed slag Providing, laying, spreading and compacting crushed slag to water Bound Macadam specification including spreading in uniform thickness, hand packing rolling with smooth wheel roller 80-100 kN in stages to proper grade and camber, applying and brooming requisite type of screening/binding materials to fill up the interstees of crushed slag watering and compacting to the required density as per Clause 405.3 and Technical Specification Cluase 410.3.2.	3173.80	Cum
4-16	Cement Bound Granular Material sub-base/base Providing laying and spreading granulated blast furnace slag on a prepared sub-grade pulverising adding the designed quantitity of cement to the spread granulated blast furnace slag mixing in place with rotavator grading with the mortar grader and compacting with smooth wheel roller 80-100 kN at OMC to achieve the desired unconfined compressive strength and to form a layer of sub-base/base as per Technical Specification Clauses 404.3 and 410.4.2.	792.30	Cum
4-17	Crusher Run Macadam Base Providing crushed run stone aggregate greading conforming to table 400.20 depositing on a prepared surface by hauling vehicles, spreading and mixing with a motor grader, watering and compacting with a three wheel 80-100 kN static roller as per Technical Specification Clause 411 to form a layer of sub-base/base		
4-17-A	By mix-in-place method		
4-17-A-1	With 53 mm maximum size of aggregates	2672.60	Cum
4-17-A-2	With 37.5 mm maximum size of aggregates	3395.60	Cum
4-17-B	By mixing plant method		
4-17-B-1	With 53 mm maximum size of aggregates	3236.60	Cum
4-17-B-2	With 37.5 mm maximum size of aggregates	3619.80	Cum
4-18	Brick Soling Laying brick soling layer on prepared sub-grade with brick on end edging according to lines, graded and cross-section shown on the drawing filling joints with sand and earth, spreading 25 mm thick layer of earth over brick soling, watering and rolliing the same with three wheel road roller 80-100 kN as per Technical Specification Clause 412	715.80	Sqm

Sl. No.	Description	Rate	Unit
4-19	Stone Set Pavement Providing and laying stone set pavement on prepared surface with sub-base 100 mm thick compacted Granular Sub-base as per Clause 401.4 and base 75 mm thick compacted water bound macadam grading 2 as per Clause 405.3. The 150 mm thick hammer desired stones are laid in the herring one or stretched bond pattern. The stones are compacted into the bedding sand of 40 mm over the WBM base bounded by edge stone using suitable compacting device. The gaps are filled with fine sand stone dust as per Technical Specification Clause 413.4	477.70	Sqm

Sl. No.	Description	Rate	Unit
Chapter 5 - BASES AND SURFACE COURSES (BITUMINOUS)			
5-1	Prime Coat		
5-1-1	Low porosity Providing and applying primer coat with bitumen emulsion (SS-1) on prepared surface of granular base including cleaning of road surface and spraying primer at the rate of 0.70-1.0 kg/sqm using mechanical means as per Technical Specification Clause 502	42.00	Sqm
5-1-2	Medium porosity Providing and applying primer coat with Bitumen emulsion (SS-1) on prepared surface of granular base including cleaning of road surface and spraying primer at the rate of 0.90- 1.2 kg/sqm using mechanical means as per Technical Specification Clause 502.	51.70	Sqm
5-1-3	High porosity Providing and applying primer coat with Bitumen emulsion (SS-1) on prepared surface of granular base including cleaning of road surface and spraying primer at the rate of 1.2-1.5 kg/sqm using mechanical means as per Technical Specification Clause 502.	66.20	Sqm
5-2	Tack Coat		
5-2-1	Providing and applying tack coat with Bitumen emulsion (RS-1) using emulsion distributor at the rate of 0.20 to 0.25 kg per sqm on the prepared bituminous surface cleaned with Hydraulic broom as per Technical Specification Clause 503.	11.90	Sqm
5-2-2	Providing and applying tack coat with Bitumen emulsion (RS-1) using emulsion distributor at the rate of 0.25 to 0.30 kg per sqm on the prepared dry and hungry bituminous surface cleaned with Hydraulic broom as per Technical Specification Clause 503.	14.20	Sqm
5-2-3	Providing and applying tack coat with Bitumen emulsion (RS-1) using emulsion distributor at the rate of 0.25 to 0.30 kg per sqm on the prepared granular surfaces treated with primer & cleaned with Hydraulic broom as per Technical Specification Clause 503.	14.20	Sqm
5-2-4	Providing and applying tack coat with Bitumen emulsion (RS-1) using emulsion pressure distributor at the rate of 0.30 to 0.35 kg per sqm on the prepared non-bituminous surfaces (cement concrete pavement) cleaned with Hydraulic broom as per Technical Specification Clause 503.	16.50	Sqm

Sl. No.	Description	Rate	Unit
5-3	Bituminous Macadam Providing and laying bituminous macadam with hot mix plant using crushed aggregates of grading as per Table 500.4 premixed with bituminous binder, transported to site upto a lead of 1000 m laid over a previously prepared surface with paver finisher to the required grade, level and alignment and rolled to achieve the desired compaction as per Technical Specification Clause 504. (Bitumen VG-10 @ 3.3% of the weight of mix has been used for analysis purpose. The choice of bitumen will depend upon the prevailing site conditions and shall be in accordance with Clause 504 of MORD)		
5-3-1	with Bitumen VG-10	9096.40	Cum
5-3-2	with Bitumen VG-30	9285.70	Cum
5-4	Built-Up Spray Grout Providing, laying and rolling of built-up spray grout layer over prepared base consisting of a two layer composite construction of crushed coarse aggregates using motor grader for aggregates. Key stone chips spreader may be used with application of bituminous binder after each layer, and with key aggregates placed on top of the second layer to serve as a base, conforming to the line, grades and cross-section specified, the compacted layer thickness being 75 mm as per Technical Specification Clause 505.		
5-4-A	By Manual Means		
5-4-A-1	Bitumen (VG-10)	548.90	Sqm
5-4-A-2	Bitumen (VG-30)	556.70	Sqm
5-4-B	By Mechanical Means	463.00	Sqm
5-5	Modified Penetration Macadam Construction of penetration macadam over prepared base by providing a layer of compacted crushed coarse aggregate using chips spreader with alternate applications of bituminous binder and key aggregates and rolling with a three wheel 80-100 kN static roller to achieve the desired degree of compaction as per Technical Specification Clause 506.		
5-5-A	50 mm thick		
5-5-A-1	Bitumen (VG-10)	255.10	Sqm
5-5-B	75 mm thick		
5-5-B-1	Bitumen (VG-10)	321.30	Sqm
5-5-B-2	Bitumen (VG-30)	326.60	Sqm
5-6	Surface Dressing using Bituminous (Penetrations grade / modified bitumen) Binder Providing and laying surface dressing as wearing course consisting of a layer of bituminous binder laid on the prepared surface, followed by a cover of crushed stone aggregates of specified size and rolling with three wheel 80-100 kN static roller including cleaning the road surface as per Technical Specification Clause 507.		
5-6-A	By Manual Means		

Sl. No.	Description	Rate	Unit
5-6-A-1	Case – I: Nominal chipping size 13.2 mm		
5-6-A-1-1	Bitumen (VG-10)	124.10	Sqm
5-6-A-1-2	Bitumen (VG-30)	126.70	Sqm
5-6-A-1-3	Polymer Modified Bitumen	122.20	Sqm
5-6-A-1-4	Crumb Rubber Modified Bitumen	121.70	Sqm
5-6-A-1-5	Natural Rubber Modified Bitumen	122.10	Sqm
5-6-A-2	Case – II: Nominal chipping size 9.5 mm		
5-6-A-2-1	Bitumen (VG-10)	108.90	Sqm
5-6-A-2-2	Bitumen (VG-30)	111.20	Sqm
5-6-A-2-3	Polymer Modified Bitumen	107.10	Sqm
5-6-A-2-4	Crumb Rubber Modified Bitumen	106.70	Sqm
5-6-A-2-5	Natural Rubber Modified Bitumen	107.10	Sqm
5-6-B	By Mechanical Means		
5-6-B-1	Case – I: Nominal chipping size 13.2 mm		
5-6-B-1-1	Bitumen (VG-10)	89.60	Sqm
5-6-B-1-2	Bitumen (VG-30)	92.20	Sqm
5-6-B-1-3	Polymer Modified Bitumen	87.70	Sqm
5-6-B-1-4	Crumb Rubber Modified Bitumen	87.20	Sqm
5-6-B-1-5	Natural Rubber Modified Bitumen	87.60	Sqm
5-6-B-2	Case – II: Nominal chipping size 9.5 mm		
5-6-B-2-1	Bitumen (VG-10)	78.70	Sqm
5-6-B-2-2	Bitumen (VG-30)	81.00	Sqm
5-6-B-2-3	Polymer Modified Bitumen	76.90	Sqm
5-6-B-2-4	Crumb Rubber Modified Bitumen	76.50	Sqm
5-6-B-2-5	Natural Rubber Modified Bitumen	76.90	Sqm
5-7	Surface Dressing using Bitumen Emulsion Providing and laying surface dressing as wearing course consisting of a layer of bitumen emulsion laid on the prepared surface, followed by a cover of crushed stone chippings of specified size and rolling with 80-100 kN roller including cleaning the road surface as per Technical Specification Clause 507.		
5-7-A	By Manual Means		
5-7-A-1	Case – I: Nominal aggregate size 13.2 mm	133.60	Sqm
5-7-A-2	Case – II: Nominal chipping size 9.5 mm	100.30	Sqm
5-7-B	By Mechanical Means		
5-7-B-1	Case – I: Nominal chipping size 13.2 mm	98.90	Sqm
5-7-B-2	Case – II: Nominal chipping size 9.5 mm	89.20	Sqm
5-8	Pre-coating Chips Pre-coating of chips with 1 per cent of paving bitumen by weight of chips in a suitable mixer duly heated to 160 degree C as per Technical Specification Clause 507.2.5		
5-8-1	Bitumen (VG-10)	1493.90	Cum

Sl. No.	Description	Rate	Unit
5-8-2	Bitumen (VG-30)	1535.70	Cum
5-9	20mm thick Open-Graded Premix Carpet using Bituminous (penetration grade/modified bitumen) Binder Providing, laying and rolling of open-graded premix carpet of 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates either using penetration grade bitumen or emulsion to required line, grade and level to serve as wearing course on a previously prepared base, including mixing in a suitable plant, laying and rolling with a three wheel 80-100 kN static roller capacity, finished to required level and grades to be followed by seal coat of either Type A or Type B or Type C as per Technical Specification Clause 508.		
5-9-1	Case - I By Manual Means		
5-9-1-1	Bitumen (VG-10)	194.20	Sqm
5-9-1-2	Bitumen (VG-30)	198.00	Sqm
5-9-1-3	Polymer Modified Bitumen	191.30	Sqm
5-9-1-4	Crumb Rubber Modified Bitumen	190.70	Sqm
5-9-1-5	Natural Rubber Modified Bitumen	191.30	Sqm
5-9-2	Case - II By Mechanical Means		
5-9-2-1	Bitumen (VG-10)	179.20	Sqm
5-9-2-2	Bitumen (VG-30)	183.00	Sqm
5-9-2-3	Polymer Modified Bitumen	188.80	Sqm
5-9-2-4	Crumb Rubber Modified Bitumen	188.20	Sqm
5-9-2-5	Natural Rubber Modified Bitumen	188.70	Sqm
5-10	20 mm thick Open Graded Premix Carpet using Bitumen Emulsion as per Technical Specification Clause 508.2	178.50	Sqm
5-11	Mix Seal Surfacing Providing, laying and rolling of close-graded premix surfacing material of 20 mm thickness composed of 11.2 mm to 0.9 mm (Type-A) or 13.2 mm to 0.9 mm (Type-B) aggregates using penetration grade bitumen to required line, grade and level to serve as wearing course on a previously prepared base, including mixing in a suitable plant, laying and rolling with a three wheel 8-10 kN static roller and finishing to required level and grades as per Technical Specification Clause 509		
5-11-1	By Manual Means		
5-11-1-A	Type A		
5-11-1-A-1	Bitumen (VG-10)	250.50	Sqm
5-11-1-A-2	Bitumen (VG-30)	256.20	Sqm
5-11-1-A-3	Polymer Modified Bitumen	246.20	Sqm
5-11-1-A-4	Crumb Rubber Modified Bitumen	245.20	Sqm
5-11-1-A-5	Natural Rubber Modified Bitumen	246.10	Sqm
5-11-1-B	Type B		
5-11-1-B-1	Bitumen (VG-10)	233.20	Sqm

Sl. No.	Description	Rate	Unit
5-11-1-B-2	Bitumen (VG-30)	238.20	Sqm
5-11-1-B-3	Polymer Modified Bitumen	229.50	Sqm
5-11-1-B-4	Crumb Rubber Modified Bitumen	228.70	Sqm
5-11-1-B-5	Natural Rubber Modified Bitumen	229.40	Sqm
5-11-2	By Mechanical Means		
5-11-2-A	Type A		
5-11-2-A-1	Bitumen (VG-10)	215.80	Sqm
5-11-2-A-2	Bitumen (VG-30)	221.50	Sqm
5-11-2-A-3	Polymer Modified Bitumen	230.20	Sqm
5-11-2-A-4	Crumb Rubber Modified Bitumen	229.30	Sqm
5-11-2-A-5	Natural Rubber Modified Bitumen	230.10	Sqm
5-11-2-B	Type B		
5-11-2-B-1	Bitumen (VG-10)	201.10	Sqm
5-11-2-B-2	Bitumen (VG-30)	206.10	Sqm
5-11-2-B-3	Polymer Modified Bitumen	213.60	Sqm
5-11-2-B-4	Crumb Rubber Modified Bitumen	212.80	Sqm
5-11-2-B-5	Natural Rubber Modified Bitumen	213.50	Sqm
5-12	Seal Coat Providing and laying seal coat sealing the voids in a bituminous surface laid to the specified levels, grade and cross fall using Type A, Type B and Type C as per Technical Specification Clause 510		
	Note:		
5-12-A	By Manual Means		
5-12-A-A	Case - I : Type A		
5-12-A-A-1	Bitumen (VG-10)	94.70	Sqm
5-12-A-A-2	Bitumen (VG-30)	97.20	Sqm
5-12-A-A-3	Polymer Modified Bitumen	92.80	Sqm
5-12-A-A-4	Crumb Rubber Modified Bitumen	92.30	Sqm
5-12-A-A-5	Natural Rubber Modified Bitumen	92.70	Sqm
5-12-A-B	Case - II : Type B		
5-12-A-B-1	Bitumen (VG-10)	65.70	Sqm
5-12-A-B-2	Bitumen (VG-30)	67.50	Sqm
5-12-A-B-3	Polymer Modified Bitumen	64.40	Sqm
5-12-A-B-4	Crumb Rubber Modified Bitumen	64.10	Sqm
5-12-A-B-5	Natural Rubber Modified Bitumen	64.30	Sqm
5-12-A-C	Case - III : Type C		
5-12-A-C-1	Bitumen (VG-10)	75.20	Sqm
5-12-A-C-2	Bitumen (VG-30)	76.90	Sqm
5-12-A-C-3	Polymer Modified Bitumen	73.90	Sqm
5-12-A-C-4	Crumb Rubber Modified Bitumen	73.70	Sqm
5-12-A-C-5	Natural Rubber Modified Bitumen	73.90	Sqm
5-12-B	By Mechanical Means		

Sl. No.	Description	Rate	Unit
	Note:		
5-12-B-A	Case - I : Type A		
5-12-B-A-1	Bitumen (VG-10)	76.10	Sqm
5-12-B-A-2	Bitumen (VG-30)	78.60	Sqm
5-12-B-A-3	Polymer Modified Bitumen	82.50	Sqm
5-12-B-A-4	Crumb Rubber Modified Bitumen	82.10	Sqm
5-12-B-A-5	Natural Rubber Modified Bitumen	82.40	Sqm
5-12-B-B	Case - II : Type B		
5-12-B-B-1	Bitumen (VG-10)	59.80	Sqm
5-12-B-B-2	Bitumen (VG-30)	61.60	Sqm
5-12-B-B-3	Polymer Modified Bitumen	64.30	Sqm
5-12-B-B-4	Crumb Rubber Modified Bitumen	64.00	Sqm
5-12-B-B-5	Natural Rubber Modified Bitumen	64.20	Sqm
5-12-B-C	Case - III : Type C		
5-12-B-C-1	Bitumen (VG-10)	59.90	Sqm
5-12-B-C-2	Bitumen (VG-30)	61.60	Sqm
5-12-B-C-3	Polymer Modified Bitumen	64.10	Sqm
5-12-B-C-4	Crumb Rubber Modified Bitumen	63.90	Sqm
5-12-B-C-5	Natural Rubber Modified Bitumen	64.10	Sqm
5-13	Supply of Stone Aggregates for Pavement Courses		

Supply of stone aggregates from approved sources conforming to the physical requirement, specified in the respective clauses, including royalties, fees rents, collection, transportation, stacking and testing and measured in Cum as per Clause 511.5.

Note:Competitive market rates to be ascertained. Alternatively, rates for stone crushing given in Chapter 1 may be adopted, if found economical. In case for supply of aggregates at site are not available, nearest crusher site may be ascertained. Loading and unloading charges and cost of carriage may be added to these rates to arrive at the cost at site.

Sl. No.	Description	Rate	Unit
Chapter 6 - CEMENT CONCRETE PAVEMENT			
6-1	Granual Sub-base	*Rate as per item No. 4-1*	
6-2	Lime Treated Soil	*Rate as per item No. 4-5*	
6-3	Water Bound Macadam (WBM) - Sub-base		
6-3-A	By Manual Means	*Rate as per item No. 4-6*	
6-3-B	By Mechnical Means	*Rate as per item No. 4-7*	
6-4	Cement Concrete Pavement Construction of un-reinforced, dowel jointed at expansion and construction joint only, plain cement concrete pavement, thickness as per design, over a prepared sub base, with 43 grade cement or any other type as per Clause 1501.2.2 M30 (Grade), coarse and fine aggregates conforming to IS:383, maximum size of coarse aggregate not exceeding 25 mm, mixed in a concrete mixer of not less than 0.2 Cum capacity and appropriate weigh batcher using approved mix design, laid in approved fixed side formwork (steel channel, laying and fixing of 125 micron thick polythene film, wedges, steel plates including levelling the formwork 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, admixtures as approved, curing of concrete slabs for 14-days, using curing compound (where specified) and water finishing to lines and grade as per drawing and Technical Specification Clause 1501	8106.40	Cum
6-5	Roller Compacted Concrete Pavement Construction of Roller Compacted Concrete Pavement (RCCP) with coarse and fine aggregates conforming to IS:383, the size of coarse aggregate not exceeding 25 mm with minimum aggregate cement ratio of 5:1 mm and with minimum cemnt content of 310 kg per Cum, aggregate gradation to be as per Table 602.2 after blending, mixing in concrete mixer at optimum moisture content, transporting to site, laying with wheel barrows or steel pans or with mechanical paver, compacting with 80-100 kN smooth wheel, tandem vibratory roller, to achieve, the designed flexural strength, finishing and curing as per drawings and Technical Specification Clause 1502	7583.20	Cum

Sl. No.	Description	Rate	Unit
6-6	Rectangular Concrete Block Pavement Manufacturing, laying of cement concrete blocks of size 0.450 m x 0.300 m x 0.15 m of Cement Concrete (C.C.) M30 garde and spreading 25 mm thick sand under neath and filling joints with sand on existing W.B.M. base as per Technical Specification Clause 1503.	1496.60	Sqm
6-7	Interlocking Concrete Block Pavement		
6-7-1	Providing and Laying of Interlocking Concrete Block (M-35) Pavements having thickness 80 mm as per drawings and Technical Specification Clause 1504.	888.20	Sqm
6-7-2	Providing and Laying of Interlocking Concrete Blcok (M-35) Pavements having thickness 60 mm as per drawing and Technical Specification Clause 1504	704.60	Sqm

Sl. No.	Description	Rate	Unit
Chapter 7 - CAUSEWAY AND SUBMERSIBLE BRIDGES			
7-1	Construction of Cut-off Walls/Head Walls		
7-1-1	Earthwork in excavation for structures as per drawing and technical specification Clause 305.	438.60	Cum
7-1-2	Plain cement concrete M15 grade (Nominal Mix)	5770.30	Cum
7-1-3	Brick masonry in cement mortar 1:4	7643.70	Cum
7-1-4	Stone masonry in cement mortar 1:4	5231.80	Cum
7-1-5	Providing P.C.C M20 architectural coping on top of wall	7016.60	Cum
7-2	Preparation of Subgrade	*Rate as per item No.3-15*	
7-3	Granular Sub-base	*Rate as per item No.4-1*	
7-4	W.B.M. Base Course	*Rate as per item No.4-6*	
7-5	Cement Concrete Slab	*Rate as per item No.6-4*	
7-6	Apron Work		
	Note:- Any one of the items appropriate may be taken		
7-6-1	Providing and Laying Apron with Stone Boulders as per Drawings & Technical Specification Clause 1301	Rate as per item No.14-1	
7-6-2	Providing and Laying of Boulder Apron Laid in Wire Crates as per Drawing and Technnical Specification Clause 1301	Rate as per item No.14-2	
7-6-3	Providing and Laying of Apron with Cement Concrete Blocks as per Drawing and Technical Specification Clause 1301	Rate as per item No.14-3	
7-7	Guide Posts Construction of R.C.C. guide posts of 250 mm dia, M25 grade as per drawing and technical specification Clause 1401.6	Rate as per item No.8-8	
7-8	Bedding for Causeway		
7-8-1	Type A (concrete cradle) Bedding Clause 1402.5	Rate as per item No.9-2	
7-8-2	Type B (first class) Bedding Clause 1402.5	Rate as per item No.9-2	
7-9	Laying Reinforced Cement Concrete Pipe NP3 as per drawing and technical specification Clause 1402.6	Rate as per item No.9-3	
7-10	Laying Reinforced Cement Concrete Pipe NP4 as per technical specification Clause 1402.6	Rate as per item No.9-4	

Sl. No.	Description	Rate	Unit
Chapter 8 - HILL ROADS			
8-1	Site Clearance	As per Chapter 2	
8-2	Setting Out		
8-2-1	Construction of reference pillars as per Fig. 1600.1 (b) as per drawing and Technical Specification Clause 1602.1 Construction of reference pillars (burjee) @ 20 m on both sides and @ 8.33 m interval on curves	8077.90	Km
8-2-2	Construction of Back pillars as per Fig. 1600.1 (c) as per drawing and Technical Specification Clause 1602.3 Construction of Back Pillar in frot of eatch reference pillars	31933.10	Km
8-2-2	Construction of Job pillers as per Fig. 1600.1 (d) and Technical Specification Clause 1602.4	795.60	Km
8-3	Earthwork in Hill Road		
8-3-1	Excavation in Hilly Areas in Soil by manual means.		
8-3-1-A	Excavation in soil in Hilly Area by manual means including cutting and trimming of side slopes and disposing of excavated earth with a lift upto 1.5 m and a lead upto 20 m as per drawing and Technical Specification Clause 1603.1	274.10	Cum
8-3-1-B	Extra for Every Additional Lift of 1.5 m or Part thereof	28.90	Cum
8-3-2	Excavation in Hilly Areas in Soil by mechanical means		
8-3-2-A	Excavation in soil in Hilly Area by mechanical means including cutting and trimming of side slopes and disposing of excavated earth with a lift upto 1.5 m and a lead upto 20 m as per Technical Specification Clause 1603.1	126.60	Cum
8-3-2-B	Extra for Every Additional Lift of 1.5 m or Part thereof	28.90	Cum
8-3-3	Excavation in Hilly Area in Ordinary Rock by manual means		
8-3-3-A	Excavation in ordinary rock using manual means including loading in a truck and carrying of excavated material to embankment site with a lift upto 1.5 m and lead upto 20 m as per Clause 1603.2.	603.10	Cum
8-3-3-B	Extra for Every Additional Lift of 1.5 m or Part thereof	45.20	Cum
8-3-4	Excavation in Hilly Areas in Ordinary Rock by mechanical means not requiring blasting Excavation in hilly area in ordinary rock not requiring blasting by mechanical means including cutting and trimming of slopes and disposal of cut material with a lift upto 1.5 m and lead upto 20 m as per Clause 1603.2.	197.00	Cum
8-3-5	Excavation in Hilly Areas in Hard Rock requiring blasting		
8-3-5-A	Excavation in hilly areas in hard rock requiring blasting, by mechanical means, lift upto 1.5 m and disposal of excavated rock upto a lead of 20 m as per Clause 1603.2.	342.90	Cum
8-3-5-B	Extra for Every Additional Lift of 1.5 m or Part thereof	56.80	Cum

Sl. No.	Description	Rate	Unit
8-4	Retaining Walls / Breast Walls Construction of retaining walls/breast walls in cement mortar 1:5 as per drawing and technical specifications Clause 1604		
8-4-1	Earthwork in excavation for structures(Rate as per 7-1-1)	438.60	Cum
8-4-2	Plain cement concrete M 10 grade	5782.50	Cum
8-4-3	Stone masonry in cement mortar 1:5	4517.60	Cum
8-4-4	Pointing with cement mortar 1:3	89.00	Sqm
8-4-5	Providing P.C.C. M 20 architectural coping on top of retaining wall/breast wall(same as in Item 7-1-5)	7016.60	Cum
8-4-6	Filter material behind retaining wall / breast wall as per Specification 1204.3.8 in a width of 600 m	2167.80	Cum
8-4-7	Back filling behind retaining wall/breast wall	1,835.70	Cum
8-5	Construction of Hill Side Drain Construction of hill side drain in accordance with the requirement of specifications true to lines and grades. Dimesions and other particulars as per drawing and Technical Specification Clause 1606.1 (Quantities of material/work shall be as per design and drawings)		
8-5-1	Earthwork in excavation for structures as per drawing and technical specification (Earth work in excavation may be taken as per site conditions. It may comprise of a number of sub-items depending upon the type of soil/rock encountered.)		
8-5-2	Plain cement concrete M10 grade	Rate as per item No. 8-4-2	
8-5-3	Stone masonry in cement mortar 1:5	Rate as per item No.8-4-3	
8-5-4	Plain cement concrete M15 grade	Rate as per item No.7-1-2	
8-5-5	Cement plaster 15 mm thick 1:4 on stone masonry	222.20	Sqm
8-5-6	Providing P.C.C. M20 architectural coping on top of wall	Rate as per item No.8-4-5	
8-6	Construction of Catch Water / Intercepting Drain Construction of catch water/intercepting drain in random rubble masonry in 1:5 cement mortar true to the specified lines grades levels and dimensions as per the requirement of the specifications Clause 1606.2 (Quantities of material/work shall be as per design and drawings)		
8-6-1	Earthwork in excavation for structures as per drawing and technical specification (Earth work in excavation may be taken as per site conditions. It may comprise of a number of sub-items depending upon the type of soil/rock encountered.)		
8-6-2	Plain cement concrete M10 grade	Rate as per item No.8-4-2	
8-6-3	Stone masonry in cement mortor 1:5	Rate as per item No.8-4-3	
8-6-4	Plain cement concrete M15 grade	Rate as per item No.7-1-2	
8-6-5	Cement plaster 15 mm thick 1:4 on stone masonry	Rate as per item No.8-5-5	

Sl. No.	Description	Rate	Unit
8-6-7	Providing P.C.C. M 20 architectural coping on top of wall	Rate as per item No.7-1-5	
8-7	Construction of Scupper Construction of scupper with dry stone masonry as per drawing and technical specifications as per Clause 1606.5. (based on plate No.7.27 of Rural Roads Manual.)		
	Note :-Quantities of parapet are not included in the quantities of scupper.		
	1) Earthwork in excavation for structures as per drawing and technical specifications *(Quantity for 6 m formation width of hill side rock cutting and foundation as per plate No. 7.27 of Rural Road Manual)*	8406.50	Rmt
	2) Random rubble dry stone masonry	14583.10	Rmt
	3) Random course rubble dry stone masonry in corbelling	4314.70	Rmt
	4) Stone filling in foundation trenches as per drawing and technical specification	1149.04	Rmt
	Per Rmt Rate for Complete Scupper	**28453.30**	**Rmt**
8-8	Construction of RCC guide posts of 250 mm dia M15 grade cast-in-situ with 20 mm nominal size aggregate, true to line and grade, tolerance of vertical RCC posts not to exceed 1 in 500 as per drawing and Technical Specification Clause 1608.2		
	Quantities are to be taken as per drawing		
8-8-1	Earth work in excavation for structures	Rate as per item No. 7-1-1	
8-8-2	RCC M15 grade	Rate as per item No. 7-1-2	
8-8-3	HYSD steel bars	66,581.80	Tonne
8-8-4	Painting two coats including prime coat on new concrete surface	Rate as per item No. 10-5	
8-9	Providing edge stones on valley side of formation as per drawing and Technical Specification Clause 1608.2.6	178.10	Rmt
8-10	Turfing with Sods Furnishing and laying of the live sods of perennial turf forming grass on embankment slope, verges or other locations shown on the drawing or as directed by the Engineer including preparation of ground, stacking the sods and watering as per Clause 309	80.50	Sqm
8-11	Seeding and Mulching Preparation of seed bed on previously laid top soil, furnishing and placing of seeds, fertilizer, multching material, applying bituminous emulsion at the rate of 0.23 l per sqm and laying and fixing jute netting, including watering for 3 months all as per Clause 310.	159.30	Sqm

Sl. No.	Description	Rate	Unit
Chapter 9 - PIPE CULVERTS			
9-1	Excavation for Structures Earthwork in excavation for foundation of structures upto 3 m depth as per drawing and technical specification Clause 1104 includding setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom and backfilling with approved material.	Rate as per item No.7-1-1	
9-2	Bedding for Pipe		
9-2-1	Type A (Concrete Cradle) Bedding Laying concrete cradle bedding with M15 Grade Cement Concrete as per Clause 1105 (i)	Rate as per item No.7-1-2	
9-2-2	Type B (First Class) Bedding Laying (First Class) bedding on well compacted sand, moorum or approved granular material as per Clause 1105 (ii)	2278.30	Cum
9-3	Providing and Laying Reinforced Cement Concrete Pipe NP3 as per design in Single Row Providing and laying reinforced cement concrete pipe NP3 for culverts on first class bedding of granular material in single row including fixing collar with cement mortar 1:2 but excluding excavation, protection works, backfilling, concrete and masonry works in head walls and parapets Clause 1106.		
	Note:-The labour rate for 600 mm dia Hume pipe may be derived from the rates for 750 dia by decreasing 20 per cent		
9-3-A	1200 mm dia	7600.60	Rmt
9-3-B	1000 mm dia	5584.20	Rmt
9-3-C	750 mm dia	3494.10	Rmt
9-4	Providing and Laying Reinforced Cement Concrete Pipe NP4 as per design in Single Row Providing and laying reinforced cement concrete pipe NP4 for culverts on first class bedding of granular material in single row including fixing collar with cement mortar 1:2 but excluding excavation, protection works, backfilling, concrete and masonry works in head walls and parapets Clause 1106.		
	Note:-The labour rate for 600 mm dia Hume pipe may be derived from the rates for 750 dia by decreasing 20 per cent		
9-4-A	1200 mm dia	7998.30	Rmt
9-4-B	1000 mm dia	6265.90	Rmt
9-4-C	750 mm dia	4744.00	Rmt

Sl. No.	Description	Rate	Unit
9-5	Providing and Laying Reinforced Cement Concrete Pipe NP3 as per Design in Double Row Providing and laying reinforced cement concrete pipe NP3 for culverts on first class bedding of granular material in double row including fixing collar with cement mortar 1:2 but excluding excavation, protection works, backfilling, concrete and masonry works in head walls and parapets as per Clause 1106. *Note:-The labour rate for 600 mm dia Hume pipe may be derived from the rates for 750 dia by decreasing 20 per cent*		
9-5-A	1200 mm dia	15307.70	Rmt
9-5-B	1000 mm dia	11235.30	Rmt
9-5-C	750 mm dia	6987.40	Rmt
9-6	Providing and Laying Reinforced Cement Concrete Pipe NP4 as per Design in Double Row Providing and laying reinforced cement concrete pipe NP4 for culverts on first class bedding of granular material in double row including fixing collar with cement mortar 1:2 but excluding excavation, protection works, backfilling, concrete and masonry works in head walls and parapets as per Clause 1106. *Note:-The labour rate for 600 mm dia Hume pipe may be derived from the rates for 750 dia by decreasing 20 per cent*		
9-6-A	1200 mm dia	16103.10	Rmt
9-6-B	1000 mm dia	12598.80	Rmt
9-6-C	750 mm dia	9487.10	Rmt
9-7	Laying Cement Concrete Pipe NP3 (burried conduits) on first class bedding of granular material including fixing collar with cement sand mortar 1:2 but excluding excavation, protection works, backfilling, concrete and masonary work in head wall and parapets (500 mm dia) *Note:-The labour rate for 300 mm dia Hume pipe may be decreasing by 20%*	2298.60	Rmt
9-8	Laying Cement Concrete Pipe NP4 (burried conduits) on first class bedding of granular material including fixing collar with cement sand mortar 1:2 but excluding excavation, protection works, backfilling, concrete and masonary work in head wall and parapets. (500 mm dia) *Note:-The labour rate for 300 mm dia Hume pipe may be decreasing by 20%*	2741.70	Rmt
9-9	Plain Cement Concrete M10 (1:3:6 nominal mix) in levelling course below open foundation of Head walls as per drawings & Technical Specification Clause 1109	Rate as per item No.8-4-2	
9-10	Brick Masonry Work in cement mortar in foundation of Head walls complete exculding pointing and plastering as per drawing and technical specification Clause 1109		

Sl. No.	Description	Rate	Unit
9-10-A	Brick Masonry in 1:4 cement mortar	Rate as per item No.7-1-3	
9-10-B	In cement-lime mortar (1:0.5:4.5)	7643.70	
9-11	Stone Masonry Work in cement mortar in foundation of Head walls complete as per drawing and technical specification Clasue 1109		
9-11-A	In 1:4 cement mortar	Rate as per item No.7-1-4	
9-11-B	In cement-lime mortar (1:0.5:4.5)	5320.00	
9-12	Pointing with Cement Mortar (1:3) on brickwork as per technical specification Clause 613.3	Rate as per item No.8-4-4	
9-13	Plastering with Cement Mortar (1:4), 15 mm thick on brickwork in substructure as per technical specification	Rate as per item No.8-5-5	
9-14	Backfilling in Foundation Trenches as per drawing and technical specification Clause 1108	1689.50	
9-15	Providing PCC M20 Architectural Coping on the top of wing wall, return wall etc. complete as per drawing and technical specification Clause 615	Rate as per item No.7-1-5	

Sl. No.	Description	Rate	Unit
Chapter 10 - TRAFFIC SIGNS, MARKINGS AND OTHER ROAD APPURTENANCES			
10-1	Printing New Letters and Figures of any Shade Printing new letter and figures of any shade with synthetic enamel paint black or any other approved colour to give an even shade as per drawings and Technical Specification Clause 1701		
10-1-1	Hindi (Matras commas and the like not to be measured and paid for. Half letters shall be counted as half only)	1.20	cm.height
10-1-2	English and Roman	0.70	cm.height
10-2	Traffic Signs		
10-2-A	Retro-reflectorised Traffic Signs		
10-2-A-1	Providing and fixing of retro-reflectorised cautionary, mandatory and informatory sign as per IRC:67 made of encapsulated lens type reflective sheeting vide Clause 1701.2.3 fixed over aluminium sheeting, 1.5 mm thick supported on a mild steel angle iron post 75 mm x 75 mm x 6 mm firmly fixed to the ground by means of properly designed foundation with M15 grade cement concrete 450 mm x 450 mm x 600 mm, 600 mm below ground level as per drawings and Technical Specification Clause 801		
10-2-A-1-1	900 mm equilateral triangle	3126.80	No.
10-2-A-1-2	600 mm equilateral triangle	2846.40	No.
10-2-A-1-3	600 mm circular	3057.70	No.
10-2-A-1-4	800 mm x 600 mm rectangular	3385.40	No.
10-2-A-1-5	600 mm x 450 mm rectangular	3036.10	No.
10-2-A-1-6	600 mm x 600 mm square	3185.80	No.
10-2-A-1-7	900 mm side octagon	3704.80	No.
10-2-A-2	Providing and fixing of retro-reflectorised cautionary, mandatory and informatory sign as per IRC:67 made of encapsulated lens type reflective sheeting vide Clause 1701.2.3, fixed over aluminium sheeting, 1.5 mm thick supported on GI pipe 50 mm dia firmly fixed to the ground by means of properly designed foundation with M-15 grade cement concrete 450 mm x 450 mm x 600 mm, 600 mm below ground level as per drawings and Technical Specification Clause 1701		
10-2-A-2-1	900 mm equilateral triangle	2714.00	No.
10-2-A-2-2	600 mm equilateral triangle	2391.30	No.
10-2-A-2-3	600 mm circular	2602.50	No.
10-2-A-2-4	800 mm x 600 mm rectangular	2930.30	No.
10-2-A-2-5	600 mm x 450 mm rectangular	2580.90	No.
10-2-A-2-6	600 mm x 600 mm square	2730.60	No.
10-2-A-2-7	900 mm side octagon	3249.70	No.

Sl. No.	Description	Rate	Unit
10-2-A-3	Providing and fixing of retro-reflectorised cautionary, mandatory and informatory sign as per IRC:67 made of encapsulated lens type reflective sheeting vide Clause 1701.2.3, fixed over aluminium sheeting, 1.5 mm thick supported on RCC Post 100 mm x 100 mm firmly fixed to the ground by means of properly designed foundation with M15 grade cement concrete 450 mm x 450 mm x 600 mm, 600 mm below ground level as per approved drawing Clause 1701		
10-2-A-3-1	900 mm equilateral triangle	2279.50	No.
10-2-A-3-2	600 mm equilateral triangle	1966.20	No.
10-2-A-3-3	600 mm circular	2171.30	No.
10-2-A-3-4	800 mm x 600 mm rectangular	2489.50	No.
10-2-A-3-5	600 mm x 450 mm rectangular	2150.30	No.
10-2-A-3-6	600 mm x 600 mm square	2295.70	No.
10-2-A-3-7	900 mm side octagon	2799.60	No.
10-2-B	Semi Reflective Traffic Signs Providing and fixing of semi reflective cautionary, mandatory and informatory sign board as per IRC:67 made of 1.5 mm thick MS Sheet duly stove white colour in front and gray colour on back with red reflective border of 65 mm width and required letters and figures with reflective tape engineering grade as per Clause 1701.3.9 of MORD for Rural Roads of required shade and colour supported and welded on 47mm x 47 mm x 12 SWG sheet tube firmly fixed to the ground by mean of properly designed foundations with M-15 grade cement concrete 450x450x600 mm, 600 mm below ground level as per approved drawing Clause 1701.2.2		
10-2-B-1	900 mm equilateral triangle	2445.10	No.
10-2-B-2	600 mm equilateral triangle	2266.50	No.
10-2-B-3	600 mm circular	2383.40	No.
10-2-B-4	800 mm x 600 mm rectangular	2564.70	No.
10-2-B-5	600 mm x 450 mm rectangular	2371.40	No.
10-2-B-6	600 mm x 600 mm square	2454.30	No.
10-2-B-7	900 mm side octagon	2741.40	No.
10-3	Direction and Place Identification signs upto 0.9 sqm size board		
10-3-A	Retro-reflectorised Traffic Signs *Note:-Lettering and arrow markings on sign board to be provided separately as per actual requirement. Rates for these items have been analysed separately.*		

Sl. No.	Description	Rate	Unit
10-3-A-1	Providing and erecting direction and place identification retro-reflectorised sign as per IRC:67 made of encapsulated lens type reflective sheeting vide Clause 1701.2.3, fixed over aluminium sheeting, 2 mm thick with area not exceeding 0.9 sqm supported on a mild steel single angle iron post 75 x 75 x 6 mm firmly fixed to the ground by means of properly designed foundation with M-15 grade cement concrete 450 x 450 x 600 mm, 600 mm below ground level as per approved drawing and Technical Specification Clause 1701	4537.90	Sqm
10-3-A-2	Providing and erecting direction and place identification retro-reflectorised sign as per IRC:67 made of encapsulated lens type reflective sheeting vide Clause 1701.2.3, fixed over aluminium sheeting, 2 mm thick with area not exceeding 0.9 sqm supported on 2 inch dia GI Pipe firmly fixed to the ground by means of properly designed foundation with M-15 grade cement concrete 450 x 450 x 600 mm, 600 mm below ground level as per approved drawing and Tehnical Specification Clause 1701.	3983.70	Sqm
10-3-A-3	Providing and erecting direction and place identification retro-reflectorised sign as per IRC:67 made of encapsulated lens type reflective sheeting vide Clause 1701.2.3, fixed over aluminium sheeting, 2 mm thick with area not exceeding 0.9 sqm supported on RCC Post 100 mm x 100 mm firmly fixed to the ground by means of properly designed foundation with M-15 grade cement concrete 450 x 450 x 600 mm, 600 mm below ground level as per approved drawing and Technical Specification Clause 1701	3519.80	Sqm
10-3-B	Semi-Reflective Traffic signs Direction and place indentification signs up to 0.9 sqm size board Providing and erecting direction and place identifications of semi reflective sign boards as per IRC:67 made of 2 mm thick M.S. Sheet duly stove enameled paint in white colour in front and grey colour on back with red reflective border of 70 mm width and required message, letters, figures with reflective engineering grade tape as per MORD specifications of required shade and colour. Supported and welded on 47 mm x 47mm of 12 SWG Square tube of 3050 mm height duly strengthened by 25 mm x 5 mm M/s flat iron on edges on back firmly fixed to the ground by means of properly designed foundations with M-15 grade cement concrete 450 mm x 450 mm x 600 mm, 600 mm below ground level as per approved drawing and Technical Specification Clause 1701	3538.20	Sqm
10-4	Direction and Place Identification signs with size more than 0.9 sqm size board		
10-4-A	Retro-reflectorised Traffic Signs		

Sl. No.	Description	Rate	Unit
	Note:-Lettering and arrow markings on sign board to be provided separately as per actual requirement. Rates for these items have been analysed separately.		
10-4-A-1	Providing and erecting direction and place identification retro-\reflectorised sign as per IRC:67 made of encapsulated lens type reflective sheeting vide Clause 1701.2.3, fixed over aluminium sheeting, 2 mm thick with area exceeding 0.9 sqm supported on mild steel angle iron posts 75 mm x 75 mm x 6 mm, 2 Nos. firmly fixed to the ground by means of properly designed foundation with M-15 grade cement concrete 450 mm x 450 mm x 600 mm, 600 mm below ground level as per approved drawing and Technical Specification Clause 1701	5096.60	Sqm
10-4-A-2	Providing and erecting direction and place identification retro-reflectorised sign as per IRC:67 made of encapsulated lens type reflective sheeting vide Clause 1701.2.3, fixed over aluminium sheeting, 2 mm thick with area exceeding 0.9 sqm supported on dia GI Pipe firmly fixed to the ground by means of properly designed foundation with M-15 grade cement concrete 450 mm x 450 mm x 600 mm, 600 mm below ground level as per approved drawing and Technical Specification Clause 1701	4489.80	Sqm
10-4-A-3	Providing and erecting direction and place identification retro- reflectorised sign as per IRC:67 made of encapsulated lens type reflective sheeting vide Clause 1701.2.3, fixed over aluminium sheeting, 2 mm thick with area exceeding 0.9 sqm supported on RCC Posts 100 mm x 100 mm firmly fixed to the ground by means of properly designed foundation with M 15 grade cement concrete 450 mm x 450 mm x 600 mm, 600 mm below ground level as per approved drawing and Technical Specification Clause 1701	3887.10	Sqm
10-4-B	Semi-Reflective Traffic signs Direction and place identification signs more than 0.90 sqm sign board Providing and erecting direction and place identification of semi reflective sign boards as per IRC-67 made of 2 mm thick M.S. Sheet duly stove enameled paint white colour in front and grey colour on back with reflective border of 70 mm width and required message, letters, figures with reflective tape of engineering grade as per MORD specifications of required shade and colour. Supported and welded on two nos. 47 mm x 47 mm of 12 SWG square tube of 3050 mm height duly strengthened by 25 mm x 5 mm MS flat iron on edges on back firmly fixed to the ground by means of properly designed foundations with M-15 grade cement concrete 450 mm x 450 mm x 600 mm, 600 mm below ground level as per approved drawing and Technical Specification Clause 1701	3996.70	Sqm

Sl. No.	Description	Rate	Unit
10-5	Painting Two Coats on New Concrete Surfaces Painting two coats including primer coat after filling the surface with synthetic enamel paint in all shades on new, plastered / concrete surfaces as per drawing and Technical Specification Clause 1701	118.90	Sqm
10-6	Painting on Steel Surfaces Providing and applying two coats of ready mix paint including primer coat of approved brand on steel surface after through cleaning of surface to give an even shade as per drawing and Technical Specification Clause 1701	110.90	Sqm
10-7	Painting on Concrete/Steel Surfaces with Epoxy Painting two coats including prime coat with epoxy paint of approved brand on concrete/steel surfaces after through cleaning of surface to give an even shade as per drawing and Technical Specification Clause 1701	91.80	Sqm
10-8	Painting lines, Dashes, Arrows, etc. on Road in Two Coats on New Work 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/concrete surface, including cleaning the surface of all dirt, dust and other foreign matter, demarcation at site and traffic control as per drawing and Technical Specification Clause 1702	138.30	Sqm
10-9	Painting lines, Dashes, Arrows, etc. on Road in Two Coats on Old Work Painting lines, dashes, arrows, etc. on roads in two coats on old work with ready mixed road marking paint conforming to IS:164 on bituminous/concrete surface, including cleaning the surface of all dirt, dust and other foreign matter, demarcation at site and traffic control as per drawing and technical specification Clause 1702	98.50	Sqm
10-10	Kilometre Stone Reinforced cement concrete M15 grade kilometre stone/local stone of standard design as per IRC:8 fixing in position including painting and printing, etc as per drawing and Technical Specification Clause 1703		
10-10-1	5th Kilometre Stone (precast)	4533.20	No.
10-10-2	Ordinary Kilometer Stone (Precast)	2675.80	No.
10-10-3	200 m stone (precast)	732.80	No.
	Note:In case local stone is to be used in place of precast RCC stones, then rate of cement concrete and steel reinforcement may be deleted.		
10-11	Boundary Pillar Reinforced cement concrete M15 grade boundary pillars/local stone of standard design as per IRC:25, fixed in position including finishing and lettering but excluding painting as per drawing and Technical Specification Clause 1704	296.60	No.
	Note:In case local stone is to be used in place of precast RCC stones, then rate of cement concrete and steel reinforcement may be deleted.		

Sl. No.	Description	Rate	Unit
10-12	G.I Barbed Wire Fencing 1.2 m high Providing and fixing 1.2 m high GI barbed wire fencing with 1.8 m RCC posts 150 mm x 150 mm placed every 3 m centre-to-centre founded in M15 grade cement concrete, 0.6 m below ground level, every 15th post, last but one end post and corner post shall be strutted on both sides and end post on one side only and provided with 9 horizontal lines and 2 diagonals interwoven with horizontal wires, fixed with GI staples, turn buckles etc. complete as per Clause 1705.	443.10	Rmt
10-13	G.I Barbed Wire Fencing 1.8 m high Providing and fixing 1.8 m high GI barbed wire fencing with 2.4 m RCC M15 grade 150 mm x 150 mm concrete post placed every 3 m centre-to-centre founded in M15 grade cement concrete, 0.6 m below ground level, every 15th post, last but one end post and corner post shall be strutted on both sides and end post on one side only and provided with 12 horizontal lines and 2 diagonals interwoven with horizontal wires, fixed with GI staples, turn buckles etc. complete as per Clause 1705.	617.20	Rmt
10-14	Tubular Steel Railing on Medium Weight Steel Channel (ISMC series) 100 mm x 50 mm Providing, fixing and erecting 50 mm dia steel pipe railing in 3 rows duly painted on medium weight steel channels (ISMC series) 100 mm x 50 mm, 1.2 m high above ground, 2 m centre-to-centre, complete as per approved drawings Clause 1706	2292.50	Rmt
10-15	Tubular Steel Railing on Precast RCC posts, 1.2 m high above Ground Level Providing, fencing and erecting 50 mm dia painted steel pipe railing in 3 rows on precast M-20 grade RCC vertical posts 175 mm x 175 mm x 1.8 m high (1.2 m above Gl) with 3 holes 50 mm dia for pipe, fixed 2 m centre-to- centre complete as per approved drawings Clause 1706	1913.20	Rmt

Sl. No.	Description	Rate	Unit
10-16	Providing and Fixing 'Logo' of PMGSY Project Providing and fixing of typical PMGSY informatory sign board with Logo as per MORD specifications and drawing. Three MS Plates of 1.6 mm thick, top and middle plate duly welded with MS flat iron 25mm x 5m size on back on edges. The lower plate will be welded with MS angle iron frame of 25mm x 25mm x 5mm. The angle iron frame of the lower most plate and flat iron frame of middle plate will be welded to 2 nos. 75mm x 75 mm of 12 SWG sheet tubes posts duly embedded in cement concrete M-15 grade blocks of 450mm x 450mm x 600mm, 600mm below ground level. The top most diamond plate will be welded to middle plate by 47mm x 47mm of 12 SWG steel plate tube. All M.S. will be stove enameled on both sides. Lettering and printing arrows, border etc. will be painted with ready mixed synthetic enamel paint of superior quality in required shade and colour. All sections of framed posts and steel tube will be painted with primer and two coats of epoxy paint as per drawing Clause 1701 and Annexure 1700.1	15408.50	One typical board
10-17	Traffic Cone Provision of red fluorescent with white reflective sleeve traffic cone made of Low Density Polyethylene (LDPE) material with a square base of 390 x 390 x 35 mm and a height of 770 mm, 4 kg in weight, placed at 1.5 m interval, all as per BS:873	169.70	No.
10-18	Rumble Strips Provision of 15 nos. rumble strips covered with premix bituminous carpet, 15-20 mm high at centre, 250 mm wide placed at 1 m centre-to-centre at approved locations to control speed, marked with white strips of road marking paint. :- The rate per sqm of premix carpet and road marking may be adopted from Chapters 5 & 10 respectively for the quantities calculated from approved drawings.		
10-19	Safety Devices and Signs in Construction Zones Provision and fixing of traffic signs for limited period at suitable locations in construction zone comprising of warning zone, approach transition zone, working zone and terminal transition zone with a minimum distance of 2-3 m from the edge of the carriageway. The bottom edge of the lowest sign plate to be not less than 2 m above the road level, fixed on 600 mm x 600 mm x 6 mm angle iron post, founded and installed as per approved design and drawings, removed and disposed of after completion of construction work, all as per IRC:SP:55-2001. *Following types of signs are required to be fixed in construction zones for safety of traffic:* a) Diversion one km ahead b) Traffic sign ahead c) Road ahead closed		

Sl. No.	Description	Rate	Unit
d)	Men at work		
e)	Road narrow		
f)	Un-even road		
g)	Slippery road		
h)	Loose chippings		
i)	Diversion		
j)	Do not enter		
k)	Road closed		
l)	Stop		
m)	Slow		
n)	Speed limit		
	Note:The rate for traffic signs are already worked out and given elsewhere in this Chapter. The same may be adopted.		

Sl. No.	Description	Rate	Unit
Chapter 11 - FOUNDATION			
11-1	Excavation for Structures Earthwork in excavation for structures as per drawing and technical specifications Clause 305.1 including setting out, construction of shoring and bracing, removal of stumps and other deleterious material and disposal upto a lead of 50 m, dressing of sides and bottom and backfilling in trenches with excavated suitable material.		
11-1-1	Ordinary soil		
11-1-1-1	Upto 3 m depth	497.10	Cum
11-1-1-2	3 m to 6 m depth	590.30	Cum
11-1-2	Ordinary rock (not requiring blasting) Upto 3 m depth	621.40	Cum
11-1-3	Hard rock (requiring blasting) Upto 3 m depth including 1.5 m depth in hard rock	952.10	Cum
11-1-4	Hard rock (blasting prohibited) Upto 3 m depth including 1.5 m depth in hard rock	875.90	Cum
11-1-5	Marshy soil	932.00	Cum
11-2	Fillling in foundation trenches as per drawing and technical specification Clause 305.3.9		
11-2-1	Sand filling	2582.10	Cum
11-2-2	Earth filling (For marshy soil)	319.10	Cum
11-3	Filling annular space around footing in rock as per technical specification Clause 1203.4.3. P.C.C grade M 15 Nominal mix 1:2.5:5	Rate as Per Item no. 11-4-2	
11-4	Providing concrete for plain/ reinforced concrete in open foundations complete as per drawings and technical specifications Clause 802, 803, 1202 & 1203		
11-4-1	P.C.C grade M 10		
11-4-1-1	Nominal mix 1:3:6	6553.50	Cum
11-4-1-2	Nominal mix 1:3.6 (Hand mixing)	6682.50	Cum
11-4-2	P.C.C grade M 15		
11-4-2-1	Nominal mix (1:2.5:5)	6539.70	Cum
11-4-2-2	Nominal mix 1:2.5:5 (Hand mixing)	6668.70	Cum
11-4-3	P.C.C. grade M 20		
11-4-3-1	Nominal mix (1:2:4)	7518.40	Cum
11-4-3-2	Nominal mix 1:2:4 (Hand mixed)	7647.50	Cum
11-4-4	R.C.C grade M 20	8426.60	Cum
11-4-5	R.C.C. grade M 25	8954.00	Cum
11-5	Brick masonry work in cement mortar in foundation complete excluding pointing and plastering as per drawing and technical specifications Clauses 600, 1202 & 1203		
11-5-1	Brick masonry in 1:3 cement mortar	8967.90	Cum
11-5-2	Brick masonry in 1:4 cement mortar	8662.90	Cum
11-5-3	Brick masonry in cement-lime-mortar (1:0.5:4.5)	8662.90	Cum

Sl. No.	Description	Rate	Unit
11-6	Stone masonry work in cement mortar in foundation complete as per drawing and technical specifications Clauses 702, 704, 1202 & 1203.		
11-6-1	Coursed rubble masonry (1st sort)		
11-6-1-1	In 1:3 cement mortar	6310.60	Cum
11-6-1-2	In 1:4 cement mortar	5929.30	Cum
11-6-1-3	In cement-lime-sand mortar (1:0.5:4.5)	6772.40	Cum
11-6-2	Coursed rubble masonry (2nd sort)		
11-6-2-1	In 1:3 cement mortar	5944.80	Cum
11-6-2-2	In 1:4 cement mortar	5525.40	Cum
11-6-2-2	In cement-lime-mortar (1:0.5:4.5)	7073.70	Cum
11-6-3	Random Rubble Masonry		
11-6-3-1	In 1:3 cement mortar	5521.30	Cum
11-6-3-2	In cement mortar 1:4	5101.90	Cum
11-6-3-3	In cement lime mortar (1:0.5:4.5)	6029.30	Cum
11-7	Supplying, fitting and placing HYSD bar reinforcement in foundation complete as per drawings and technical specifications Clauses 1000 and 1202	75199.30	Tonne
11-8	Supplying, fitting and placingTMT bar reinforcement in foundation complete as per drawings and technical specifications Clauses 1000 and 1202	75199.30	Tonne
11-9	Supplying, fitting and placing MS bar reinforcement in foundation complete as per drawings and technical specifications Clauses 1000 and 1202	76416.20	Tonne

Sl. No.	Description	Rate	Unit
Chapter 12 - SUBSTRUCTURE			
12-1	Brick masonry work in cement mortar in substructure complete excepting pointing and plastering, as per drawing and technical specification Clauses 602, 603, 604, 1202 & 1204		
12-1-1	In 1:3 cement mortar	9416.30	Cum
12-1-2	In 1:4 Cement mortar	9096.00	Cum
12-1-3	In 1:5 cement mortar	8923.60	Cum
12-1-4	In cement lime mortar (1:0.5:4.5)	9804.20	Cum
12-2	Pointing with cement mortar (1:3) on brickwork as per drawing and technical specification Clauses 613.3 and 1204	100.90	Sqm
12-3	Plastering with cement mortar (1:4), 15 mm thick on brickwork in substructure as per technical specification Clauses 613.4 & 1204	251.80	Sqm
	Note:-If cement plaster 12 mm or 18 mm thick is required elsewhere only the quantity of cement mortar may be changed on prorata basis without any change in the labour.		
12-4	Stone masonry in cement mortar for substructure complete as per drawing & technical specification Clauses 702, 704, 1202 and 1204		
12-4-1	Coursed rubble masonry (1st sort)		
12-4-1-1	In 1:3 cement mortar	6626.10	Cum
12-4-1-2	In 1:4 cement mortar	6225.80	Cum
12-4-1-3	In cement mortar (1:5)	5806.80	Cum
12-4-1-4	In cement lime mortar (1:0.5:4.5)	7111.00	Cum
12-4-2	Coursed Rubble masonry (2nd sort)		
12-4-2-1	In 1:3 cement mortar	6242.00	Cum
12-4-2-2	In 1:4 cement mortar	5801.70	Cum
12-4-2-3	In cement mortar (1:5)	5564.60	Cum
12-4-2-4	In cement lime mortar (1:0.5:4.5)	6775.40	Cum
12-4-3	Random rubble masonry		
12-4-3-1	In 1:3 cement mortar	5797.40	Cum
12-4-3-2	In 1:4 cement mortar	5357.00	Cum
12-4-3-3	In cement mortar (1:5)	5119.90	Cum
12-4-3-4	In cement lime mortar (1:0.5:4.5)	6330.70	Cum
12-5	Plain/reinforced cement concrete in substructure complete as per drawings and technical specification Clauses 802, 804, 805, 806, 807, 1202 ans 1204 (For height upto 5 m)		
12-5-1	P.C.C grade M 15		
12-5-1-1	Nominal mix (1:2.5:5)	6917.00	Cum
12-5-1-2	Nominal mix 1:2.5:5 (Hand mixing)	7053.50	Cum
12-5-2	P.C.C. grade M 20		
12-5-2-1	Nominal mix (1:2:4)	7952.20	Cum
12-5-2-2	Nominal mix 1:2:4 (Hand mixed)	8088.70	Cum

Sl. No.	Description	Rate	Unit
12-5-3	R.C.C grade M 20	8912.80	Cum
12-5-4	R.C.C. grade M 25	9493.40	Cum
12-6	Supplying, fitting and placing HYSD bar reinforcement (Fe 415) in substructrue complete as per drawings and technical specification Clauses 1002, 1005, 1010 & 1202 (The reinforcement steel shall be procured from original (primary) steel producers as per clause no. 2011.3.1 of MORD specifications (First revision'2014) and IS 1786:2008 clause no. 1.6)	75459.30	Tonne
12-7	Supplying, fitting and placing TMT bar reinforcement (Fe 415) in substructrue complete as per drawings and technical specification Clauses 1002, 1005, 1010 & 1202 (The reinforcement steel shall be procured from original (primary) steel producers as per clause no. 2011.3.1 of MORD specifications (First revision'2014) and IS 1786:2008 clause no. 1.6)	75459.30	Tonne
12-8	Supplying, fitting and placing with MS bar reinforcement (Fe 415) in substructrue complete as per drawings and technical specification Clauses 1002, 1005, 1010 & 1202 (The reinforcement steel shall be procured from original (primary) steel producers as per clause no. 2011.3.1 of MORD specifications (First revision'2014) and IS 1786:2008 clause no. 1.6)	76676.30	Tonne
12-9	Providing weepholes in brick masonry/stone masonry, plain/reinforced concrete abutment, wing wall, return wall with 100 mm dia AC pipe extending through the full width of the structures with slope of 1(V):20(H) towards drawing face complete as per drawing and technical specification Clauses 614, 709, 1204.3.7	206.00	Rmt
12-10	Backfilling behind abutment, wing wall and return wall complete as per drawings & technical specification Clause 1204.3.8		
12-10-1	Granular material	2080.40	Cum
12-10-2	Sandy material	3042.10	Cum
12-11	Providing and laying filter media with granular crushed aggregates as per specification to a thickness of not less than 600 mm with smaller size towards the soil and bigger size towards the wall and providing over the entire surface behind abutment, wing wall, return wall to the full height, compacted to firm condition complete as per drawing and technical specification Clause 1204.3.8	2456.90	Cum
12-12	Fitting and fixing in position true to line and level elastomeric bearing (Excluding cost of Bearing) conforming to IRC:83 (Part-II) Section IX complete, including all accessories as per drawings and technical specification Clause 1207.1	0.05	Cu.Cm
12-13	Providing PCC M-20 architectural coping on the top of wing wall, return wall etc. complete as per drawing and technical specification Clauses 615, 710 and 1204.3.11	516.10	Rmt

Sl. No.	Description	Rate	Unit
12-14	Providing pressure relief pipes 100 mm dia in bottom slab of box cell on a filter media base of 500 mm x 500 mm as per drawing and technical specification Clause 1205.5.7	964.50	No.

Sl. No.	Description	Rate	Unit
Chapter 13 - SUPER STRUCTURE			
13-1	Providing and laying reinforced cement concrete in superstructure as per drawing and technical specifications Clauses 800, 1205.4 and 1205.5		
13-1-1	R.C.C grade M 20		
13-1-1-1	For nominal mix 1:2:4		
13-1-1-1-A	Height upto 5m	9723.10	Cum
13-1-1-1-B	Height 5m to 10 m	10128.20	Cum
13-1-1-1-C	Height above 10m	10533.30	Cum
13-1-1-2	For nominal mix 1:2:4 (Hand mixed)		
13-1-1-2-A	Height upto 5m	9784.40	Cum
13-1-1-2-B	Height 5m to 10m	10192.00	Cum
13-1-1-2-C	Height above 10m	10599.70	Cum
13-1-1-3	For Design Mix RCC M-20		
13-1-1-3-A	Height upto 5m	9488.50	Cum
13-1-1-3-B	Height 5m to 10 m	9883.80	Cum
13-1-1-3-C	Height above 10m	10279.20	Cum
13-1-2	R.C.C M 25		
13-1-2-A	Height upto 5m	10309.60	Cum
13-1-2-B	Height 5m to 10 m	10739.10	Cum
13-1-2-C	Height above 10m	11168.70	Cum
13-1-3	R.C.C M 30		
13-1-3-A	Height upto 5m	10661.50	Cum
13-1-2-B	Height 5m to 10 m	11105.70	Cum
13-1-2-C	Height above 10m	11549.90	Cum
13-2	Supplying, fitting, and placing HYSD bar reinforcement in superstructure complete as per drawing and technical specifications Clauses 1002, 1010 and 1202	77267.70	Tonne
13-3	Supplying, fitting, and placing TMT bar reinforcement in superstructure complete as per drawing and technical specifications Clauses 1002, 1010 and 1202	77267.70	Tonne
13-4	Supplying, fitting, and placing MS bar reinforcement in superstructure complete as per drawing and technical specifications Clauses 1002, 1010 and 1202	78484.60	Tonne
13-5	Providing and laying cement concrete wearing course M 30 grade including reinforcement complete as per drawing and technical specifications Clauses 800 and 1206.3	15448.00	Cum
13-6	Construction of R.C.C. railing of M 25 grade in cast-in-situ with 20 mm nominal size aggregate, true to line and grade, tolerance of vertical railing post not to exceed 1 in 500, centre-to-centre spacing between vertical posts not to exceed 2000 mm as per drawing and technical specifications Clauses 800, 900 and 1208.3	3442.20	Rmt

Sl. No.	Description	Rate	Unit
13-7	Providing fitting and fixing mild steel railing complete as per drawing and technical specifications Clause 1208.2	107.70	Kg
13-8	Providing and fixing in position pipe railing consisting of IS Rolled steel joist posts designation IS MB 100 (100x75) at 2.5 m interval and three rows of 50 mm dia steel pipes (light) including fixing in position on bridge deck complete as per drawing and technical specifications Clause 1208.2	2540.50	Rmt
13-9	Brick masonry work in cement mortar 1:3 in parapet excluding pointing and plastering as per drawing and technical specifications Clauses 600, 900 and 1208.4	8967.90	Cum
13-10	Drainage spouts complete as per drawing and technical specifications Clause 1209	1813.80	No.
13-11	P.C.C. M 15 ordinary grade (1:2.5:5) levelling course below approach slab complete as per drawing and technical specifications Clauses 800 and 1211		
13-11-1	Nominal mix (1:2.5:5)	6288.20	Cum
13-11-2	Nominal mix 1:2.5:5 (Hand mixing)	6412.30	Cum
13-12	Reinforced Cement Concrete M 25 grade approach slab including reinforcement and formwork complete as per drawing and technical specifications Clauses 800 and 1211	14173.00	Cum
13-13	Laying of an elastomeric slab seal expansion joint (Excluding Cost of Material) complete as per approved drawing and approved specifications to be installed by manufacturer/supplier or their authorised representative ensuring compliance to the manufacturer's instructions for installlation and as per technical specifications Clause 1207.2.5	94.80	Rmt
13-14	Laying of compression seal joint (excluding cost of Joint but including cost of Galvanised angle section) consisting of steel armoured nosing at two edges of the joint gap suitably anchored to the deck concrete and a preformed chloroprene elastomer or closed cell foam joint sealer compressed and formed into the joint gap with special adhesive binder as per drawing, and technical specifications Clause 1207.2.4	2740.40	Rmt
13-15	Providing and laying a buried expansion joint, covered with 12 mm thick, 200 mm wide galvanised weldable structrual steel plate as per IS:2062, placed symmetrical to centre line of the joint, resting freely over the top surface of the deck concrete, welding of 8 mm dia, 100 mm long galvanised nails spaced 300 mm c/c along the centre line of the plate, as per technical specifications Clauses 1207.2.3	2295.60	Rmt
13-16	Filler Joint *Note:-For arriving at the final rate for filler joints per m length and per cm depth of joint filling compound, the rates of Sr. Nos (i), (ii), (iii) and (iv) shall be added.*		

Sl. No.	Description	Rate	Unit
13-16-1	Providing and fixing 2 mm thick corrugated copper plate in expansion joint as per drawing and technical specifications Clause 1207.2.2	2162.40	Rmt
13-16-2	Providing and fixing 20 mm thick compressible fibre board in expansion joint complete as per drawing and technical specifications	159.70	Rmt
13-16-3	Providing and fixing in position 20 mm thick premoulded joint filler in expansion joint for fixed ends of simply supported spans, covered with sealant complete as per drawing and technical specifications	26.70	Rmt
13-16-4	Providing and fillling joint sealing compound as per drawings and technical specifications with coarse sand and 6 per cent bitumen by weight.	62.80	Rmt
13-17	Stone masonry in cement mortar 1:3 for parapet complete as per drawing and technical specifications Clauses 700 and 1208.4		
13-17-1	Random rubble masonry	Ref Item no 12-4-3-1	
13-17-2	Coursed rubble masonry (1st sort)	Ref Item no 12-4-1-1	
13-18	Pointing with cement mortar (1:3) on brickwork in parapet as per technical specifications Clauses 613.3 and 1208.4	Ref Item no 12-2	
13-19	Plastering with cement mortar (1:3) 15 mm thick on brickwork in parapet as per technical specifications Clauses 613.4 and 1208.4	Ref Item no 12-3	
13-20	Providing and laying parapet with PCC M 15 as per drawing & technical specifications Clauses 800 and 1208.4		
13-20-1	Nominal mix 1:2.5:5 (Hand mixing)	Ref Item no 12-5-1-2	
13-20-2	Nominal mix (1:2.5:5)	Ref Item no 12-5-1-1	
13-21	Providing bituminous wearing coat comprising of 20 mm thick premix carpet with 5 mm thick seal coat Type B for culverts as per drawing and technical specifications Clauses 1206.2 and 500 *Note :- This type of wearing coat may be adopted where a cushion is provided over the culvert and the adjoining road pavement is continued over it.* i. Rate for wearing coat as per item No. 5.9 of Chapter 5 ii. Rate for seal coat Type B as per item No. 5.12 of Chapter 5		
13-22	Providing bituminous wearing coat comprising of 50 mm thick bituminous macadam overlaid by 20 mm thick premix carpet with 5 mm thick seal coat Type B i. Rate for BM layer may be analysed as per item No 5.3 of Chapter 5 ii. Rate of 20 mm premix carpet wearing course as per item No.5.9 of Chapter 5 iii. Rate of seal coat Type B as per item No. 5.12 of Chapter 5		
13-23	Brickwork in arches in cement mortar 1:4 complete including centering and shuttering excluding pointing and plastering as per drawing and technical specifications Clauses 606 and 1205.1	20451.20	Cum

Sl. No.	Description	Rate	Unit
13-24	Coursed rubble stone masonry arch (Ist sort) in cement mortar (1:4) complete including centering etc. complete as per drawing and technical specifications Clauses 706 and 1205.1	13239.60	Cum
13-25	Providing & Laying reinforced cement concrete arch complete including centering and shuttering excluding reinforcement as per drawings and technical specifications Clauses 800, 900 and 1205.1 *Note :-The additional cost of centering and shuttering @ 50 per cent of cost of material and labour shall hold good for arch spans of 6 m and above. For lesser length of spans, the corresponding additional cost can be taken as 40 per cent for spans above 4 m length and 30 per cent for spans less than 4m.*		
13-25-1	RCC grade M20 (1:2.4) nominal mix	12245.50	Cum
13-25-2	RCC Grade M 25	12549.40	Cum
13-26	Providing steel R.S.Js/built-up steel sections including cutting, welding/rivetting, hoisting, fixing in position for composite girders with shear connectors complete with painting as per drawing and technical specifications Clause 1205.6		
13-26-1	Steel section	11094.80	Quintal

Sl. No.	Description	Rate	Unit
Chapter 14 - PROTECTION WORKS			
14-1	Providing and laying boulder apron for bed protection with stone boulders of minimum size and weight as per Table 1300.1, no fragment weighing less than 25 kg laid dry complete as per drawing and technical specifications Clause 1301	1567.00	Cum
	Note :-Nominal excavation required for preparation of bed has been taken into account while making provisions for labour.		
14-2	Providing and laying of boulder apron laid in wire crates with 4 mm dia GI wire (@ 32 Kg/ 10 Sqm) conforming to IS:280 and IS:4826 in 100 mm x 100 mm mesh (woven diagonally) including 10 per cent extra for laps and joints laid with stone boulders weighing not less than 25 kg each as per drawing and technical specifications Clause 1301	2412.30	Cum
	Note :-1. Nominal cost of trimming for preparation of bed has been included in the cost of labour *2. The analysis will by & large hold good for gabions*		
14-3	Providing and laying of apron with cement concrete blocks of size as per Table 1300.1 cast-in-situ and made with nominal mix of M-15 grade cement concrete as per drawing and technical specifications Clause 1301	6670.50	Cum
14-4	Single bamboo palasiding / walling of whole 2nd class bamboo (Jati or Bethua) 75mm dia and closely packed & driven including fitting fixing with half bamboo kamis horizontally in three rows with cane or tying with wire complete and struts 1.5 m apart longitudinally and providing brush wood as per drawing and technical specifications Clause 1302.5		
14-4-A	Driven at least 900 mm below ground and 1200 mm above ground	845.80	Rmt
14-4-B	Driven at least 900 mm below ground and 900 mm above ground on average	680.20	Rmt
14-5	Providing and laying pitching on slopes laid over prepared filter media as per drawing and technical specifications Clause 1302		
14-5-1	Stone/Boulder	1567.00	Cum
14-5-2	Cement concrete blocks of size as per Table 1300.2 cast in cement concrete of grade M 15	6670.50	Cum
14-5-3	Brick pitchng set in cement mortar 1:4	7649.30	Cum
14-6	Providing and laying filter material underneath pitching in slopes complete as per drawing and technical specifications Clause 1302	2053.60	Cum
	Note:-Labour cost includes labour required for trimming of slope to proper profile and preparation of bed.		
14-7	Providing and laying flooring laid over cement concrete bedding complete as per drawing and technical specification Clause 1303 (Cement concrete bedding M-10 to be taken as per design and Paid Separately)		

Sl. No.	Description	Rate	Unit
	Note:-Quantity of cement mortar is inclusive of mortar for laying and filling of joints.		
14-7-1	Rubble stone laid in cement mortar 1:3	4666.50	Cum
14-7-2	Cement conrete blocks grade M 15	6605.10	Cum
14-7-3	Brick on edge laid in cement mortar (1:3)	8573.10	Cum
14-8	Providing and laying of dry rubble flooring complete as per drawings and technical specifications Clause 1303.3	2426.90	Cum
14-9	Providing and laying curtain walls complete as per drawing and technical specification Clause 1304		
	(Other items like excavation for foundation, filling behind wall, filter media, weep holes, etc. shall be added separately as per approved design.)		
14-9-1	Brick masonry in cement mortar (1:4)	Ref Item No. 7-1-3	
14-9-2	Coursed rubble masonary (2nd sort) in cement mortar (1:4)	5119.10	Cum
14-9-3	Cement concrete grade M 10	Ref Item No. 8-4-2	
14-10	Construction of flexible apron 1 m thick comprising of loose stone boulders weighing not less then 25 kg beyond curtain wall	1651.90	Cum
14-11	Construction of toe walls for protection of slopes as per drawing and technical specifications Clause 1302.5		
14-11-1	Random rubble masonry in case of stone pitching laid with cement mortar (1:5)	4306.90	Cum
	Note:-For height less than 3 m, dry rubble masonry can also be used. In that case, the sub-item of cement mortar may be omitted in the analysis.		
14-11-2	Brick masonry in cement mortar 1:4 in case of brick pitching	8153.70	Cum
14-11-3	Cement concrete grade M 10 in case of concrete block pitching		
	PCC Grade M-10 (Nominal mix 1:3:6)	5782.50	Cum
14-12	Single bamboo spur and palisading of whole 2nd class bamboo (jati or Bethua) 65 mm to 75 mm dia and closely packed & driven, including fitting, fixing with half bamboo kamis horrizontally in three rows with cane or tying wire complete and struts 1500 mm apart longitudinally and providing brush wood as per drawing and technical specifications Clause 1302.5		
14-12-A	Driven at least 900 mm below ground and 1800 mm above ground on average	976.40	Rmt
14-12-B	Driven at least 900 mm below ground and 900 mm above ground on average	680.20	Rmt

Sl. No.	Description	Rate	Unit
14-13	Single bamboo spur and palisading of whole 1st class bamboo (Bholuka or Barua) 85 mm to 100 mm dia. Closely packed & driven including fitting, fixing with half 2nd class bamboo (jati or Bethua) horizontally in three rows with cane or tying wire complete and struts 1500 mm apart longitudinally and providing brush wood in the spur as per drawings and technical specifications		
14-13-A	Driven at least 900 mm below ground and 1800 mm above ground	1026.60	Rmt
14-13-B	Driven at least 900 mm below ground and 900 mm above ground on average	598.60	Rmt
14-13-C	Driven at least 600 mm below ground and 1200 mm above ground on average.	564.50	Rmt
14-14	Bamboo spur 'A' type with whole bamboo 85mm-100mm dia, placed 230 mm centre to centre driven 900 mm below ground and 1200 mm to 1500 mm above ground tied with 2nd class bamboo (jati or Bethua) on either side at 450 mm apart horizontally with galvanised wire etc. complete as per drawings and technical specifications		
14-14-1	2nd class bamboo (jati or Bethua) 75 mm dia	819.60	Rmt
14-14-2	1st class bamboo (Bholuka or Barua) 85 mm to 100 mm dia	706.60	Rmt
14-15	Providing 'A' type single spur with 1st class bamboo (Bholuka or Barua) 85 mm to 100 mm dia. Driven closely placed 3m to 4m above ground and 1200 mm to 1500 mm below ground tied with cane or coir string, half 2nd class bamboo (jati or Bethua) horizontally on both face placed not more than one metre apart including whole bamboo struts inside one metre apart and 2 nos. of purlin at top and bottom fitted with vertical struts at 1500 mm apart and filling with brushwood or jungle wood inside the spur complete as per drawing and technical specifications	1685.00	Rmt
14-16	Providing close bamboo toe walling consisting of 65mm to 75mm dia bamboos of length ranging from 1.2 m to 3m driven at 150 mm centre to centre and provided with three horizontal split bamboo runner fixed with nails. All bamboos to be duly protected by coal tar painting.	884.50	Rmt
14-17	Double timber spur with two rows at 800 mm c/c apart of 1st class local wood piles with timber of Azar/Nahar/Nageswar / Zarul wood 150 mm to 200 mm dia driven 2000 mm minimum below ground and 3600 mm above ground average placed at 800 mm belts, bracings etc. of 100 mm x 75 mm size 1st class local wood longitudinally & crosswiswe at ends fitted with 10 mm dia bolts and nuts etc. including coaltarring of timber members and cost of necessary bamboo stagings etc. as directed by the Engineer as per drawing and technical specifications	57155.80	Rmt
14-18	Supplying and filling up hollows of the timber spur to an average height of 3600 mm above ground with jungle wood branches as per drawing and technical specifications as directed by the Engineer.	131.80	Rmt

Sl. No.	Description	Rate	Unit
Chapter 15 - MAINTENANCE OF ROADS			
15-1	Restoration of Rain Cuts Restoration of rain cuts with soil, moorum gravel or a mixture of these, clearing the loose soil, benching for 300mm width laying fresh material in layers not exceeding 250 mm and compaction with plate compactor or power rammer to restore the original alignment, level and slopes as per drawings and technical specifications Clause 1902		
15-1-A	Manual Means	582.00	Cum
15-1-B	Mechanical Means	429.80	Cum
15-2	Maintenance of Earthen shoulder		
15-2-1	Maintenance of Earthen shoulder (filling with fresh selected soil) Making up loss of material/irregularities on shoulders to the design level by adding fresh approved selected soil and compacting it with appropriate equipment at OMC upto a lead of 1000 m as per technical specification Clause 1903	86.30	Sqm
15-2-2	Maintenance of Earhen shoulder (stripping of excess soil) Stripping excess soil from the shoulder surface to achieve the approved level and compacting with plate compactor at OMC as per drawings and Technical Specification Clause 1903	17.30	Sqm
15-3	Maintenace of bituminous surface road		
15-3-1	Repair to pot holes by removal of failed material, trimming the sides to vertical and levelling the bottom, cleaning the same with compressed air or any appropriate method filled with 75mm B.M, applying bitumen emulsion prime coat at the bottom and bitumen emulsion tack coat on sides and on bottom as per technical specifications Clauses 502 and 503.	10641.00	Cum
15-3-2	Patch repair on already filled pot holes with 75 mm BM with 20 mm premix carpet and seal coat Type B as per drawings and technical specification Clause 1904.2	301.30	Sqm
15-3-3	Repair to pot holes and removal of loose material, trimming of sides, cleaning of surface by providing tack coat, 20 mm thick pre-mix carpet and seal coat type B specification Clause 1904.2	323.00	Sqm
15-3-4	Repair to pot holes and removal of loose material, trimming of sides, cleaning of surface by providing tack coat with bitumen emulsion, 20 mm thick pre-mix carpet using catonic bitumen emulsion and seal coat type B with bitumen emulsion	323.50	Sqm
15-4	Maintenance of Gravel Road Maintenance of gravel road including making up the loss of profile, rectifying corrugated surface, filling up of depressions, pot holes and erosion gullies by adding fresh material and compacting it with appropriate equipment or to strip excess of material from the road surface as per drawings and technical specification Clause 1905	448.50	Sqm

Sl. No.	Description	Rate	Unit
15-5	Maintenance of WBM Road Maintenance of WBM road including filling up of pot holes, ruts and rectifying corrugated surface, damaged edges and ravelling as per technical specification Clause 1906.	327.90	Sqm
	Note :-The cost of 25% retrived material may be deducted from rates.		
15-6	Maintenance of Drains The maintenance of drains include erosion, repair, clearing, cleaning, reshaping, regrading, deepening of side drains as well as catch water drains as per technical specification Clause 1907.	4.40	Rmt
15-7	Maintenance of Culverts		
15-7-1	Maintenance of Hume pipe Culvert by way of Clearing, Cleaning, Erosion repair, repairs to cracks, parapet wall and protection work as per drawing and technical specification Clause 1908	1637.60	No.
15-7-2	Maintenance of Slab type Culverts by way of clearing, Cleaning, Erosion repair, repairs to cracks, parapet walls and Protection works as per drawing and technical specification Clasue 1908	3375.30	No.
15-8	Maintenance of Causeway Maintenance of Causeway by way of minor Surface repairs, replacing Guide Posts, repair of flood gauges, removal of debris, providing boulders and protection work and painting as per technical specification Clause 1909	81.10	Rmt
15-9	Maintenance of Road Signs Maintenance of road signs by way of cleaning and repainting of mandatory / requlatory / cautionary / informatory and place identifications sign board as perdrawings and technical specification Clause 1910	1517.00	Km
15-10	Maintenance of steel and RCC Railing		
15-10-1	Repair of steel railing to bring it to original shape cleaning and repainting as per drawing and technical specification Clause 1911	352.90	Rmt
15-10-2	Repair of RCC railing to bring it to the original shape, cleaning and repainting as per drawings and technical specification Clause 1911	1998.10	Rmt
15-11	Maintenance of 200 metre and km stones Maintenance of 200 metre km stone by way of refiting of tilted stones repairing with cement mortar, cleaning, repairing and lettering on 200 metre km stone and 5th km stone as per drawing and technical specification Clause 1912	938.50	Km
15-12	Cutting of branches of trees shrubs and trimming of grass and weeds		
15-12-1	Cutting of branches of trees and shrubs from the road way or with in R.O.W including disposal of wood and leaves to suitable location as per technical specification Clause 1914	171.10	Trees of 900 mm average Girth
15-12-2	Cutting of shrubs from the road way or with in R.O.W and disposal of shrubs to suitable locations as per technical specifications Clause 1914	11.00	shrubs

Sl. No.	Description	Rate	Unit
15-12-3	Trimming of grass and weeds from the shoulders/berms and disposing off the same to suitable locations as per technical specifications Clause 1914	3.70	Sqm
15-13	White washing of parapet walls of CD work and tree truncks White washing two coats on parapet walls and tree trunks including preparation of surface by cleaning scraping etc. as per technical specifications Clause 1915	23.80	Sqm
15-14	Periodical Renewal to existing bituminous surface		
15-14-1	Open graded Premix carpet 20 mm thick		
	1) Tack coat	Rates as per item 5-2-2	
	2) Pre-mix carpet using bituminous (penetration grade modified bitumen) binder	Rates as per item No. 5-9	
	Or		
	Premix carpet using bitumen Emulsion	Rates as per item No. 5-10	
	3) Seal coat Type A, B or C	Rates as per item No. 5-11	
15-14-2	Surface dressing single coat/first coat or 2nd coat	Rates as per item No. 5-6	