

SECTION - 9

ITEM RATE BOQ PRICE SCHEDULES (FINANCIAL BID)

SECTION 9 - PRICE SCHEDULE**TABLE OF CONTENTS**

Sl. No.	Description	Page No.
	PREAMBLE TO BILL OF QUANTITIES	
1.	GENERAL REQUIREMENTS	2
2.	EXPLANATORY NOTES TO 'BILL OF QUANTITIES' (BOQ)	5
	2.1 General	5
	2.2 Procurement Program	5
	2.3 Tender Prices	5
	2.4 Quantities	5
	2.5 Units and Currency	6
	2.6 Rates & Sums to be for Work Finished Complete	6
	2.7 Allowances in Rates and Prices	7
	2.8 Tender Pricing	8
	2.9 Measurement and Payment	9
	Price Schedule (Financial Bid) (Schedule 'A' to 'F')	9

**BENGALURU SUBURBAN RAIL PROJECT (BSRP)
PRICE SCHEDULES (FINANCIAL BID)
ITEM RATE TENDER**

NAME OF WORK: Design and Construction of 2nos of Road over bridge (ROB) and 1nos Road Under bridge (RUB) along with construction of service road and drainage arrangements in Lieu of Level crossings (3 LC) in section between Heelalige to Bennigenahalli of the Corridor-4 (Heelalige to Rajankunte). Bangalore.

PREAMBLE TO BILL OF QUANTITIES

1. GENERAL REQUIREMENTS:

1. The Bill of Quantities shall be read in conjunction with the Instructions to Bidders, Conditions of Contract, Notice Inviting Tender, Particular Specifications, Tender Drawings, Schedule, Annexure, Addendums and corrigendum.
2. The quantities given in the "Bill of Quantities" are approximate and provisional and are given to provide a common basis for Bidding. The basis of payment will be the actual quantities of work executed at site, as measured and verified by the Engineer and valued at the accepted rates in the priced "Bill of Quantities", where applicable.
3. The bidder should quote his rate only in the Financial Bid / Price Bid Summary sheet provided in the Price bid section of the E-Tender Portal and nowhere else in the technical bid section.
4. The same shall be in Indian Rupees both in figures and in words.
5. If knowingly or unknowingly the rate is quoted / indicated anywhere in the Technical submission / uploading of the entire Bid document / Corrigendum / Addendum, the bid will be rejected outright and will not be considered for any further evaluation.
6. The quoted rates are for completed and finished items of work and complete in all respects. It will be deemed to have included all constructional plant, tools, machinery, labour, supervision, materials, fuel, oil, consumables, electric power, water, transportation, all leads and lifts, dewatering, facilities for quality control, all temporary works and false works, construction of temporary stores and buildings, fencing, watering, lighting, erection maintenance, night working, inspection facilities, safety measures at work sites/casting yard for workmen and road users, preparation of design and drawings pertaining to the casting yard, staging, shuttering, form work, stacking yard etc., establishment and overhead charges, labour camps, insurance costs for labour and works, contractor's profit, all taxes, royalties, duties, cess and other levies will be payable, Custom tariff act etc. and other charges together with all general risks, liabilities and obligations set out or implied in the contract and including remedy of any defects during the Defect Liability Period, unless otherwise provided in BOQ. Applicable GST shall be paid extra.
7. Providing concrete for all works deemed to be inclusive of the cost towards production of concrete by Batching Plant, transit mixer, transportation of concrete with all leads and lifts, form work, shuttering including staging as required, pouring of concrete by pump/tower crane to all heights / depths, tremie or other approved means, compaction by vibrators, curing by approved means such as water, steam or curing compound and all labour, tools, plants, facilities for quality control, machinery required for execution of work complete in all respects including de-shuttering after completion of work.

8. The entire cost of complying with the provisions of the Contract shall be deemed to have been included in the quoted rates.
9. General directions and description of works and materials are not necessarily repeated or summarized in the Bill of Quantities.
10. The method of measurement of completed work for payment shall be in accordance with the requirements as stated in the individual sections of the Particular Specifications, Employer Requirements & Technical Specifications.
11. Errors will be corrected by the Employer for any arithmetical errors in computation or summation as indicated in Contract Document.
12. Bidder may please note that to perform this contract, nothing extra shall be payable on account of field constraints, availability of front, preparation of detailed scheme for taking necessary clearance and approval from the concerned authority and other local bodies etc.
13. Geo technical data given in is an indicative only for bidding purpose.
14. Identified utilities & unidentified/ buried / hidden utilities (if any left-over) shall be shifted by contractors. Payment for such diversion will be made under relevant payment Schedule. If work is stopped due to unidentified / buried / hidden utilities, no claim shall be entertained on this account.
15. The Bidder's offer shall be inclusive of all taxes and duties payable by them, income Tax and any other statutory taxes (If any) excluding GST, will be deducted by the Employer in accordance with the prevailing taxation act, Income Tax Act and any other acts in force and in accordance with instructions issued by the Authorities, from time to time.
16. Rate quoted shall be exclusive of GST.
17. The item description is intended to briefly describe the work to be performed under that item and to identify associated work. It is not a full and complete description of the work to be performed. The Contractor shall carry out all the work necessary to meet the requirements of the Specification to achieve the intended performance.
18. All items of work mentioned in the Bill of Quantities shall be read and executed strictly in accordance with the description of the item in the Bill of Quantities, Technical Specifications, codes, requirement of the Statutory Authorities etc.
19. The Contractor is required to comply with all the applicable & latest codes and standards, statutory requirement, local, State & Central regulatory authorities as applicable. Complete liaison work related to all approvals, visits, documentation, drawings, expenses, official charges, handling charges etc., is deemed to be included in the offer and no extra payment shall be entertained under any pretext.
20. The rate for each item of work and percentage (above or below or at par) quoted included in the bill of quantities shall unless expressly stated otherwise includes cost of:
 - 20.1 All materials, fixing materials, accessories, hardware, operations, tools, equipment, consumables, and civil works wherever involved and incidentals required in preparation for in the full and entire execution and completion of the work called for in the item as per specification and drawings completely including any wastage of materials and labour.
 - 20.2 Making good all the damages, openings etc., to the civil works/structures done and cleaning while executing the works under this Contract.
 - 20.3 The rate also includes all charges like packing and forwarding charges, handling, loading, unloading, transportation, transit and other insurance, hoisting to all levels, setting and fixing in position, disposal of debris including all other labour, Liabilities, obligations and risks arising out of conditions of contract and Liasoning for obtaining approval from statutory & Local authorities.

- 20.4 -Deleted-
- 20.5 In the event of conflict between the bill of quantities and other documents, the order of priority as indicated in clause 1.5 of Part B – Specific provisions of bid document Section 7 shall be applicable and interpretation of the Engineer in this shall be final and binding.
- 20.6 -Deleted-
- 20.7 Supply of materials shall mean supply of materials at site. The rate for supply shall include all taxes, duties, octroi, and insurance, packing and forwarding charges, transportation and unloading at site.
- 20.8 The contractor shall submit the shop drawings, fabrication drawings with details., to the Engineer for approval prior to supply/commencement of such works. The approval of these drawings will be general and will not absolve the contractor of the responsibility of the correctness of these drawings. At least six copies of the approved drawings shall be submitted to the Engineer for their distribution to various agencies at site at no cost to the Employer.
- 20.9 The contractor must see the site conditions such as type of soil, locations etc., and take all factors into consideration while quoting in the BOQ as no extra cost will be allowed on any ground arising out of or relating to the site conditions.
- 20.10 Any error in description or in quantity or omission of items from the contract shall not violate this contract but shall be corrected and deemed to be a variation required by the Engineer.
- 20.11 All testing and calibrating charges for the Meters shall be included in the installation price of the Meter Cubicle.
- 20.12 -Deleted-
- 20.13 The contractor shall take into account the expenses of pre-commissioning tests to be conducted as per specification of the complete installation by licensed agencies.
- 20.14 The stages of Schedule F to be considered for design and drawing submission and Approval.
21. Important Notes to Bidders:
1. The bidder should quote his total amount in Summary of Price Schedule against Schedule -A, Schedule - B, Schedule – C and Schedule –D.. Schedule E is fixed provisional cost. In the financial bid section, the bidders should enter in the template provided for abstract of amount of all schedules (Summary sheet) by filling in the last column of quoted INR against each of the schedules which shall be inclusive of all the taxes, duties, levies, cess, etc. Excluding GST.
 2. The bidder should quote the amount in **Schedule - A to D (Schedule E will be the Fixed Provisional cost)** in the "Financial Bid" envelope of e-tender portal.
 3. The **Schedule “E”** is **Fixed Lump sum** provision for incidental and unforeseen items likely to occur during the execution of work. Whenever KPWD items are not available other department items (i.e. SWR -USSOR / CPWD / BESCOM / KPTCL / BWSSB) shall be considered as per sequence of priority and with the approval of Employer. If the same item is available in all schedules of rates given above, then the priority of schedule of rates is as follows: a) KPWD; b) SWR-USSOR; c) CPWD; d) BESCOM; e) KPTCL; f) BWSSB If SR rate 2023-24 or latest.
 4. For comparison of the quoted bid price by the bidders, the grand total of the quoted amount from all Schedules (i.e. **schedule “A” to Schedule “E”**) shall be taken into consideration.
 5. Employer reserves the right to omit / partially execute any items in any of the **Schedules** during construction without any liability to either party.
 6. In the financial bid section, the bidders should enter in the template provided for abstract of amount of all schedules (Summary sheet) by filling in the last column of quoted INR against each of the schedules which shall be inclusive of all the taxes, duties, levies, cess, etc. (excluding GST).

2. EXPLANATORY NOTES FOR ‘BILL OF QUANTITIES’ (BOQ)

2.1 General

- 2.1.1 The Contract includes the following but is not limited to:
The revision of design, verification of site data, drawings, programs for execution, schedule of ordering, schedule of receipt.

2.2 – Deleted -**2.3 Tender Prices**

The Tenderer's attention is drawn to the following facts while quoting the prices for the Contract:

- 2.3.1 The prices (including percentage above or below or at par) quoted in the Bill of Quantities shall be inclusive of all applicable duties and any other charges leviable excluding GST.

A BOCW cess at the rate as specified by 'The Building and Other Construction Workers Welfare Cess Act, 1996, of the Total Bill Amount shall be deducted from each Interim Payment Certificate (IPC) of the Contractor.

- 2.3.2 The prices (including percentage above or below or at par) quoted in the Bill of Quantities and accepted by the Employer shall be 'fixed' throughout the Contract Period and are not subject to variation on any account.

2.3.3 DELETED**2.3.4 DELETED****2.3.5 DELETED****2.3.6 Record of Taxes & Duties**

The Contractor shall maintain complete records in respect of payments made by them for taxes and duties payable to various authorities (except Income Tax or Corporate Tax) and advise the Employer the summary of such payment every month in a format advised by the Employer during execution of the contract.

The detailed records shall however remain open for inspection by the Employer/ Engineer at any time and copies of the records shall be furnished as required by the Employer.

The amount payable/recoverable from the Contractor will generally be calculated based on these records along with supporting documents. However, Employer at his sole discretion, if not satisfied with the veracity of records or records are incomplete or otherwise, may separately determine the amount payable/recoverable from the contractor in accordance with the conditions of the Tender, which shall be final and binding.

The Contractor shall also maintain records of the imported components supplied to local manufacturers and actual utilization of the same in the manufacture of complete equipment. The Contractor shall be fully responsible for any loss or misuse of these components in manufacture of equipment's.

The contractor shall submit the copies of the monthly returns filed, once in three (3) months to ascertain the status of GST refunded claimed on account of inverted duty structure.

The Contractor shall furnish along with the 2nd and subsequent IPCs copies of all the purchases of Goods and Services made within the State of Karnataka in the format prescribed and furnish the details to the Employer, if any required, for claiming reimbursement of state taxes from the Govt. of Karnataka as per approved funding pattern for the project.

2.3.7 Statutory Clearance

The Contractor shall be solely responsible for discharging all the statutory payments to the authorities concerned including custom duty, IGST, GST and Income tax, etc.

2.4 Quantities

2.4.1 For the purpose of this Contract, all unit quantities given in the Bills of Quantities and in tender drawings are the estimated quantities (Tentative) of the Works and are intended in the first instance to provide a common basis for Tendering and Tender Evaluation. Quantities may vary as per the site conditions and actual quantity to be procured after preparation of shop drawings and approval of the same. When a Contract has been entered into, the function of the Priced Bill of Quantities is to provide for the valuation of the work executed. No alteration of any rate or price shall be allowed on account of any difference between the quantities billed and the actual quantities measured from the drawings.

2.4.2 The Tenderer shall make himself completely acquainted with all conditions, obligations, specifications, drawings, etc.; of the Tender Documents before quoting his prices. He shall have no right to claim any price revision on the basis of ignorance of the Tender Documents or local conditions, or to make any claims as regards the integrity of the unit prices of the Bill of Quantities.

2.5 Units and Currency

2.5.1 All sizes and quantities entered in the Bills of Quantities are in metric units.

2.5.2 The currency to be used in the Contract will be Indian Rupees only. The Tenderer shall fill in each column with unit rate or lump-sum as the case may be, for each item of the Bill of Quantity, on the basis of the Tender documents and pre-tender survey. The prices (including percentage above or below or at par) quoted in the Bill of Quantities are for completed and finished items of work and complete in all respects, it is considered to have included all constructional plant, tools, materials, machinery, labour, supervision, fuel, oil, consumables, electric power, water, transportation, all leads and lifts, dewatering, all temporary works, false work, form work, construction of temporary stores and buildings, fencing, watering, lighting, erection, maintenance, night working, inspection facilities, safety measures at worksites, road users overhead charges, labour camps, insurance costs for labour and works, overheads, profits etc.;

2.5.3 Any cutting/overwriting/striking off in Bill of Quantities shall be initialled by the authorized representative of the Tenderer before submission of Tender without which it will not be taken into consideration by the Employer.

2.6 Rates & Sums to be for Work Finished Complete

2.6.1 Tenderers shall be deemed to have read the Employer's Requirements and other parts of the Tender Documents and reviewed the Drawings to ascertain the full scope of the requirements included in each item prior to filling in the rates and prices and shall be deemed to include the full scope of the Contract, including overheads and profits and shall bear a proper relationship to the cost of carrying out the work described.

2.6.2 Notwithstanding any limits that may be implied by the wording of the individual items and/or the explanations in the Preamble, the rates and prices, which are entered in the Bill of Quantities, shall be for the work finished complete in every respect.

2.6.3 The Tenderer shall be deemed to have taken full account of all requirements, liabilities, obligations and risks, whether expressed or implied, and to have priced the items accordingly. The Items in the Bills of Quantities are the only items against which payment will be made. The cost of any item of work not specifically described or measured in the Bills of Quantities but required for the execution of the Contract shall be included in the rates and prices for the measured items in the Bills of Quantities. The rates and prices shall therefore include for all incidental and contingent expenses and risks of every kind necessary to supply, install, test and commission (including Integrated Testing and Commissioning) complete, and remedying any defects in the whole of the Works in accordance with the Contract.

2.7 Allowances in Rates and Prices

2.7.1 Full allowance shall be made in the prices against the various items in the Bills of Quantities for all costs involved in performing the following except to the extent that work is specifically described and paid for in the Bills of Quantities. The list below is not exhaustive and the Tenderers are expected to take all costs involved while quoting the rates and prices that will not be subject to variation on any account.

- a) all setting out and final survey work;
- b) temporary access roads and bridges, fencing, watching and security, lighting.
- c) paying fees (subject to GCC / PCC clauses) and giving notices to Authorities;
- d) payment of all patent rights and royalties;
- e) reinstatement of the Site;
- f) safety precautions and all measures to prevent erosion and suppress fire and other hazards;
- g) interference to the Works by persons, vehicles, and the like being legitimate users of the facilities on or in the vicinity of the Site;
- h) the protection and safety of the Employer trains and services;
- i) the protection and safety of Railway trains and services on adjacent tracks;
- j) supplying, maintaining and removing on completion, the Contractors own accommodation, offices, depots, stores, workshops, transport, welfare services and other facilities including telephones and facsimile machines and all charges in connection therewith;
- k) the supply, inspection, testing, packaging and transportation of materials and of the Works as specified including the provision and use of equipment and arrangements for the Engineer's Inspectors and others;
- l) maintaining public thoroughfares and footpaths, and maintaining access upon existing recognised routes;
- m) providing, transporting to the Site, setting to work, operating (including all fuel and consumable stores), maintaining and removing from the Site upon completion all Construction Plant and Contractor's Equipment necessary for the execution of the Works and including the cost of all tests and other requirements in respect of such; plant and equipment;
- n) working adjacent to or across existing services and installations;
- o) complying with the requirements of the Employer in regard to Safety and Health, Quality Assurance, Environmental and project implementation plans and making periodical submissions;
- p) co-ordination and interference to the Works by the works of Designated Contractors and others employed by the Employer being legitimate users of the facilities on or in the vicinity of the Site;
- q) remedying of defects and shrinkage, and works of amendment, reconstruction, replacement of other faults, fair wear and tear excepted, during Defects Liability Periods;
- r) Insurance, including all risks in supply, erection, storage, transit, third party, Workmen's Compensation and others;
- s) All tools, and equipment required for all tests prior and after delivery and for testing and commissioning installed systems;
- t) Carrying out all modifications to the given drawings, preparing construction detailed drawings and supplying originals, copies, and electronic files in accordance with employer's requirement.
- u) Marine Insurance
- v) All risk Insurance after arrival of goods in India
- w) Custom clearance / Port Clearance (if applicable)
- x) Handling at Port of arrival in India (if applicable)
- y) Inland transportation from port of arrival or manufacturer's works to site of work
- z) Various bank guarantees / warranties/undertakings.

2.8 Tender Pricing

- 2.8.1 The Tenderer shall take regard of the actual site conditions and the estimated quantities entered in the Bill of Quantities. The Tenderer shall price his tender accordingly and the rates and prices entered against a line item shall be the full and only price paid for all work performed against that item except as described in the Tender Documents.
- 2.8.2 Not used.
- 2.8.3 The Tenderer shall quote the rates and prices in words as well as in figures. Any cutting/overwriting in Bill of Quantities shall be initialled by the authorized representative of the Tender.
- 2.8.4 Items against which no rates or prices are indicated in the Bill of Quantities, will not be paid for by Employer when executed and shall be deemed to have been covered in the rates of other item/s and prices in the Bill of Quantities.

2.9 Measurement and Payment

- 2.9.1 This Contract is primarily a re-measure contract with items that are described herein. For the re-measure items, the total price paid for a work item will be varied by the quantities actually performed. The quantities indicated in the BOQ and tender drawings are tentative quantity may vary as per the site conditions and actual quantity to be procured after preparation of shop drawings and approval of the same. The final quantities shall be based on quantities actually executed, measured and certified as per approved built drawings by the Engineer.
- 2.9.2 The measurement and payment described is for the purpose of making a valuation of the work acceptable to the Engineer, and Interim Payments to the Contractor, as work proceeds. All interim payments shall be without prejudice in accordance with relevant clause of GCC and PCC. The Works as executed will be measured for assessment of progress for interim payments in accordance with the method adopted in the relevant standard/Specification, the Bills of Quantities and under the items as set forth notwithstanding any custom to the contrary.
- 2.9.3 Deleted.
- 2.9.4 Notwithstanding anything stated herein, the Engineer retains the right to withhold payment on any pay item due for payment when the works to be performed are not performed or are not carried out to the Engineer's satisfaction in accordance with Specifications and Drawings.
- 2.9.5 Payment for items shall include for all costs incurred in procurement/manufacture, testing, inspection, shipping, hauling, off-loading, storing at site in Bangalore, installation, testing and commissioning including integrated testing and commissioning.
- 2.9.6 -Deleted-
- 2.9.7 -Deleted-.
- 2.10 -Deleted-.

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Section 9: Price Schedule (Financial Bid)**Name of Work:**

Corridor 4- Package 1: “Construction of 2nos of Road over bridge (ROB) and 1nos Road Under bridge (RUB) along with construction of service road and drainage arrangements in Lieu of Level crossings (3 LC).”

Sr. No.	Schedule	Total of Each Schedule	AMOUNT TO BE QUOTED BY TENDER EXCL. GST	
		Amount	In Figure	In Words
1	Schedule-A, Earthwork / Piling Earthwork, Piling, Concrete works, Structure steel fabrication and Erection, etc	49,33,93,069		
2	Schedule-B, Roofing, Supply & fixing of sign boards , Road works, Road marking Etc	6,96,92,018		
3	Schedule-C Steel / Construction of Embankment and Design Build & Maintenance of site/Project offices office fully furnished for the use of Engineer.	52,96,079		
4	Schedule-D Jacking and Launching of precast units etc	- 45,95,847		
5	Schedule-E Items Not Covered in Schedule A to D. Lump sum provision for incidental and unforeseen item likely to occur during the execution of work. These items of Schedule 'E' will be executed under latest schedule of rates published by KPWD. The cost under this Schedule stands fixed as Rs. 2,31,38,884 /- and this amount Two Crores Thirty one lakhs Forty thousand twelve Rupees only is provided as fixed amount in the summary of Financial Bid / Price Schedule. Whenever KPWD rates are not available Only other department rates (i.e. IR-USSOR / CPWD / BESCOM / KPTCL / BWSSB) shall be considered as per sequence of priority and with the approval of Engineer with the concurrence of Employer.	2,31,38,884	Fixed	
	Total Amount in Rs	59,61,15,897		

Construction of 2nos of Road over bridge (ROB) and Construction of 1nos Road Under bridge (RUB) along with construction of service road and drainages of Level crossings (LC) along the Corridor-4 Heelalige to Rajanukunte.

Bill of Quantities (BoQ)					
SL No	Item Description	Unit	Rate	Total	
				Quantity	Amount
	SCHEDULE A				
	EXCAVATION				
	Earthwork in excavation by mechanical means (Hydraulic Excavator)/Manual Means for foundations and floors of the bridges, retaining walls etc. including setting out, dressing of sides, ramming of bottom, getting out the excavated material, back filling in layers with approved material and consolidation of the layers by ramming and watering etc. including all lift, disposal of surplus soil up to a lead of 300m, all types of shoring and strutting with all labour and material complete as per drawing and technical specification as directed by Engineer in charge. Note: This item will be used for excavation work in connection with other miscellaneous works also like side drains, foundation for OHE masts and other miscellaneous structures in connection with Gauge Conversion, Doubling, New lines.				
1	All kinds of soils	Cum	195.09	14,045.00	27,39,969.97
	DESIGN MIX CEMENT CONCRETE				

2	<p>Providing and laying in position machine batched, machine mixed and machine vibrated Cement Concrete of specified grade as per approved Design Mix (mixed in Mobile Concrete Batching/Mixing Plant at site or RMC from approved plants) using 20mm graded crushed stone aggregate and coarse sand of approved quality in RCC raft foundation & Pile cap including finishing, using Plasticiser in approved proportions (as per IS:9103), to modify workability without impairing strength and durability complete as per specifications and direction of the Engineer in charge.</p> <p>Note:</p> <p>1. Payment for cement, reinforcement and shuttering shall be made extra under relevant item.</p> <p>2. Plasticiser shall invariably be used in approved proportion to increase workability with minimum possible quantity of cement for all grade of Design Mix Concrete unless it is specifically approved citing reasons for not using plasticiser at the stage of Mix Design and in that case deduction shall be made as per relevant item.</p>	Cum	2886.96	1,949.00	56,26,689.77
	<p>Providing and laying in position machine batched, machine mixed and machine vibrated Cement Concrete of specified grade as per approved Design Mix (mixed in Mobile Concrete Batching/Mixing Plant at site or RMC from approved plants) using 20mm graded crushed stone aggregate and coarse sand of approved quality for the following Reinforced cement concrete structural elements up to height of 9.0 m from foundation top level, including finishing, using Plasticiser in approved proportions (as per IS:9103), to modify workability without impairing strength and durability complete as per specifications and direction of the Engineer in charge. Note:1. Payment for cement, reinforcement and shuttering shall be made extra under relevant item.2. Plasticiser shall invariably be used in approved proportion to increase workability with minimum possible quantity of cement for all grade of Design Mix Concrete unless it is specifically approved citing reasons for not using plasticiser at the stage of Mix Design and in that case deduction shall be made as per relevant item.</p>				
3	Abutment & Pier	Cum	2963.95	3,257.00	96,53,590.12
4	Wing wall and Return wall	Cum	2963.95	775.00	22,97,062.43
5	Abutment cap, Pier Cap, Inspection Platform & Pedestal over Pier cap, Fender wall, Diaphragm wall etc.	Cum	3002.45	538.00	16,15,318.76

6	Approach slab at formation level, Dirt wall/ ballast wall at formation level	Cum	2925.45	3,190.66	93,34,118.60
7	<p>Providing and casting machine batched, machine mixed and machine vibrated Cement Concrete of specified grade as per approved Design Mix, mixed in Mobile Concrete Batching/Mixing Plant at site or RMC from approved plants, (Cast in-Situ/Pre-cast) in bottom/top slab, side walls, toe wall and sumps haunch filling head walls, thrust bed or any other component using 20mm graded crushed stone aggregate and coarse sand of approved quality of RCC box of any size including finishing, Plasticiser in approved proportions (as per IS:9103), to modify workability without impairing strength and durability, complete as per drawings and technical specifications as directed by Engineer in charge.</p> <p>Note:</p> <p>1. Payment for cement, reinforcement and shuttering shall be made extra under relevant item.</p> <p>2. Plasticiser shall invariably be used in approved proportion to increase workability with minimum possible quantity of cement for all grade of Design Mix Concrete unless it is specifically approved citing reasons at the stage of Mix Design and in that case deduction shall be made as per relevant item.</p>	Cum	3175.66	473.00	15,02,086.55

8	<p>Boring, providing and installation of bored cast in-situ Reinforced Cement Concrete piles of specified diameter (1200 mm) and length below pile cap of specified grade with Design Mix Cement Concrete, using 20mm graded crushed stone aggregate and coarse sand of approved quality, to carry a safe working load not less than specified, concreting by machine batching, machine mixing, scaffolding, using Admixture in approved proportion (as per IS:9103), placing with tremie pipe, chipping off of pile top to remove laitance concrete above cut off level etc., pumping and bailing out water, by percussion drilling using Direct Mud Circulation (DMC) or Bailor and Chisel technique by tripod and mechanical Winch machine, complete in all respect as per approved drawing, specification and direction of the Engineer in charge. b) 1200 mm diameter</p> <p>Note:1. Payment for only cement, reinforcement and permanent casing pipe (if any) shall be made extra.</p> <p>2. Length of the pile for payment shall be measured up to the bottom of RCC pile cap.</p> <p>3. Plasticiser shall invariably be used in approved proportion to increase workability with minimum possible quantity of cement for all grade of Design Mix Concrete unless it is specifically approved citing reasons for not using plasticiser at the stage of Mix Design and in that case deduction shall be made as per relevant item.</p>	Cum	5782.16	2,799.00	1,61,84,261.90
9	<p>Providing and laying in position Plain cement concrete of specified Nominal Mix for miscellaneous works like side drains, foundation for OHE masts and other miscellaneous structures excluding the cost of Cement, centering and shuttering - All work up to plinth level 1:1½:3 (1 Cement: 1½ coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size)</p>	Cum	2743.35	861.00	23,62,025.31
10	<p>Providing and fixing Weep Holes in Abutments, Wing walls and Return walls etc., of new bridges with 110mm dia UPVC pipe Type A ISI marked with all contractor's men, material, transportation, all taxes as per specifications and as directed by Engineer-in-Charge.</p>	M	239.09	371.00	88,701.53
11	<p>Supply & applying two coats of bitumen emulsion of Grade RS-1, conforming to IS:8887 on the top surface of concrete deck slab (New bridges) @ 1.70 kg/sqm after cleaning surface with all materials, labour, tools and plants, equipment etc. complete.</p>	Sqm	120.74	920.00	1,11,084.83

12	Providing and applying two coats of coal tar or bitumen conforming to IS:3117– latest version on the top and sides of RCC box/slabs @ 1.70 kg/sqm after cleaning the surface with all labour and materials complete job as directed by the Engineer.	Sqm	174.52	1,087.00	1,89,699.09
	Centering and shuttering including strutting, propping etc. and removal of form for ::				
13	All types of bridge sub-structures, e.g. pier, abutment, wing wall, retaining wall, RCC box type foundations, Abutment cap, Pier Cap, Inspection Platform & Pedestal over Pier cap, Fender wall, Diaphragm wall etc. up to 5m above ground level	Sqm	678.09	5,079.00	34,44,037.02
14	All types of bridge super-structures, e.g. slabs, I-girders, T-girders, Box girders etc. up to 5m above ground level.	Sqm	876.78	10,172.00	89,18,556.06
15	Extra for additional height over item no. 025031 & 025032 wherever required with adequate bracing, propping etc. over initial height of 5 metres for every additional height of 1 metre or part thereof.	Sqm	105.93	110.00	11,651.83
	STRIP SEAL OF EXPANSION JOINTS				
16	Providing and fixing in position of standard preformed sealed and slab type or strip seal elastomeric type expansion joints for Railway bridge or Road Over Bridges as per approved drawings and latest MORTH/IRC specifications complete in all respect as directed by Engineer in-charge. b) For 80mm expansion	M	8937.17	267.00	23,86,223.30
	LOAD TESTING OF PILE				
17	Conducting load test of a single pile up to specified capacity in accordance with IS:2911 (Part-IV) including installation of loading platform and preparation of pile head or construction of test cap and dismantling of test cap after test etc. with all labour, material, tool & plants, equipment, machinery, etc. complete as per drawing and specification, as directed by the Engineer.				
a	Initial load test above 100 ton and up to 250 T capacity pile	Each	88935.96	2.00	1,77,871.92
b	Extra for every increase of 50 ton in pile capacity or part thereof over 250 ton	Each	4918.12	12.00	59,017.45

18	Lateral load testing of single pile in accordance with "IS Code of practice IS:2911 (Part-IV) for determining safe allowable lateral load of pile" with all labour, material, tool & plants, equipment, machinery, etc complete as per drawing and specification as directed by the Engineer.				
a	Piles with lateral load capacity of above 50 ton and up to 100 ton	Each	32678.10	2.00	65,356.19
	LOAD TESTING OF SPAN				
19	Load testing of one or more spans of bridge as selected by the Engineer as per approved load test procedure following relevant IS/IRC/Railway codes with Contractor's labour, deflection measuring instruments, loading materials, recoding and analyzing the load testing results including all lead & lift, etc. complete as required. The rates are all inclusive and will be paid after load test is finished and girder is cleared of the kentledges/loading material etc. The load shall be 1.25 times the stipulated design load.				
a	For Span design load up to 100 MT	Each	80717.70	5.00	4,03,588.48
b	Extra for every increase of 1 MT or part thereof over 100 MT in the span design load capacity up to 800 MT	MT	285.55	2,458.00	7,01,889.76
	DRAINAGE SPOUT				
20	Providing and fixing in position GI Drainage Spouts of required length with Grating in RCC slab and filling bitumen along kerb as shown in drawing with contractor's pipes, bitumen, tools, equipment, lead, lifts etc. complete as per specifications and as directed by Engineer in-charge.				
a	50mm dia. Drainage Spouts	Metre	653.80	421.00	2,75,251.70
	EPOXY PAINT				
21	Applying Epoxy Poly-sulphate Paint three coats on existing bottom surface of deck slab including cleaning surface of dirt, dust & other foreign matter, sand papering, wire brushing as required with all Contractor's materials tools, machinery, scaffolding, lead, lifts etc. complete as per specifications and as directed by Engineer in- charge	Sqm	332.28	9,234.00	30,68,239.72
	PVC PIPE & FITTINGS				

22	Supplying and laying 160mm dia. PVC Pipes Class-I, capable for a pressure of 2.5 kg/sqm in footpath of ROB for laying cable with all Contractor's materials labour, tools, plant, machinery, vehicles, consumables, lead, lift etc. complete as per specifications and as directed by Engineer in-charge.	M	698.61	516.00	3,60,483.22
	METALIZING & PAINTING				
23	Metallizing of steel work of girders with sprayed aluminium after surface preparation by Sand/grit blasting, followed by one coat of etch primer (IS:5666) & one coat of Zinc Chrome primer (IS:104) and two coats of aluminium paint (IS:2339) with all labour, T&P and material as a complete job duly conforming to all relevant specifications and process given under Clause 39 of IRS-B1-2001. Note: Nominal Thickness of sprayed Aluminium coating shall be 150 microns. DFT of Zinc chrome primer shall be 25-30 microns and DFT of each coat of Aluminium paint shall be 12-14 microns.				
a	On new girder during fabrication	Sqm	645.89	6,878.00	44,42,432.90
	RAILING				
24	Providing and fixing railing used in rows for footpath or anti-crash barrier railing with B class G.I. pipe 65/50 mm nominal dia including cost of M.S. angle and channels in vertical posts, welding / bolting, priming painting with one coat ready mix Zinc Chromate conforming to IS:104 with DFT of 25-30Microns, followed by one coat of Zinc Chrome red oxide conforming to IS:2074 with DFT of 25 Microns with all material, labour, T&P as a complete job. Note: Cost of painting shall be paid extra under relevant item.	Kg	103.04	3,479.00	3,58,477.17
	POT-PTFE BEARING				

25	Design, supply, fitting and fixing in position true to line and level POT-PTFE bearing of 200 MT Capacity, consisting of a metal piston supported by a disc or un reinforced elastomer confined within a metal cylinder, sealing rings, dust seals, PTFE surface sliding against stainless steel mating surface, complete assembly to be of cast steel / fabricated structural steel, metal and elastomer elements complete as per IS:2062, IS:1030, AISI:304, AISI:316, IS:6911, BS:3784, IS:3400, IS:226, BS-5400, Bridge Code and as per approved drawing and Technical Specifications. The design of the bearings shall be submitted by the manufacturers / contractor and got approved from Railway before fixing. Test report after inspection of the bearings shall be submitted and got approved before the materials are lifted from the manufacturer premises.				
a	POT-cum -PTFE Bearing (Free end)	Each	60030.70	2.00	1,20,061.40
b	POT Bearing-Fixed Type	Each	80139.78	2.00	1,60,279.56
c	POT-cum -PTFE Guided (L)Bearing	Each	75910.95	2.00	1,51,821.91
d	POT-cum -PTFE Guided (T)Bearing	Each	80842.94	2.00	1,61,685.89
	ELASTOMERIC BEARING				
26	Design, manufacturing, supplying and fixing in position elastomeric bearing true to line and level conforming to IS:3400, IS:226, BS- 5400 under prestressed concrete girders/ Steel Girders, for Pre- cast as well as cast-in-situ girders as per approved drawing. The rate shall include cost of load test of one no. bearing from Railway approved firms and all fixing materials, equipments, machineries, labour, taxes, loading, unloading, leading, lifting etc. complete. Rates include getting the drawing approved from Railway and cost of inspection during manufacturing from railway approved organization. Note : 1. The rate is for finished item complete and paid only after fixing in position below the girder. 2. The volume shall be given in the drawing and no deduction shall be made for inserted steel plates etc.	Cu Cm	1.28	36,56,430.00	46,72,286.37
	FABRICATION OF STAGING RACKS				

27	Supplying fabricating and erecting welded and/or bolted and/or riveted steel work in built up sections, trusses and framed work, staging, racks, Height Gauge etc. for Steel Structures other than bridge girders, using RSJ, tees, angles and channels/flats, plates, gussets, round or square bars, cleats, bolts etc., with contractors own steel including cutting, bending, straightening, drilling, riveting, hoisting, fixing, erecting, welding, bolting etc., with Providing stiffeners wherever required as per approved drawing including applying a priming coat of a approved steel primer with all contractor"s materials, labour, tools & plants, lead & lift including crossing of tracks if required etc., complete as per specification and as directed by Engineer-in-charge. Note: The payment shall be made on the theoretical weight of main components and gusset plates only.	MT	104774.09	105.00	1,10,01,278.98
	RCC PIPE				
28	Providing & laying non pressure NP-4 Class RCC pipe with collars, jointing with 1:2 cement and ordinary sand mortar including testing of joints, but excluding earthwork with all labour and material as a complete job. Cement for mortar will be paid separately.(Pipes of 600mm dia and above will be laid using crane/hydra).				
a	450mm dia.	M	2380.11	60.00	1,42,806.48
	FABRICATION OF STEEL SUPERSTRUCTURE				

29	<p>Supplying, fabrication, assembling of all types of steel girders of specified spans with structural steel conforming to Quality "B0" Grade Designation E250 conforming to IS:2062, erection / slewing / end launching of steel girders with cranes or any other approved launching methods as per site conditions (not requiring traffic block) on sub-structure including provision of trolley refuges etc., complete as per approved QAP and drawings conforming to IRS-B1-2001 and other relevant codes and specifications.</p> <p>Note:</p> <p>1. Detailed fabrication and erection drawings & launching methodology will be prepared by the contractor and got approved from Railway.</p> <p>2. The rate is all inclusive including launching in position, complete in all respect except cost of (i) Painting / Metalising; (ii) Bearings & (iii) HSFG bolts which shall be paid extra under relevant item.</p> <p>3. The payment shall be made on the theoretical weight of main components and gusset plates only.</p> <p>4. Payment Schedule:</p> <p>(i) Receipt of material at site: 40%</p> <p>(ii) Fabrication of girders: 20%</p> <p>(iii) Erection/Launching: 20%</p> <p>(iv) Completion in all respects: 20%</p>				
A	Plate Girder/Semi Through Girder/Composite Girder (Steel Work)	MT	144887.22	457.00	6,62,13,459.61
B	Open web Girder	MT	162796.93	458.00	7,45,60,993.61
C	Extra for using steel conforming to Grade Designation E350 instead of Grade Designation E250 of Quality "B0" as per IS:2062	MT	4094.89	915.00	37,46,824.89
	SUPPLY OF HSFG BOLTS				
30	Supplying and fixing HSFG bolts of any dia and any length with suitable nuts including DTI washers conforming to IRS-B1-2001 for bridges and steel structures with contractors labour, tools and plants and lead and lift etc., complete.	Kg	156.10	27,440.00	42,83,412.58
	Assembly & Erection of Girder				

31	Assembling and erection of fabricated Steel girders on bearings at site with crane/derrick / any other approved means at site on sub structure with labour, equipment, T&P including site bolting with all temporary arrangements, scaffolding etc. with contractors design and scheme for longitudinal launching/side slewing (not requiring traffic block) approved by Railway. Rate includes drifts, service bolts, Holding down bolts etc. as per drawings. Note: Payment for HSFG bolts used if any will be made separately under relevant item				
A	Plate Girder/Semi Through Girder /Composite Girder more than 12.2 m span	MT	13464.22	457.00	61,53,148.44
B	Open web Girder	MT	20081.08	458.00	91,97,133.68
	BOULDER BACKING				
32	Supplying of stone boulders weighing not less than 35 kg each at specified bridge locations.	Cum	969.26	66.00	63,971.36
33	Providing and laying of filter media consisting of granular materials of GW, GP, SW groups as per IS:1498 (latest) in required profile behind boulder filling of abutments, wing walls / return walls etc. above bed level with all labour and material complete job as per drawing and technical specification of RDSO Guidelines.	Cum	2444.81	271.00	6,62,544.47
34	Providing Boulder Backing behind wing wall, return wall, retaining wall with hand packed boulders & cobbles with smaller size boulders toward the back including all lead, lift, labour & other incidental charges as complete work in all respect. Payment for boulder/cobbles will be done extra.	Cum	361.52	66.00	23,860.46
	STEEL REINFORCEMENT FOR RCC WORK				
35	Steel reinforcement of approved brands/makes for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete				
	Thermo-Mechanically Treated bars of grade Fe-500D or more of approved brands/makes.	kg	103.94	16,29,627.00	16,93,78,265.04

36	Providing, fabricating & fixing in position to exact design profiles, H.T.S. cables of all classification made from Low Relaxation strands conforming to IS:14268– latest version in Prestressed (Post-tensioned) Concrete girders/slabs etc. including supplying, cutting, making into cables with necessary spacers, colour coding, protecting with water soluble oil at all time, anchoring of cables, supplying and placing spiral corrugated type galvanized metal steel ducts sheathing made up of Cold Rolled Cold Annealed (CRCA) mild steel conforming to IS:513 of required diameter/ thickness, vent pipe, placing, bending, routing, fixing, stressing & grouting of cable ducts with cement grout, Anchorage sets in required number with provision for future prestressing if any including all lead and lift with contractor's own materials, labour, equipments etc. complete as per drawings & specifications. Rate also includes covering anchorage pads with epoxy mortar of approved quality to avoid corrosion. Cement for grouting to be paid separately. Payment shall be made in terms of weight of HTS cables as per drawing.	MT	185488.63	52.00	96,45,408.71
	CEMENT				
	Supply and using Cement at Worksite				
37	Ordinary Portland Cement 53 grade of approved brands/makes PCC (380kg/cum), RCC M35/M45 (440kg/cum)	MT	7583.14	6,214.92	4,71,28,635.28
38	Painting the HFL mark and Danger level mark, year of HFL on bridge abutments and piers with ready mixed paint as per standard in two coats over one coat of primer with all materials, labour, tools, scaffolding, all lead and lift etc. including writing complete.	Each	276.86	12.00	3,322.27
39	Providing cast in situ bridge number plaques as per Railway drawing in cement concrete 1:2:4 mix using 20mm hard stone aggregate embedded in 30mm notch in Bridge parapet coping duly engraving the letter and figures and an arrow indicating the direction of flow and finishing the top exposed surface with cement mortar 1:3, painting letters and figures with two coats of black enamel paint on two coats of white background with all labour, tools, cement, paint etc. with all leads and lifts.	Each	783.82	19.00	14,892.65

40	Providing cast in-situ plaques for bridge foundations details of size 45cmx45cmx5cm in cement concrete 1:2:4 mix using 20mm hard stone aggregate embedded in 30mm deep notch over abutment & piers, engraving the letters & figures with CM 1:3 and finished smooth including painting letters and figures with 2 coats of black enamel and plaque with white enamel with all labour, tools, cement, paint, curing etc. as a complete job.	Each	1258.25	21.00	26,423.20
41	Fabrication, supplying and fixing 600mm x 450mm Bridge Board made from 16 SWG MS Sheet duly welded or riveted to back support of two 600mm long horizontal angles of size 25mm x 25mm x 3mm & two numbers 2.5 metre long vertical support of MS Angle of size 50mm x 50mm x 5mm, welded / rivetted to board. Vertical supports shall have split ends for proper fixing in ground. Vertical supports of board shall be embedded in ground in M 20 Cement Concrete blocks of size 300mm x 300mm x 300mm, complete job including painting & writing of subject matter on bridge board, as directed by Engineer - In charge Note: Excavation & concrete work will be paid separately.	Each	3501.04	21.00	73,521.86
42	Painting cleaned plate/composite bridge girders including all scaffolding along with provision of Jhoola / hanging scaffolding ladders etc. where required.				
a	With two cover coats of ready-mixed paint conforming to IS:13607 with colour/shades, as decided by Engineer-in charge Note: DFT of each coat shall be 20-25 microns	Sqm	102.01	1,915.24	1,95,373.19
	RCC PIPE				
43	Providing & laying non pressure NP-4 Class RCC pipe with collars, jointing with 1:2 cement and ordinary sand mortar including testing of joints, but excluding earthwork with all labour and material as a complete job. Cement for mortar will be paid separately. (Pipes of 600mm dia and above will be laid using crane/hydra).				
a	900mm dia.	Metre	5324.16	650.00	34,60,704.34
44	Provision of one Asphalt Speed Breaker Rumble Strip on each side of the approaches of manned level crossings as per approved drawing including painting two coats with paint of approved quality and colour.	RM	732.33	14.60	10,692.00

45	<p>Supplying fabricating and erecting welded and/or bolted and/or riveted steel work in built up sections, trusses and framed work, staging, racks, Height Gauge etc. for Steel Structures other than bridge girders, using RSJ, tees, angles and channels/flats, plates, gussets, round or square bars, cleats, bolts etc., with contractors own steel including cutting, bending, straightening, drilling, riveting, hoisting, fixing, erecting, welding, bolting etc., with Providing stiffeners wherever required as per approved drawing including applying a priming coat of a approved steel primer with all contractor's materials, labour, tools & plants, lead & lift including crossing of tracks if required etc., complete as per specification and as directed by Engineer-in-charge.</p> <p>Note: The payment shall be made on the theoretical weight of main components and gusset plates only.</p>	MT	104774.09	55.00	57,62,574.70
46	<p>Launching of precast RCC box segments of any size and barrel length for single/double line as per approved drawings to the correct alignment and position in electrified / non-electrified sections safeguarding all utilities (S&T cable, power cable, OHE, pipelines etc.) including transportation of box segments from casting yard to site of launching, dismantling of the existing track, removing & stacking of ballast, removing surcharge, dismantling of existing bridge built with stone masonry / cement concrete, placing of Box segments in position either on base slab or prepared foundation, backfilling after launching of precast box segment and compaction of earth in surcharge, ballasting & re-laying of track to correct alignment and geometry, packing and further maintenance till allowing non-stop 20 KMPH over the re-laid track, complete in all respect as per approved drawing to the satisfaction of Engineer-in-charge. The rate is all inclusive except the cost of RCC Box Segments, Base Slabs (if required) and backfill material which shall either be supplied by railway or paid extra under relevant item.</p> <p>Note: Unit of 'Each' here means bridge of span(s) with a total linear waterway up to 3m.</p>				

	Double Note: Minimum equipment required shall be (i) Crawler mounted Hydraulic excavator of min 200 HP and bucket capacity 2.5 cum - 3 numbers (ii) Cranes minimum 200 T capacity - 3 nos., (iii) Stone Breaker - 1 no., (iv) Road Trailer of 20 MT capacity - 1 no., (v) Tippers - 2 nos. and (vi) Tractors - 2 nos. (vii) Slope Vibratory compactor - 2 nos. and other required machineries etc. in good working condition at site of work	Line				
		Each	1219248.88	-	-	
	Total of Schedule-A					49,33,93,068.56
	Schedule -B					
1	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.					
a	In stringers, treads, landings etc. of stair cases, including use of chequered plate wherever required, all complete	kg	117.40	48,647.00		57,11,111.63
	PVC PIPE ON WALL FACE					
2	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, (i) Single socketed pipes.					
a	110 mm diameter	Metre	358.47	50.00		17,923.30
3	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion.					
	Bend 87.5°					
a	110 mm bend	Each	142.81	5.00		714.04

4	Providing and fixing unplasticised -PVC pipe clips of approved design to unplasticised - PVC rain water pipes by means of 50x50x50 mm hard wood plugs, screwed with M.S. screws of required length, including cutting brick work and fixing in cement mortar 1:4 (1 cement : 4 coarse sand) and making good the wall etc. complete.				
a	110 mm	Each	352.67	50.00	17,633.60
5	Providing and applying 2.5 mm thick road marking strips (retroreflective) of specified shade/ colour using hot thermoplastic material by fully/ semi automatic thermoplastic paint applicator machine fitted with profile shoe, glass beads dispenser, propane tank heater and profile shoe heater, driven by experienced operator on road surface including cost of material, labour, T&P, cleaning the road surface of all dirt, seals, oil, grease and foreign material etc. complete as per direction of Engineer-in-charge and accordance with applicable specifications.	Sqm	710.28	1,225.00	8,70,096.99
6	Providing and laying at or near ground level factory made kerb stone of M-25 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge).	Cum	9610.01	72.56	6,97,326.86

7	<p>Providing and erecting 2.00 metre high temporary barricading at site;each panel of size 2.50mx2.00m made of 40x40x6mm angle iron or 50x50x3mm hollow MS tube posts/horizontal members/ bracings covered with 1.63mm thick MS sheet. The sheet shall be fixed with 30x5mm MS flat by suitable welding/riveting. The panels shall be made so that gap of 50cm above the ground is available making overall height as 2.5m. MS channel ISLC 75 @ 5.70 kg/m, 50cm long shall be provided at the bottom having oval shaped holes of size 50x25mm at both ends with 50cm long MS angle 40x40x6mm bracing. Suitable arrangement shall be made to fix the barricading to avoid from overturning by providing 250mm long expansion fasteners at both ends. The work shall be executed as per drawing/direction of Engineer-in-Charge which includes writing and painting, arrangement for traffic diversion such as traffic signals during construction at site for day and night, glow lamps, reflective signs, marking, flags, caution tape as directed by the Engineer-in-Charge. The barricading provided shall be retained in position at site continuously i/c shifting of barricading from one location to another location as many times as required during the execution of the entire work till its completion. Rate include its maintenance for damages, painting, all incidentals, labour materials, equipments and works required to execute the job. The barricading shall not be removed without prior approval of Engineer-in-Charge.(Note: One time payment shall be made for providing barricadingfrom start of work till completion of work i/c shifting. The barricadingprovided shall remain to be the property of the contractor on completion of the work).</p>	Metre	3266.94	1,675.00	54,72,127.91
	ROOFING SHEETS				
8	<p>Providing & fixing at all heights, levels and locations colour finish Aluminium alloy roofing sheets of alloy IS designation 31500, temper Hx8 conforming to IS 737 and dimensions as per IS code 2676 with characteristics of good formability and corrosion resistance. The profile sheets shall be fixed to truss members in slope or required pitch or curvature with Hex cap headed self drilling/tapping Stainless steel screws M6, 50 mm long with 3 mm EPDM seal washer etc. all inclusive of labour, scaffolding, T&P and sundries etc. complete as per directions of the Engineer-In-Charge. (Cost of truss/frame work shall be paid separately)</p>				
a	<p>0.56 mm, Aluminium Color coated troughed profile with center to center pitch of 200 mm, depth of 32 mm, overall profile width1092 mm, cover width 1000mm.</p>	Sqm	1117.67	1,067.00	11,92,549.15

9	Providing and applying tack coat using hot straight run bitumen of grade VG - 10, including heating the bitumen, spraying the bitumen with mechanically operated spray unit fitted on bitumen boiler, cleaning and preparing the existing road surface as per specifications :				
a	On W.B.M. @ 0.75 Kg / sqm	Sqm	57.46	14,017.00	8,05,483.34
b	On bituminous surface @ 0.50 Kg / sqm	Sqm	45.78	14,017.00	6,41,723.92
10	Providing and laying bitumen mastic wearing course (as per specifications) with industrial bitumen of grade 85/25 conforming to IS : 702, prepared by using mastic cooker and laid to required level and slope, including providing antiskid surface with bitumen precoated fine grained hard stone chipping of approved size at the rate of 0.005 cum per 10 sqm and at approximate spacing of 10 cm centre to centre in both directions, pressed into surface protruding 1 mm to 4 mm over mastic surface, including cleaning the surface, removal of debris etc. all complete. (Considering bitumen using 10.2% as per MORTH specification).				
a	25 mm thick	Sqm	811.30	4,414.00	35,81,068.17
11	Providing and laying Dense Graded Bituminous Macadam using crushed stone aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site by tippers, laying with paver finisher equipped with electronic sensor to the required grade, level and alignment and rolling with smooth wheeled, vibratory and tandem rollers as per specifications to achieve the desired compaction and density, complete as per specifications and directions of Engineer-in-Charge.				
a	50 to 100 mm average compacted thickness with bitumen of grade VG-30 @ 5% (percentage by weight of total mix) and lime filler @ 2% (percentage by weight of Aggregate) prepared in Batch Type Hot Mix Plant of 100-120 TPH capacity.	Cum	10571.19	1,344.00	1,42,07,674.17

12	Providing and laying Bituminous concrete using crushed stone aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site by tippers, laying with paver finisher equipped with electronic sensor to the required grade, level and alignment and rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction and density as per specification, complete and as per directions of Engineer-in-Charge.				
a	40/50 mm compacted thickness with bitumen of grade VG-30 @ 5.5% (percentage by weight of total mix) and lime filler @ 3% (percentage by weight of Aggregate) prepared in Batch Type Hot Mix Plant of 100-120 TPH capacity.	Cum	11517.83	681.00	78,43,645.44
	SIGN BOARDS				
13	Manufacturing, supplying and fixing retro reflective sign boards made up of 2 mm thick aluminium sheet, face to be fully covered with high intensity encapsulated type heat activated retro reflective sheeting conforming to type - IV of ASTM-D 4956-01 in blue and silver white or other colour combination including subject matter, message (bi-lingual), symbols and borders etc. as per IRC ; 67:2001, pasted on substrate by an adhesive backing which shall be activated by applying heat and pressure conforming to class -2 of ASTM-D-4956-01 and fixing the same with suitable sized aluminium alloy rivets @ 20 cm c/c to back support frame of M.S. angle iron of size 25x25x3 mm along with theft resistant measures, mounted and fixed with 2 Nos. M.S. angles of size 35x35x5 mm to a vertical post made up to M.S. Tee section ISMT 50x50x6 mm welded with base plate of size 100x100x5 mm at the bottom end and including making holes in pipes, angles flats, providing & fixing M.S. message plate of required size, steel work to be painted with two or more coats of synthetic enamel paint of required shade and of approved brand & manufacture over priming coat of zinc chromate yellow primer (vertical MS-Tee support to be painted in black and white colours). Backside of aluminium sheet to be painted with two or more coats of epoxy paint over and including appropriate priming coat including all leads and lifts etc. complete as per drawing, specification and direction of Engineer-in-charge.				
a	Mandatory/ Regulatory sign boards of 900 mm diameter with support length of 3750 mm	Each	6822.96	12.00	81,875.58

b	Cautionary /warning sign boards of equilateral triangular shape having each side of 900 mm with support length of 3650 mm	Each	5280.82	6.00	31,684.92
14	Construction of granular sub-base by providing close graded Material conforming to specifications, mixing in a mechanical mix plant at OMC, carriage of mixed material by tippers to work site, for all leads & lifts, spreading in uniform layers of specified thickness with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per specifications and directions of Engineer-in-charge.				
a	With material conforming to Grade-I (size range 75 mm to 0.075 mm) having CBR Value-30	Cum	2644.33	4,203.00	1,11,14,111.15
15	Providing, laying, spreading and compacting graded stone aggregate (size range 53 mm to 0.075 mm) to wet mix macadam (WMM) specification including premixing the material with water at OMC in for all leads & lifts, laying in uniform layers with mechanical paver finisher in sub- base / base course on well-prepared surface and compacting with vibratory roller of 8 to 10 tonne capacity to achieve the desired density, complete as per specifications and directions of Engineer-in-Charge.	Cum	2768.09	3,822.00	1,05,79,644.00
16	Providing and laying factory made chamfered edge Cement Concrete paver blocks in footpath, parks, lawns, drive ways or light traffic parking etc, of required strength, thickness & size/ shape, made by table vibratory method using PU mould, laid in required colour & pattern over 50mm thick compacted bed of sand, compacting and proper embedding/laying of inter locking paver blocks into the sand bedding layer through vibratory compaction by using plate vibrator, filling the joints with sand and cutting of paver blocks as per required size and pattern, finishing and sweeping extra sand. complete all as per direction of Engineer-in-Charge.				
a	60mm thick cement concrete paver block of M-35 grade with approved colour, design & pattern.	Sqm	993.19	1,149.00	11,41,175.62
17	Supplying and stacking at site.				
a	Good earth	Cum	736.59	5,275.53	38,85,917.76

18	Preparation and consolidation of sub grade with power road roller of 8 to 12 tonne capacity after excavating earth to an average of 22.5 cm depth, dressing to camber and consolidating with road roller including making good the undulations etc. and re-rolling the sub grade and disposal of surplus earth with lead upto 50 metres.	Sqm	207.92	8,650.19	17,98,530.16
	Total of Schedule-B				6,96,92,017.70
	Schedule -C				
1	Construction of embankment with approved material Gravel/murum with all lifts and leads, transporting to site spreading, grading to required slope and compacted in layers not exceeding 200mm to meet requirement of Table No 300-2 complete as per specifications (including cost of earth, watering charges & Compaction by vibratory roller to 95% of proctor's density and minimum CBR value 5%) MORTH specification No 305	Cum	474.67	1,514.00	7,18,651.94
2	Design Build and Maintenance site office fully furnished for the use of Engineer as per the layout drawing, specification and employer requirement - scope of work. Note: (i) The site office shall be maintained up to end of final taking over certificate. (ii) Site office is to be dismantled after the purpose for which it is meant. (iii) After establishment of site office 70% of the billed amount of this item is payable and balance 30% on pro-rata basis in proportion to contract price in IPC's	Sqm	22887.14	200.00	45,77,427.23
	Total of Schedule-C				52,96,079.17
	Schedule -D				

1	Jacking and rolling / launching of box units, base slabs etc., on previously laid concrete bed by approved method of all contractor materials labors, tools and plants, consumables, crew, fuel, transportation etc., complete as directed by Engineer in charge during day / night and during permitted line block 1. Tender should use road crane of minimum 300/400 tonne capacity with standby crane of equal capacity 2. Tenderer should deploy at least two poclain of minimum capacity EX200 for earth excavation (with standby of same capacity) and filling during line block 3. Tenderer should arrange his own lighting arrangement at work spot if work of line block is planned at night hours	MT	3254.24	1,182.50	38,48,135.59
2	Supply and laying concrete canvas of 5mm thickness of approved quality	Sqm	4533.90	150.00	6,80,084.75
	Jointing of Precast RCC box units by applying epoxy mortar with all contractor and materials, labours, tools & plants consumables, crew, fuel, transportation etc., complete as directed by Engineer in charge during day / night and during permitted line block	Sqm	450.85	150.00	67,627.12
	Total of Schedule-D				45,95,847.46
	Schedule -E				
1	Schedule-E: Items Not Covered in Schedule A to D. Lump sum provision for incidental and unforeseen item likely to occur during the execution of work. These items of Schedule 'E' will be executed under latest schedule of rates published by KPWD. The cost under this Schedule stands fixed as Rs. 2,31,38,884 /- and this amount Two Crores Thirty one lakhs Forty thousand twelve Rupees only is provided as fixed amount in the summary of Financial Bid / Price Schedule. Whenever KPWD rates are not available Only other department rates (i.e. IR-USSOR / CPWD / BESCO / KPTCL / BWSSB) shall be considered as per sequence of priority and with the approval of Engineer with the concurrence of Employer.	LS			2,31,38,884
	Total of Schedule A to E				59,61,15,896.99