

FINANCIAL PART (PDF FILE)
To be signed and uploaded with BOQ (MS Excel File) as FINANCIAL PART of the Tender by the Tenderer.

Letter of Tender – Financial Part

INSTRUCTIONS TO TENDERERS: DELETE THIS BOX ONCE YOU HAVE COMPLETED THE DOCUMENT

The Tenderer must prepare this Letter of Tender on stationery with its letterhead clearly showing the Tenderer's complete name and business address.

Note: All italicized text is to help Tenderers in preparing this form.

Date of this Tender submission: *[insert date (as day, month and year) of Tender submission]*

Tender No.: HORC/HRIDC/C-5/2023

To:

Chief Project Manager/ South,
Haryana Rail Infrastructure Development Corporation Limited (HRIDC),
Plot no.143, 5th floor,
Railtel Tower, Sector-44
Gurugram – 122003
Tel: +91 9729410447

We, the undersigned, hereby submit the second part of our Tender, the Tender Price and Price Schedule. This accompanies the Letter of Tender – Technical Part.

In submitting our Tender, we declare that:

- (a) **Tender Validity Period:** Our Tender shall be valid for the period specified in TDS 18.1 (as amended, if applicable) after the date fixed for the Tender submission deadline specified in TDS 22.1 (as amended, if applicable), and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (b) ****Tender Price:** The total price of our Tender including Provisional Sum is: *[insert the total price of the Tender in words and figures in INR]*;
- (c) **Commissions, Gratuities, Fees:** We have paid, or will pay the following commissions, gratuities, or fees with respect to the Tendering process or execution of the Contract: *[insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity]*

Name of Recipient	Address	Reason	Amount
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(If none has been paid or is to be paid, indicate “none.”)

Name of the Tenderer: *[insert complete name of the Tenderer]*

Name of the person duly authorized to sign the Tender on behalf of the Tenderer: **[insert complete name of person duly authorized to sign the Tender]*

Title of the person signing the Tender: *[insert complete title of the person signing the Tender]*

Signature of the person named above: *[insert signature of person whose name and capacity are shown above]*

Date signed *[insert date of signing]* **day of** *[insert month]*, *[insert year]*

*Person signing the Tender shall have the power of attorney given by the Tenderer. The power of attorney shall be attached with the Letter of Tender.

** The total price of Tender including Provisional Sums quoted in this Letter of Tender-Financial Part shall be same as given in Worksheet BOQ5 (Price Schedule –Summary Sheet) of MS-Excel File which includes cost of Schedule ‘A’ plus Schedule ‘B’ plus Schedule ‘C’ plus Schedule ‘D’ and plus Provisional Sum. However, in case of discrepancy between the total price of Tender including provisional sums quoted in this Letter of Tender-Financial Part and the Excel sheet, the total amount as per the Excel Sheet arrived at after arithmetical correction as per ITT 36 shall prevail.

Appendix A to Financial Part: Schedule of Adjustment Data

1. Price adjustment

- 1.1 The amounts payable to the Contractor for Works shall be adjusted in accordance with the provisions of this Clause 1.0, Sub-Clause 13.7 of GCC and Sub-Clause 13.7, Specific Provision, Part B, Section IX-PCC.
- 1.2 The Contract Price shall be adjusted for increase or decrease in rates and prices of labour, materials, fuel and lubricants, equipment, Machinery, Plant and other Materials or inputs in accordance with the principles, procedures and formulae specified below:
- a) Base month for the purpose of Price Adjustment shall be the month in which the Tender is opened for Civil Works and General Electrical Services Works. The 1st Quarter will start from Base month;
 - b) For Schedule-‘A’, Price adjustment shall be applied on completion of the specified stage of the respective item of work.
 - c) Adjustment for each item of work/stage shall be made separately;
 - d) The following expressions and meanings are assigned to the value of the work done for Civil works:

EW = Value of work done for the completion of a stage under the Cost Centre ‘CE’ of Price Schedule ‘A’ ;

BR = Value of work done for the completion of a stage under the Cost Centre ‘CB’ of Price Schedule ‘A’;

STN = Value of work done for the completion of a stage under Cost Centre CS of Price Schedule ‘A’;

VIA = Value of work done for the completion of a stage under Cost Centre CV of Price Schedule ‘A’;

CW = Value of work done under Price Schedule ‘B’;

The following expressions and meanings are assigned to the Cost Centre of Price Schedule ‘A’:

Cost Centre	Description of Cost Centre
1	2
CE	Earthwork and blanketing
CB	Bridges
CS	Station
CV	Viaduct

- e) Price adjustment for change in costs of civil works shall be paid in accordance with the following formula:

- i) $VEW = 0.85 EW \times [PLB \times (L_{Bi} - L_{Bo})/L_{Bo} + PF \times (F_i - F_o)/F_o + PMACH \times (MACH_i - MACH_o)/MACH_o + POTH \times (OTH_i - OTH_o)/OTH_o]$;
- ii) $VBR = 0.85 BR \times [PLB \times (L_{Bi} - L_{Bo})/L_{Bo} + PC \times (C_i - C_o)/C_o + PS \times (S_i - S_o)/S_o + PF \times (F_i - F_o)/F_o + PMACH \times (MACH_i - MACH_o)/MACH_o + POTH \times (OTH_i - OTH_o)/OTH_o]$;
- iii) $VSTN = 0.85 STN \times [PLB \times (L_{Bi} - L_{Bo})/L_{Bo} + PC \times (C_i - C_o)/C_o + PS \times (S_i - S_o)/S_o + PF \times (F_i - F_o)/F_o + PMACH \times ((MACH_i - MACH_o)/MACH_o + POTH \times (OTH_i - OTH_o)/OTH_o)]$;
- iv) $VVIA = 0.85 VIA \times [PLB \times (L_{Bi} - L_{Bo})/L_{Bo} + PC \times (C_i - C_o)/C_o + PS \times (S_i - S_o)/S_o + PF \times (F_i - F_o)/F_o + PMACH \times ((MACH_i - MACH_o)/MACH_o + POTH \times (OTH_i - OTH_o)/OTH_o)]$;
- v) $VCW = 0.85 CW \times [PLB \times (L_{Bi} - L_{Bo})/L_{Bo} + PC \times (C_i - C_o)/C_o + PS \times (S_i - S_o)/S_o + PF \times (F_i - F_o)/F_o + PMACH \times (MACH_i - MACH_o)/MACH_o + POTH \times (OTH_i - OTH_o)/OTH_o]$;

Where

VEW = Increase or decrease in the cost under the Cost Centre ‘CE’ of Price Schedule ‘A’ during the period under consideration due to changes in the rates for relevant components as specified in sub-paragraph (f);

VBR = Increase or decrease in the cost of Cost Centre ‘CB’ of Price Schedule ‘A’ during the period under consideration due to changes in the rates for relevant components as specified in sub-paragraph (f);

VSTN = Increase or decrease in the cost of Cost Centre ‘CS’ of Price Schedule ‘A’ during the period under consideration due to changes in the rates for relevant components as specified in sub-paragraph (f);

VVIA = Increase or decrease in the cost of Cost Centre ‘CV’ of Price Schedule ‘A’ during the period under consideration due to changes in the rates for relevant components as specified in sub-paragraph (f);

VCW = Increase or decrease in the cost of work done under Price Schedule ‘B’ during the period under consideration due to changes in the rates for relevant components as specified in sub-paragraph (f);

PC, PF, PLB, PMACH, POTH and PS are the percentages of cement, fuel and lubricants, labour, Plant Machinery and tools, other materials, and steel/ steel components (including strands and steel cables), respectively for the relevant item as specified in sub-paragraph (f);

Co = The wholesale price index as published by the Ministry of Commerce and Industry, Government of India (hereinafter called “WPI”) for sub-group Cement, Lime & Plaster for the Base Month;

Ci = The WPI for sub-group Cement, Lime & Plaster for the average price index of the 3 months of the quarter under consideration;

Fo = The wholesale price index as published by the Ministry of Commerce and Industry, Government of India (hereinafter called “WPI”) for group Fuel & Power for the Base Month;

Fi = The WPI for group Fuel & Power for the average price index of the 3 months of the quarter under consideration

LBo = The consumer price index for industrial workers – All India, published by Labour Bureau, Ministry of Labour, Government of India, (hereinafter called “CPI”) for the Base Month;

LBi = The CPI for industrial workers – All India for the average price index of the 3 months of the quarter under consideration;

MACHo = The wholesale price index as published by the Ministry of Commerce and Industry, Government of India (hereinafter called “WPI”) for category- k “Manufacturing of Machinery for Mining, quarrying and construction’ under (R) Manufacturing of Machinery and Equipment for the Base Month;

MACHi = The WPI for category- k “Manufacturing of Machinery for Mining, quarrying and construction’ under (R) Manufacturing of Machinery and Equipment for the average price index of the 3 months of the quarter under consideration;

OTHo = The wholesale price index as published by the Ministry of Commerce and Industry, Government of India (hereinafter called “WPI”) for all commodities for the Base Month;

OTHi = The WPI for all commodities for the average price index of the 3 months of the quarter under consideration;

So = Average Rate of RINL for Rebar 8 mm (coil) as published for Ludhiana Branch on their website for the Base Month;

Si = Average rate of RINL for Rebar 8 mm (coil) as published for Ludhiana Branch on their website for the 3 months of the quarter under consideration;

If only one rate is published for the 3 months of the quarter under consideration, the published rate for that quarter shall be considered for the quarter under consideration.

If no rate is published by RINL for Rebar 8mm (coil) for the 3 months of the quarter under consideration, the value of Si and So will be taken as under:

“So”: Wholesale Price Index for ‘MS Bright Bars’ individual commodity of group item (d) Mild Steel- Long products under (N) MANUFACTURE OF BASIC METALS, published by Office of Economic Adviser, Government of India, Ministry of Commerce & Industry Department of Industrial Policy & Promotion (DIIP) for the Base Month;

“Si”: Average Wholesale Price Index for ‘MS Bright Bars’ individual commodity of group item (d) Mild Steel- Long products under (N) MANUFACTURE OF

BASIC METAL, published by Office of Economic Adviser, Government of India, Ministry of Commerce & Industry Department of Industrial Policy & Promotion (DIIP) for the 3 months of the quarter under consideration;

- f) The following percentages shall govern the price adjustment of the Contract Price for costs of civil works:

Component	EW (Cost Centre CE of Price Schedule 'A')	BR (Cost Centre CB of Price Schedule 'A')	STN (Cost Centre CS of Price Schedule 'A')	CV (Cost Centre CV of Price Schedule 'A')	CW (Price Schedule 'B')
(1)	(2)	(3)	(4)	(5)	(6)
Cement (PC)	-	20%	15%	20%	20%
Fuel and lubricants (PF)	30%	20%	15%	20%	20%
Labour (PLB)	20%	10%	25%	10%	10%
Machinery and Plants (PMACH)	40%	15%	05%	15%	15%
Other Materials (POTH)	10%	10%	20%	10%	10%
Steel (PS)	-	25%	20%	25%	25%
Total	100%	100%	100%	100%	100%

- g) The following expressions and meanings are assigned to the value of the work done for Various General Electrical Services works:

i) **ELEGWK** = Value of work done for General Electrical Services under Price Schedule 'C';

- h) Price adjustment for changes in cost for various General Electrical Services works shall be paid in accordance with the following formula:

i) **VELEGWK** = 0.85 ELEGWK x [PLB x (LBi – LBo)/LBo + POTH x (OTHi – OTHo)/OTHo]

Where: -

VELEGWK = Increase or decrease in the cost of work done under Price Schedule ‘C’ of ‘**General Electrical Services works**’ with complete accessories during the period under consideration due to changes in the rates for relevant components as specified in sub-paragraph (i);

PLB and POTH are the percentages of Labor and, All Other Commodities respectively for the relevant item as specified in sub-paragraph (i);

LBo = The consumer price index for industrial workers – All India, published by Labour Bureau, Ministry of Labour, Government of India, (hereinafter called “CPI”) for the Base month;

LBi = The CPI for industrial workers – All India for the average price index of the 3 months of the quarter under consideration

OTHo = The wholesale price index as published by the Ministry of Commerce and Industry, Government of India (hereinafter called “WPI”) for “All commodities” for the Base month;

OTHi = The WPI for all commodities for the average price index of the 3 months of the quarter under consideration;

- i) **The following percentages shall govern the price adjustment of the Contract Price for Various General Electrical Services works:**

Component	General Electrical Services Works
Labour (PLB)	20%
All other commodities (POTH)	80 %
Total	100.00%

- j) **The following expressions and meanings are assigned to the value of the work done for Signalling & Telecommunication (S&T) Works:**

i) **STWK** = Value of work done for Signalling & Telecommunication (S&T) Works under Price Schedule ‘D’;

- k) **Price adjustment for changes in cost for Signalling & Telecommunication (S&T) Works shall be paid in accordance with the following formula:**

$$i) \text{ VSTWK} = 0.85 \text{ STWK} \times [\text{PLB} \times (\text{LBi} - \text{LBo})/\text{LBo} + \text{POTH} \times (\text{OTHi} - \text{OTHo})/\text{OTHo}]$$

Where: -

VSTWK = Increase or decrease in the cost of work done under Price Schedule ‘D’ of ‘**Signalling & Telecommunication (S&T) Works**’ with complete accessories during the period under consideration due to changes in the rates for relevant components as specified in sub-paragraph (i);

PLB and POTH are the percentages of Labor and, All Other Commodities respectively for the relevant item as specified in sub-paragraph (i);

LBo = The consumer price index for industrial workers – All India, published by Labour Bureau, Ministry of Labour, Government of India, (hereinafter called “CPI”) for the Base month;

LBi = The CPI for industrial workers – All India for the average price index of the 3 months of the quarter under consideration

OTHo = The wholesale price index as published by the Ministry of Commerce and Industry, Government of India (hereinafter called “WPI”) for “All commodities” for the Base month;

OTHi = The WPI for all commodities for the average price index of the 3 months of the quarter under consideration;

l) The following percentages shall govern the price adjustment of the Contract Price for Signalling & Telecommunication (S&T) Works:

Component	Signalling & Telecommunication (S&T) Works
Labour (PLB)	20%
All other commodities (POTH)	80 %
Total	100.00%

Table A. Foreign Currency (FC)

Not applicable as Tenderers are required to quote rates and prices only in INR.

Table B. Summary of Payment Currencies

For [insert name of Works]

Name of Payment Currency	A	B	C	D
	Amount of Currency	Rate of Exchange (local currency per unit of foreign)	Local Currency Equivalent $C = A \times B$	Percentage of Net Tender Price (NTP) $\frac{100 \times C}{NTP}$
For Schedule 'A'				
Local currency (INR)		1.00		
Foreign Currency # 1				
Foreign Currency # 2				
Foreign Currency # 3				
Schedule 'B' Local Currency (INR)		1.00		
Foreign Currency # 1				
Foreign Currency # 2				
Foreign Currency # 3				
Schedule 'C' Local Currency (INR)		1.00		
Foreign Currency # 1				
Foreign Currency # 2				
Foreign Currency # 3				

Schedule 'D' Local Currency (INR)		1.00		
Foreign Currency # 1				
Foreign Currency # 2				
Foreign Currency # 3				
Net Tender Price				100.00
Provisional Sums Expressed in Local Currency (INR)	100,000,000.00	1.00	100,000,000.00	Not Applicable
TOTAL TENDER PRICE (including provisional sum)				

Note: The Tenderer is required to propose and submit the schedules given in tables above as part of the Tender. The rates of exchange shall be the reference rate twenty-eight (28) days prior to the deadline for submission of Tenders published by the Reserve Bank of India (RBI) on its website <https://www.rbi.org.in>. In case the exchange rate of particular currency on given date is not available on RBI web site, it will be as per the web site <https://www.fbil.org.in> of Financial Benchmark India Private Limited (FBIL).

Appendix B to Financial Part: Price Schedules

1 Preamble

- 1.1. The Price Schedules shall be read in conjunction with the Instructions to Tenderers, the General Conditions, the Particular Conditions and the Employer's Requirements General, Functional, Design (Civil & BLT), Construction (Civil & BLT), Outline Design Specifications (ODS)-Civil & BLT, Outline Construction Specifications (OCS)-Civil & BLT, General Electrical Services, Signalling & Telecommunication (S&T) Works, Tender Drawings and Documents, Appendices and the Addenda/Corrigenda (if any).
- 1.2. **Schedule 'A'** comprises scope of work to be executed under lump sum contract as detailed in Part 2- Employers' Requirements of Tender Document. Cost of Schedule 'A' also includes cost of tree cutting for entire package C-5 as per Sub-Clause 10.14 of Appendix 10, Section VII-9: Appendices, Part 2 -Employer's Requirements of Tender Documents. The Tenderer has to quote a single lump sum amount against Schedule 'A'. Payment to the Contractor will be made in accordance with payment stages/Milestones defined for each Cost Centre detailed in Clause 5.0 below unless otherwise specified in the Contract.
- 1.3. **Schedule 'B'** comprises of BoQ items for "Retaining Wall, Bridges & other civil works". Schedule 'B' is subdivided into fourteen parts i.e. Sub-Schedules B1, B2, B3, B4, B5, B6, B7, B8, B9, B10, B11, B12, B13 and B14. Cost of design and drawings of all the temporary works, temporary road diversion is deemed to be included in the rates quoted for the relevant item of Schedule 'B' unless otherwise specified in the Contract. The Tenderer has to quote the percentage Excess (+) or Less (-) over the total Estimated amount of each Sub-Schedule of Schedule 'B' (which is shown as "Estimated Rate" against each Sub-Schedule of Schedule 'B' in BOQ2 of MS excel file on eProcurement portal). The payment against this Schedule 'B' will be made on the basis of quantities executed, measured and certified. Under this Schedule, the Contractor is required to carry out all works of retaining walls, bridges and other civil works, which are not covered in Schedule 'A', as per site requirements and as per the direction of the Engineer.
- 1.4. **Schedule 'C'** comprises of BoQ Items for "General Electrical Services works". The Tenderer has to quote the percentage Excess (+) or Less (-) over the total Estimated amount of Schedule 'C' (which is shown as "Estimated Rate" against Schedule 'C' in BOQ3 of MS excel file on eProcurement portal). The quoted rate includes the cost of design and drawings of relevant systems and items as specified in the Contract Documents. The payment against this Schedule will be made on the basis of quantities executed, measured and certified by the Engineer. Under this Schedule, the Contractor is required to carry out all works of General Electrical Services works, which are not covered in Schedule 'A' or Schedule 'B', as per site requirements and as per the direction of the Engineer.
- 1.5. **Schedule 'D'** comprises BoQ Items for "Signalling & Telecommunication (S&T) Works". The Tenderer has to quote the percentage Excess (+) or Less (-) over the total Estimated amount of Schedule 'D' (which is shown as "Estimated Rate" against Schedule 'D' in BOQ4 of MS excel

file on eProcurement portal). The quoted rate includes the cost of design and drawings of relevant systems and items as specified in the Contract Documents. The payment against this Schedule will be made on the basis of quantities executed, measured and certified. Under this Schedule, the Contractor is required to carry out all works of shifting of Signalling & Telecommunication (S&T) Gears at DFCCIL New Prithla Station for connection to HORC Prithla Station, which are not covered in Schedule 'A' or Schedule 'B' or Schedule 'C' as per site requirements and as per the direction of the Engineer.

- 1.6. The Schedules may not generally give a full description of the works to be performed and the plant or equipment to be supplied under each item. Tenderers shall be deemed to have read the Employer's Requirements and the other sections of the Tender Documents and reviewed the Drawings to ascertain the full scope of the requirements included in each item prior to filling the rates and prices.
- 1.7. The price quoted in the Price Schedules for Schedule 'A', Schedule 'B' Schedule 'C' and Schedule 'D' are for complete and finished items of the work in all respects. The Price quoted in the Price Schedules shall, except otherwise specifically provided, shall include all design, include all necessary survey work, plants, tools, machinery, Contractor's equipment, labour, compliance of labour laws, supervision, materials, transportation, handling, loading & unloading, storage, sampling, testing, fuel, oil, consumables, electric power, water, all leads & lifts, dewatering, all temporary works including temporary accesses, staging, form works and false works, stacking, provision and maintenance of all temporary works area, construction of temporary store and buildings, fencing, barricading, lighting, drainage arrangements, erection & maintenance of inspection facilities above and below ground such as brick, concrete and steel etc., reinstatement, remedy of any defects during the Defects Notification Period, safety measures for workmen and road users, preparation of design and drawings pertaining to permanent and temporary works, & temporary diversion works, temporary road widening, traffic diversion works, mobilisation and demobilisation, establishment and overhead charges, labour camps, insurance cost for labour and works, contractor's profit, all taxes including Goods and Service Tax (GST), insurance, royalties, duties, cess, octroi, other levies and other charges together with all general risks, liabilities and obligations set out or implied in the Contract.
- 1.8. The whole cost of complying with the provisions of the Contract shall be included in the items provided in the Price Schedules, and where no items are provided, the cost shall be deemed to be distributed among the rates and prices entered for the related items of the Work.
- 1.9. To the extent acceptable to the Employer for the purpose of making payments or partial payments, valuing variations or evaluating claims, or for such other purposes as the Engineer may reasonably require, the Contractor may provide the Engineer with a breakdown of any composite or lump sum items included in the Schedules.

- 1.10. The Provisional Sums included and so designated in the Price Schedules shall be expended in whole or in part at the direction and discretion of the Engineer. The Provisional Sum shall be used to cover the Employer's share of the DAAB members' fees and expenses, in accordance with Clause 21. No prior instruction of the Engineer shall be required with respect to the work of the DAAB in accordance with Sub-Clause 13.4 of Part B-Specific Provisions - Particular Conditions of Contract. The Contractor shall submit the DAAB members' invoices and satisfactory evidence of having paid 100% of such invoices as part of the substantiation of those statements submitted under Sub-Clause 14.3. in accordance with Sub-Clauses 13.4 of the General Conditions.
- 1.11. The prices shall be quoted against Schedule 'A', Schedule 'B', Schedule 'C' and Schedule 'D' in the Price Schedule (Excel Workbook) uploaded on the eProcurement portal.
- 1.12. The prices quoted shall be comprehensive and must include for complying in all respects with the Price Schedules, Instruction to Tenderers, the General Conditions, the Particular Conditions, Employer's Requirements, Specifications and Drawings and for all matters and things necessary for the proper construction, completion, and making good of any defect in part or of the whole of the Works.
- 1.13. No claims for additional payment shall be allowed for any error or misunderstanding by the Contractor of the work involved.
- 1.14. The rates quoted by the Tenderer are for design and construction of the Works as per approved Alignment Plan & L-Section, approved GADs of bridges and approved drawings of other structures as per Scope of the Works.

2 Variations in Price Schedule 'A', Schedule 'B' Schedule 'C' and Schedule 'D'

- 2.1 Variations in Price Schedules shall be dealt in accordance with Sub Clause 13.3.1 of Part B-Specific Provisions, Section IX- Particular Conditions of Contract.
- 2.2 The through Chainages mentioned in the Scope of the Works/Tender Drawings can undergo some minor corrections, without any impact on the overall length/Scope of the Works.

3 Measurement and Payment

- 3.1 The measurement shall be made as per Price Schedules i.e. Schedule 'A'. Schedule 'B' Schedule 'C' and Schedule 'D' and other relevant provisions of the Contract such as Employer's Requirements and the Drawings.
- 3.2 If during execution of the Contract, it is decided by the Employer/Engineer that one or more items of Work/Milestone of a Cost Centre in a particular Price Schedule is not required to be executed, the proportionate amount against that particular Item of Work/Milestones shall not be paid. The Engineer's decision in this regard shall be final.
- 3.3 The Payment shall be made as per Clause 14 [Contract Price and Payment] of the General

Conditions and Particular Conditions.

- 3.4 The Employer shall make interim payments to the Contractor in accordance with the provisions of Sub-Clause 14.6 [Issue of Interim Payment Certificates] of the General Conditions and Particular Conditions, as certified by the Engineer on the basis of the progress achieved for the items of works/stages/Milestones of the works.
- 3.5 The Contractor shall base its claim for interim payment in accordance with Sub-Clause 14.3 [Application for Interim Payment] of the General Conditions and Particular Conditions for each stage for various items of work on the basis of actual progress of work executed (i.e. Milestones achieved) till the end of the month for which the payment is claimed in relation to the Contractor's total executed quantity, supported with documents and updated programme in accordance with the Employer's Requirements.
- 3.6 The Employer may carry out necessary tests, either directly or through an independent agency, of the Works done by the Contractor for which payment has been accepted and certified by the Engineer. The payment shall depend upon the outcome of such tests.
- 3.7 Format for the Contractor's application for payment shall be agreed between the Engineer and the Contractor.
- 3.8 All necessary supplementary details to support progress claims, including all certified Request for Inspection in hard bound copy, shall be included with application for payment. Sketches, drawings, approvals, calculations, test reports etc. shall accompany an application for payment to be substantiated and certified by the Engineer and submitted to the Employer.
- 3.9 Even if no work is executed during the month, or the Contractor does not choose to issue an application for payment, a 'NIL' application shall be submitted.
- 3.10 For the purposes of payment, the Contractor shall submit to the Engineer a detailed Price Schedule indicating a further breakdown for each stage of payment contained in the Price Schedules within forty-two (42) days after the receipt of the Letter of Acceptance. Such cost breakdowns shall be subject to approval of the Engineer who shall review and evaluate with comments and/or issue approval within twenty-eight (28) days of receipt of same. The Contractor shall resubmit the cost breakdown structure corresponding to the Engineer's comments for review, if required.
- 3.11 The Engineer is not obliged to issue an Interim Payment Certificate until such breakdown structure of payment schedule has been submitted and accepted by the Engineer.

4 Methodology for Claiming Payment

- 4.1 The Contractor shall prepare his monthly application for payment in the agreed format in two hard copies and one soft copy. This shall be accompanied by supplementary details in

accordance with Sub-Clause 14.3 [Application for Interim Payment Certificates] of the General Conditions. All hard copies shall bear the original signatures of the Contractor's Representative and be submitted to the Engineer.

4.2 If these are found in order, in accordance with Sub-Clause 14.6 [Issue of Interim Payment Certificates] of the General Conditions, then the Engineer shall forward two certified copies of the application along with certified supplementary details to the Employer, with his recommendation for payment; otherwise, all documents shall be returned to the Contractor for rectification and resubmission.

5 Price Schedule

5.1 Schedule "A"- Breakup of Lump Sum cost of Works under various Sub-Heads shall be as follows:

Sub-Head	Description	Percentage of the quoted lump sum cost of Schedule 'A'	No. of Cost Centre	Total Cost of Sub-Head
1	2	3	4	5
C	Civil works	100%	5	C= 1xLS*

*LS = Total lump sum accepted cost of the Works for Schedule 'A'

5.2 Apportionment of Contract Price for payments under various Cost Centre for Sub-Head 'C'- Civil Works

Cost Centre	Description of Cost Centre	Percentage of Cost Centre 'C'	Total Cost of Cost Centre	Total Cost of Sub-Head 'C'
1	2	3	4	5
CD	Design and As Built Drawing & Documents	1.50%	CD= 0.015x 'C'	100% of SCH 'A'
CV	Viaduct	69.00%	CV=0.69x 'C'	
CE	Earthwork and blanketing	13.20%	CE=0.132x 'C'	
CB	Bridges	12.00%	CB=0.12x 'C'	
CS	Station	4.30%	CS=0.043x 'C'	
Total		100.00%		

Note: Value of 'C' shall be as defined in Sub-Clause 5.1 above.

The percentage figures as filled in column (3) for the apportionment of the Contract Price for completion of the Works corresponding to the various Sub-Heads and Cost Centres are fixed and payment will be released for different Cost centre as per above percentage break-up of Contract Price.

5.2.1 Stages of Payment i.e. Milestones of Cost Centre ‘CD’- Design and As Built Drawing & Documents

Cost Centre			‘CD’- Design and As Built Drawing & Documents	
Weightage of Cost Centre ‘CD’, (X)-			1.5%	
Sub Cost Centre	Item of Work		Milestone	Weightage (Y)
	No.	Description		
1	2	3	4	5
CD1- Design	CD1.1	Preliminary design	Preliminary Design	4.00%
	CD1.2	Formation	Definitive design & Good for Construction Drawings (GFC)	4.00%
	CD1.3	Minor Bridges		
	CD1.3.1		Preparation & approval of GADs	6.00%
	CD1.3.2		Definitive Design	5.00%
	CD1.3.3		Good For Construction (GFC) Drawings	6.00%
	CD1.4	Major Bridges		
	CD1.4.1		Preparation & approval of GADs	5.00%
	CD1.4.2		Definitive Design of OWGs & Composite Girder of Bridge No.17, 28, 45 & 68 with BLT/Ballasted track including GFC	2.00%
	CD1.4.3		Definitive Design including RSI (except OWGs & Composite Girder of Bridge No.17, 28, 45 & 68)	5.00%
	CD1.4.4		Good For Construction (GFC) Drawings (except OWGs & Composite Girder of Bridge No.17, 28, 45 & 68)	5.00%
	CD1.5	Retaining Walls		
	CD1.5.1		Definitive Design	2.00%

Cost Centre		‘CD’- Design and As Built Drawing & Documents		
Weightage of Cost Centre ‘CD’, (X)-		1.5%		
Sub Cost Centre	Item of Work		Milestone	Weightage (Y)
	No.	Description		
1	2	3	4	5
	CD1.5.2		Good For Construction (GFC) Drawings	3.00%
	CD1.6	Stations		
	CD1.6.1		Preparation & approval of Architectural Drawings	2.00%
	CD1.6.2		Definitive Design	2.00%
	CD1.6.3		Combined Services Drawings & MEP Drawings	2.00%
	CD1.6.4		Good For Construction (GFC) Drawings	2.00%
	CD1.7	Viaduct		
	CD1.7.1		Preparation & approval of GADs	4.00%
	CD1.7.2		Definitive Design including RSI	10.00%
	CD1.7.3		Good For Construction (GFC) Drawings	6.00%
	CD.1.8	BLT	On completion of design of BLT (except BLT on Bridge No.17, 28, 45 & 68) including GFC	6.00%
CD2- As Built Drawing & Documents	CD 2.1	As Built Drawings	Submission of As Built Drawings	14.00%
	CD 2.2	As Built Documents	Submission of As Built Documents	5.00%
Total				100.00%

Notes:

- The value of each Milestones will be total lump sum accepted cost of Works for Schedule ‘A’ (LS) multiplied by X * Y. For example, the value of Milestone CD 1.3.2 will be equal to $LS * X * Y = LS * 0.015 * 0.05$.

2. Adjustment to Contract Price pursuant to GCC 13.7 shall **NOT** be applicable to the payments of Works executed under this Cost Centre.
3. All minor bridges shall have equal weightage. Payment of each stage/Milestones shall be made on pro rata basis on completion of a stage for a bridge.
4. All major bridges shall have equal weightage. Payment of each stage/Milestones shall be made on pro rata basis on completion of a stage for a bridge.
5. No payment shall be made against the Sub-Cost Centre CD 1.4.1, if design & drawing of superstructure of Br. Nos. 17, 28, 45, 68 is not required and standard RDSO spans for DFC loading are adopted with the approval of the Engineer.
6. All stations shall have equal weightage. Payment of each stage/Milestones shall be made on pro rata basis on completion of a stage for a station.
7. Payment will be made on Completion of each Milestones as per weightage given in this Cost Centre
8. The cost of Milestones include cost of design of the formation, Bridges, retaining wall & other Structures included in Schedule 'A' and Schedule 'B' as mentioned in Section VII-2:Functional, Employer's Requirements.

5.2.2 Stages of Payment i.e. Milestones of Cost Centre 'CV'- Viaduct

Cost Centre			CV- Viaduct	
Weightage of Cost Centre 'CV', (X)			69.00%	
Sub-cost Centre	Item of Work		Milestone	Weightage (Y)
	No.	Description		
1	2	3	4	5
CV 1 (From Ch. 20942.473 to Ch. 24843.548)	CV.1.1	Foundation	On completion of the foundation work including pile caps/ well caps and foundations for wing and return walls, and testing.	36.00%
	CV.1.2	Substructure	On Completion of Abutment/Piers including Abutment/Pier Cap without bearings.	
	CV.1.2.1		Pier/Abutment	6.00%
	CV.1.2.2		Pier/Abutment cap	3.00%
	CV.1.3	Superstructure		
	CV.1.3.1		On completion of steel girder including launching in position.	26.00%
	CV 1.3.2		On completion of deck slab including wearing course, expansion joint etc. complete	14.00%
	CV.1.3.3		On fixing of bearings in position true to line & level and placement of superstructure on bearings including grouting of holding down bolts complete.	4.00%
	CV.1.4	Installation of BLT on Viaduct		
	CV.1.4.1		On supply of track fitting/fastening system complete	2.00%

Cost Centre			CV- Viaduct	
Weightage of Cost Centre 'CV', (X)			69.00%	
Sub-cost Centre	Item of Work		Milestone	Weightage (Y)
	No.	Description		
1	2	3	4	5
	CV.1.4.2		Construction of ballastless track (On account payment will be made on proportionate basis based on actual work progress in meter divided by total length of ballastless track).	4.00%
	CV.1.4.3		On completion of all balance works as per drawings like replacement of service rails by long panel rails, welding into LWR/CWR, distressing, drainage, supply of spares etc. complete.	1.75%
	CV.1.4.4		Maintenance of ballastless track for one year after start of traffic (to be paid monthly on pro rata basis based on satisfactory performance certificate by the Engineer.)	0.25%
	CV.1.5	Miscellaneous works		
	CV.1.5.1		On completion of Trolley refuge, Pathway on the sides, Inspection arrangement including access ladder etc.as per approved drawings and Employer's requirement,	2.00%

Cost Centre			CV- Viaduct	
Weightage of Cost Centre 'CV', (X)			69.00%	
Sub-cost Centre	Item of Work		Milestone	Weightage (Y)
	No.	Description		
1	2	3	4	5
	CV.1.5.2		On completion of balance works as per drawing like-Protection works including Toe wall, Pitching, inspection steps, Bridge plaque, Bridge board, stairs, Height Gauge in RUBs, and Testing on completion, if any, complete in all respect and fit for use.	1.00%
Total				100.00%

Notes-

1. The value of each Milestones will be total lump sum accepted cost of Works for Schedule 'A' (LS) multiplied by X * Y. For example, the value of Milestone CV 1.1 will be equal to $LS * X * Y = LS \times 0.69 \times 0.36$.
2. Adjustment to Contract Price pursuant to GCC 13.7 shall be applicable to the payments of Works executed under this Sub Head / Price Schedule.
3. Payment will be made on Completion of each Milestones as per weightage given in this schedule.
4. Stages CV.1.1 to CV.1.2 will further be subdivided into the number of piers + 1 abutments, as applicable as per approved drawing by the Engineer, and Milestones for completed work for each pier and abutment shall be made as per the requirement of the stages stated above.
5. For Steel Composite girder payment against sub cost centre CV.1.3.1 shall be released as per following schedule-
 - a. On receipt of material at site/workshop against submission of Bank Guarantee: 35%
 - b. Fabrication of girder: 20%
 - c. Erection/Launching: 25%
 - d. On completion in all respect: 20%

5.2.3 Stages of Payment i.e. Milestones of Cost Centre ‘CE’- Earthwork and Blanketing

Cost Centre		CE-Earthwork and Blanketing		
Weightage of Cost Centre ‘CE’, (X)		13.20%		
Sub-Cost Centre	Item of Work		Milestone	Weightage (Y)
	No.	Description		
1	2	3	4	5
CE.1- Earthwork	CE.1.1	Earthwork in formation from Ch (-) 855 m to 0 m for connectivity line, double main line track, loop lines, platform area in Prithla station yard.		
	CE. 1.1.1		Earthwork in embankment / cutting including compaction.	4.56%
	CE. 1.1.2		On cutting of extra width & dressing of slopes in profile, compaction, providing vegetative cover including coir netting (where specified) and drainage arrangement complete in all respects.	0.45%
	CE. 1.1.3		On completion of maintenance of slopes, drainage system & vegetative cover for a period of 12 months and after ensuring that vegetative cover is properly rooted .	0.20%
	CE.1.2	Earthwork in formation from Ch 0 to 1000 for double main line track, loop lines, platform area in Prithla station yard.		
	CE. 1.2.1		Earthwork in embankment/ cutting including compaction.	7.30%
	CE.1.2.2		On cutting of extra width & dressing of slopes in profile, compaction, providing vegetative cover including coir netting (where specified) and drainage arrangement complete in all respects.	0.60%

Cost Centre		CE-Earthwork and Blanketing		
Weightage of Cost Centre 'CE', (X)		13.20%		
Sub-Cost Centre	Item of Work		Milestone	Weightage (Y)
	No.	Description		
1	2	3	4	5
	CE.1.2.3		On completion of maintenance of slopes, drainage system & vegetative cover for a period of 12 months and after ensuring that vegetative cover is properly rooted.	0.20%
	CE.1.3	Earthwork in formation from Ch 1000 to 2000 for double main line track		
	CE.1.3.1		Earthwork in embankment / cutting including compaction.	3.20%
	CE.1.3.2		On cutting of extra width & dressing of slopes in profile, compaction, providing vegetative cover including coir netting (where specified) and drainage arrangement complete in all respects.	0.30%
	CE.1.3.3		On completion of maintenance of slopes, drainage system & vegetative cover for a period of 12 months and after ensuring that vegetative cover is properly rooted .	0.13%
	CE.1.4	Earthwork in formation from Ch 2000 to 3000 for double main line track		
	CE.1.4.1		Earthwork in embankment / cutting including compaction.	1.90%
	CE.1.4.2		On cutting of extra width & dressing of slopes in profile, compaction, providing vegetative cover including coir netting (where specified) and drainage arrangement complete in all respects.	0.20%
	CE.1.4.3		On completion of maintenance of slopes, drainage system & vegetative cover for a period of 12 months and after ensuring that vegetative cover is properly rooted .	0.10%

Cost Centre		CE-Earthwork and Blanketing		
Weightage of Cost Centre 'CE', (X)		13.20%		
Sub-Cost Centre	Item of Work		Milestone	Weightage (Y)
	No.	Description		
1	2	3	4	5
	CE.1.5	Earthwork in formation from Ch 3000 to 4000 for double main line track		
	CE.1.5.1		Earthwork in embankment / cutting including compaction.	3.10%
	CE.1.5.2		On cutting of extra width & dressing of slopes in profile, compaction, providing vegetative cover including coir netting (where specified) and drainage arrangement complete in all respects.	0.25%
	CE.1.5.3		On completion of maintenance of slopes, drainage system & vegetative cover for a period of 12 months and after ensuring that vegetative cover is properly rooted .	0.14%
	CE.1.6	Earthwork in formation from Ch 4000 to 5000 for double main line track.		
	CE.1.6.1		Earthwork in embankment / cutting including compaction.	2.70%
	CE.1.6.2		On cutting of extra width & dressing of slopes in profile, compaction, providing vegetative cover including coir netting (where specified) and drainage arrangement complete in all respects.	0.30%
	CE.1.6.3		On completion of maintenance of slopes, drainage system & vegetative cover for a period of 12 months and after ensuring that vegetative cover is properly rooted .	0.13%
	CE.1.7	Earthwork in formation from Ch 5000 to 6000 for doble main line track.		
	CE.1.7.1		Earthwork in embankment / cutting including compaction.	2.16%

Cost Centre			CE-Earthwork and Blanketing	
Weightage of Cost Centre 'CE', (X)			13.20%	
Sub-Cost Centre	Item of Work		Milestone	Weightage
	No.	Description		(Y)
1	2	3	4	5
	CE.1.7.2		On cutting of extra width & dressing of slopes in profile, compaction, providing vegetative cover including coir netting (where specified) and drainage arrangement complete in all respects.	0.20%
	CE.1.7.3		On completion of maintenance of slopes, drainage system & vegetative cover for a period of 12 months and after ensuring that vegetative cover is properly rooted .	0.10%
	CE.1.8	Earthwork in formation from Ch 6000 to 7000 for double main line track.		
	CE.1.8.1		Earthwork in embankment / cutting including compaction.	2.57%
	CE.1.8.2		On cutting of extra width & dressing of slopes in profile, compaction, providing vegetative cover including coir netting (where specified) and drainage arrangement complete in all respects.	0.30%
	CE.1.8.3		On completion of maintenance of slopes, drainage system & vegetative cover for a period of 12 months and after ensuring that vegetative cover is properly rooted .	0.10%
	CE.1.9	Earthwork in formation from Ch 7000 to 8000 for double main line track.		
	CE.1.9.1		Earthwork in embankment / cutting including compaction.	3.24%
	CE.1.9.2		On cutting of extra width & dressing of slopes in profile, compaction, providing vegetative cover including coir netting (where specified) and drainage arrangement complete in all respects.	0.30%

Cost Centre		CE-Earthwork and Blanketing		
Weightage of Cost Centre 'CE', (X)		13.20%		
Sub-Cost Centre	Item of Work		Milestone	Weightage (Y)
	No.	Description		
1	2	3	4	5
	CE.1.9.3		On completion of maintenance of slopes, drainage system & vegetative cover for a period of 12 months and after ensuring that vegetative cover is properly rooted .	0.15%
	CE.1.10	Earthwork in formation from Ch 8000 to 9000 for double main line track.		
	CE.1.10.1		Earthwork in embankment / cutting including compaction.	5.20%
	CE.1.10.2		On cutting of extra width & dressing of slopes in profile, compaction, providing vegetative cover including coir netting (where specified) and drainage arrangement complete in all respects.	0.46%
	CE.1.10.3		On completion of maintenance of slopes, drainage system & vegetative cover for a period of 12 months and after ensuring that vegetative cover is properly rooted .	0.20%
	CE.1.11	Earthwork in formation from Ch 9000 to 10000 for main line including platform area in Silani station yard.		
	CE.1.11.1		Earthwork in embankment / cutting including compaction.	2.65%
	CE.1.11.2		On cutting of extra width & dressing of slopes in profile, compaction, providing vegetative cover including coir netting (where specified) and drainage arrangement complete in all respects.	0.25%
	CE.1.11.3		On completion of maintenance of slopes, drainage system & vegetative cover for a period of 12 months and after ensuring that vegetative cover is properly rooted .	0.10%

Cost Centre		CE-Earthwork and Blanketing		
Weightage of Cost Centre 'CE', (X)		13.20%		
Sub-Cost Centre	Item of Work		Milestone	Weightage (Y)
	No.	Description		
1	2	3	4	5
	CE.1.12	Earthwork in formation from Ch 10000 to 11000 for main line including platform area in Silani station yard.		
	CE.1.12.1		Earthwork in embankment / cutting including compaction.	4.00%
	CE.1.12.2		On cutting of extra width & dressing of slopes in profile, compaction, providing vegetative cover including coir netting (where specified) and drainage arrangement complete in all respects.	0.40%
	CE.1.12.3		On completion of maintenance of slopes, drainage system & vegetative cover for a period of 12 months and after ensuring that vegetative cover is properly rooted .	0.15%
	CE.1.13	Earthwork in formation from Ch 11000 to 12000 for main line track.		
	CE.1.13.1		Earthwork in embankment / cutting including compaction.	4.26%
	CE.1.13.2		On cutting of extra width & dressing of slopes in profile, compaction, providing vegetative cover including coir netting (where specified) and drainage arrangement complete in all respects.	0.45%
	CE.1.13.3		On completion of maintenance of slopes, drainage system & vegetative cover for a period of 12 months and after ensuring that vegetative cover is properly rooted .	0.15%
	CE.1.14	Earthwork in formation from Ch 18000 to 19000 for main line track.		
	CE.1.14.1		Earthwork in embankment / cutting including compaction.	4.60%

Cost Centre			CE-Earthwork and Blanketing	
Weightage of Cost Centre 'CE', (X)			13.20%	
Sub-Cost Centre	Item of Work		Milestone	Weightage (Y)
	No.	Description		
1	2	3	4	5
	CE.1.14.2		On cutting of extra width & dressing of slopes in profile, compaction, providing vegetative cover including coir netting (where specified) and drainage arrangement complete in all respects.	0.45%
	CE.1.14.3		On completion of maintenance of slopes, drainage system & vegetative cover for a period of 12 months and after ensuring that vegetative cover is properly rooted .	0.20%
	CE.1.15	Earthwork in formation from Ch 19000 to 20000 for main line track.		
	CE.1.15.1		Earthwork in embankment / cutting including compaction.	8.14%
	CE.1.15.2		On cutting of extra width & dressing of slopes in profile, compaction, providing vegetative cover including coir netting (where specified) and drainage arrangement complete in all respects.	0.70%
	CE.1.15.3		On completion of maintenance of slopes, drainage system & vegetative cover for a period of 12 months and after ensuring that vegetative cover is properly rooted .	0.20%
	CE.1.16	Earthwork in formation from Ch 20000 to 20942.473 for main line track.		
	CE.1.16.1		Earthwork in embankment / cutting including compaction.	6.10%
	CE.1.16.2		On cutting of extra width & dressing of slopes in profile, compaction, providing vegetative cover including coir netting (where specified) and drainage arrangement complete in all respects.	0.56%

Cost Centre		CE-Earthwork and Blanketing		
Weightage of Cost Centre 'CE', (X)		13.20%		
Sub-Cost Centre	Item of Work		Milestone	Weightage (Y)
	No.	Description		
1	2	3	4	5
	CE.1.16.3		On completion of maintenance of slopes, drainage system & vegetative cover for a period of 12 months and after ensuring that vegetative cover is properly rooted .	0.20%
	CE.2.1	Earthwork in formation from Ch (-) 855 to 0 for connectivity line, double main line track & loop lines in Prithala station yard.	Blanketing on subgrade/ prepared subgrade as per design profile including compaction complete in all respects.	1.58%
	CE.2.2	Earthwork in formation from Ch 0 to 1000 for double main line track & loop lines in Prithala station yard. .	Blanketing on subgrade/ prepared subgrade as per design profile including compaction complete in all respects.	2.10%
	CE.2.3	Blanketing from Ch 1000 to 2000 for double main line track	Blanketing on subgrade/ prepared subgrade as per design profile including compaction complete in all respects.	1.31%
CE.2-Blanketing	CE.2.4	Blanketing from Ch 2000 to 3000 for double main line	Blanketing on subgrade/ prepared subgrade as per design profile including compaction complete in all respects.	1.37%
	CE.2.5	Blanketing from Ch 3000 to 4000 for double main line track.	Blanketing on subgrade/ prepared subgrade as per design profile including compaction complete in all respects.	1.38%
	CE.2.6	Blanketing from Ch 4000 to 5000 for double main line track.	Blanketing on subgrade/ prepared subgrade as per design profile including compaction complete in all respects.	1.27%
	CE.2.7	Blanketing from Ch 5000 to 6000 for doble main line track.	Blanketing on subgrade/ prepared subgrade as per design profile including compaction complete in all respects.	1.36%
	CE.2.8	Blanketing from Ch 6000 to 7000 for double main line track.	Blanketing on subgrade/ prepared subgrade as per design profile including compaction complete in all respects.	1.36%

Cost Centre			CE-Earthwork and Blanketing	
Weightage of Cost Centre 'CE', (X)			13.20%	
Sub-Cost Centre	Item of Work		Milestone	Weightage
	No.	Description		(Y)
1	2	3	4	5
	CE.2.9	Blanketing from Ch 7000 to 8000 for double main line track.	Blanketing on subgrade/ prepared subgrade as per design profile including compaction complete in all respects.	1.39%
	CE.2.10	Blanketing from Ch 8000 to 9000 for double main line track.	Blanketing on subgrade/ prepared subgrade as per design profile including compaction complete in all respects.	1.26%
	CE.2.11	Blanketing from Ch 9000 to 10000 for main line in Silani station yard.	Blanketing on subgrade/ prepared subgrade as per design profile including compaction complete in all respects.	1.26%
	CE.2.12	Blanketing from Ch 10000 to 11000 for main line in Silani station yard.	Blanketing on subgrade/ prepared subgrade as per design profile including compaction complete in all respects.	1.18%
	CE.2.13	Blanketing from Ch 11000 to 12000 for main line track.	Blanketing on subgrade/ prepared subgrade as per design profile including compaction complete in all respects.	2.24%
	CE.2.14	Blanketing from Ch 18000 to 19000 for main line track.	Blanketing on subgrade/ prepared subgrade as per design profile including compaction complete in all respects.	2.49%
	CE.2.15	Blanketing from Ch 19000 to 20000 for main line track.	Blanketing on subgrade/ prepared subgrade as per design profile including compaction complete in all respects.	3.09%
	CE.2.16	Blanketing from Ch 20000 to 20942.473 for main line track.	Blanketing on subgrade/ prepared subgrade as per design profile including compaction complete in all respects.	1.06%
			Total	100.00%

Notes:

1. The value of each Milestones will be total lump sum accepted cost of Works for Schedule 'A' (LS) multiplied by X * Y. For example, the value of Milestone CE1.1.1 will be equal to $LS * X * Y = LS \times 0.132 \times 0.0456$.

2. Adjustment to Contract Price pursuant to GCC 13.7 shall be applicable to the payments of Works executed under this Sub Heads / Price Schedule.
3. Payment will be made on Completion of each Milestones as per weightage given in this schedule.
4. If owing to site conditions or any other reasons, locations of retaining walls are changed or new retaining walls are constructed or retaining walls are eliminated & normal bank is provided, the variation caused in quantity of earthwork in embankment on this account shall be payable/ recoverable under Item no. NS-4 of Schedule 'B9'.

5.2.4 Milestones of Cost Centre 'CB'- for Bridges

Cost Centre		CB- Bridges		
Weightage of Cost Centre 'CB', (X)		12.00%		
Sub-cost Centre	Item of Work		Milestone	Weightage
	No.	Description		(Y)
1	2	3	4	5
CB1-Minor Bridges	CB.1.1	Construction of minor bridge No. 6 & 7 between Ch (-) 855 to 0.	On completion of bridge works in all respects	4.06%
	CB.1.2	Construction of minor bridge No. 9,10 & 11 between Ch 0 to 1000.	On completion of bridge works in all respects	8.23%
	CB1.3	Construction of minor bridge No. Nil between ch 1000 to 2000.	On completion of bridge works in all respects	0.00%
	CB1.4	Construction of minor bridge No. 13 & 14 between ch 2000 to 3000.	On completion of bridge works in all respects	4.71%
	CB1.5	Construction of minor bridge No. 15 between ch 3000 to 4000.	On completion of bridge works in all respects	0.47%
	CB1.6	Construction of minor bridge No. 18,19 & 20 between Ch 4000 to 5000.	On completion of bridge works in all respects	5.43%
	CB1.7	Construction of minor bridge No. 21 & 22 between Ch 5000 to 6000 .	On completion of bridge works in all respects	2.25%
	CB1.8	Construction of minor bridge No. 23 & 24 between ch 6000 to 7000.	On completion of bridge works in all respects	1.96%
	CB1.9	Construction of minor bridge No. 25 & 27	On completion of bridge works in all respects	2.10%

		between Ch 7000 to 8000.		
	CB1.10	Construction of minor bridge No.29, 30, 31 & 32 between Ch 8000 to 9000 .	On completion of bridge works in all respects	3.63%
	CB1.11	Construction of minor bridge No. 33 & 35 between Ch 9000 to 10000.	On completion of bridge works in all respects	2.34%
	CB1.12	Construction of minor bridge No. 38, 40 & 42 between ch 10000 to 11000.	On completion of bridge works in all respects	5.40%
	CB1.13	Construction of minor bridge No. 43 & 44 between Ch 11000 to 12000 .	On completion of bridge works in all respects	3.19%
	CB1.14	Construction of minor bridge No. 64 & 65 between Ch 18000 to 19000.	On completion of bridge works in all respects	5.11%
	CB1.15	Construction of minor bridge No. 67 between Ch 19000 to 20000.	On completion of bridge works in all respects	8.04%
	CB1.16	Construction of minor bridge No. Nil between Ch20000 to 20940 for main line track.		0.00%
CB.2- Major Bridges	CB.2.1	Foundation	On completion of the foundation work including pile caps/ well caps and foundations for wing and return walls, and testing.	16.08%
	CB.2.2	Substructure	On Completion of Abutment/Piers including Abutment/Pier Cap without bearings.	
	CB.2.2.1		Pier/Abutment	4.00%
	CB.2.2.2		Pier/Abutment cap	1.00%

	CB.2.2.3		Completion of the wing walls, return walls in all respects	2.00%
	CB.2.3	Superstructure		
	CB.2.3.1		On completion of superstructure including launching in position.	10.00%
	CB.2.3.2		On fixing of bearings in position true to line & level and placement of superstructure on bearings including grouting of holding down bolts complete.	2.00%
	CB.2.4	Miscellaneous works		
	CB.2.4.1		On completion of backfill, transition system on approaches, Trolley refuge, Pathway on the sides, Inspection arrangement including access ladder etc.as per approved drawings and Employer's Requirements.	3.00%
	CB.2.4.2		On completion of balance works as per drawing like-Protection works including Toe wall, flooring/apron, inspection steps, Bridge plaque, Bridge board, painting of HFL, Height Gauge, approach road, drainage arrangement in RUBs, and Testing on completion, if any, complete in all respect and fit for use.	5.00%
	Total			100.00%

Notes:

1. The value of each Milestones will be total lump sum accepted cost of Works for Schedule 'A' (LS) multiplied by X * Y. For example, the value of Milestone CB 1.1 will be equal to $LS * X * Y = LS * 0.12 * 0.0406$.
2. Adjustment to Contract Price pursuant to GCC 13.7 shall be applicable to the payments of Works executed under this Sub Head / Price Schedule.
3. CB2.2-Major Bridges:
 - (vi) For the purpose of stage payment/Milestones, cost of a bridge shall be taken in proportion to its linear length measured along the alignment to the total linear length of all major bridges.
 - (vii) Payment of each stage/Milestones for a bridge will be made on completion of the relevant stage as per the weightage given in this schedule in proportion to the cost of the bridge.
4. Stages CB.2.1 to CB.2.2 will further be subdivided into the number of piers + 2 abutments, as applicable as per approved drawing by the Engineer, and Milestones for completed work for each pier and abutment shall be made as per the requirement of the stages stated above.
5. For steel Open Web Girder (OWG) and Composite girders payment against Cost centre CB.2.3.1 shall be released as per following schedule-
 - (i) Receipt of material at approved location against submission of Bank Guarantees: 40%
 - (ii) Fabrication of girder and transportation to site: 25%
 - (iii) Erection/launching and completion of all other balance works: 35%,and for PSC girder/slabs payment against sub cost centre 2.3.1 shall be released as per following schedule-
 - (i) On casting of PSC girder/slabs: 50%
 - (ii) On first stage prestressing: 20%
 - (iii) On completion in all respect: 30%
6. The Cost of Milestones includes cost of all temporary works and temporary diversion of roads wherever required, for all bridges included in Schedule 'A', Section VII-2:Functional, Employer's Requirements.
7. The Cost of Milestones include cost of all permanent roads diversion and regrading of roads, wherever required, for all bridges included in Schedule 'A'.

5.2.5 Stages of Payment i.e. Milestones of Cost Centre ‘CS’- Stations Buildings

Cost Centre		‘CS’- Stations Buildings		
Weightage of Cost Centre ‘CS’, (X)-		4.30%		
Sub-Cost Centre	Item of Work		Milestone	Weightage (Y)
	No.	Description		
1	2	3	4	5
CS.1-Prithla	CS.1.1	Station building	Construction of station building complete in all respects.	3.40%
	CS.1.2	Platform & Passenger amenities		
	CS.1.2.1		Construction of platforms including earthwork in filling above formation level and cast-in-situ platform face wall as per the Employer’s requirements.	4.70%
	CS.1.2.2		Surfacing of platform, Precast coping, tactile tiles, fencing at end platform etc.	4.20%
	CS.1.2.3		PF shelters, Mini PF shelters.	1.50%
	CS.1.2.4		Passenger amenities	1.20%
	CS.1.3	Subway		
	CS.1.3.1		On completion of barrel of RCC box.	8.00%
	CS.1.3.2		On completion of stairs & ramp to platforms including shed.	3.50%
	CS.1.3.3		On completion of subway in all respect including flooring, wall cladding, drainage, waterproofing etc.	2.00%
	CS.1.4	Water Supply	Water supply works including bore well, pump house, underground & overhead water storage tanks, water supply distribution system	1.00%
	CS.1.5	Drainage and Sewerage	On completion of drainage and sewerage system.	2.50%
	CS.1.6	Miscellaneous works	On completion of misc. works such as portico, station name boards at station building and platform, platform number boards and other incidental works in railway station area.	1.00%

CS.2-Silani	CS.2.1	Station building	Construction of ticket booking office complete in all respects.	0.25%
	CS.2.2	Platform & Passenger amenities		
	CS.2.2.1		Construction of platforms including earthwork in filling above formation level and cast-in-situ platform face wall as per the Employer's requirements.	3.40%
	CS.2.2.2		Surfacing of platform, Precast coping, tactile tiles, fencing at end platform etc.	3.00%
	CS.2.2.3		PF shelters, Mini PF shelters.	1.50%
	CS.2.2.4		Passenger amenities	1.00%
	CS.2.3	Subway		
	CS.2.3.1		On completion of barrel of RCC box.	5.75%
	CS.2.3.2		On completion of stairs & ramp to platforms including shed.	3.50%
	CS.2.3.3		On completion of subway in all respect including flooring, wall cladding, drainage, water proofing etc.	1.75%
	CS.2.4	Water Supply	Water supply works including bore well, pump house, underground & overhead water storage tanks, water supply distribution system.	1.00%
	CS.2.5	Drainage and Sewerage system	On completion of drainage and sewerage system.	1.50%
	CS.2.6	Miscellaneous works	On completion of misc. works such as portico, station name boards at station building and platform, platform number boards area and other incidental works in railway station area.	0.75%
CS.3-IMT Sohna	CS.3.1	Station building	Construction of station building and Auto Location Huts (ALH) complete in all respects.	4.20%
	CS.3.2	Platform & Passenger amenities		

	CS.3.2.1		Construction of platforms including earthwork in filling above formation level and cast-in-situ platform face wall as per the Employer's requirements.	4.70%
	CS.3.2.2		Surfacing of platforms, Precast coping, tactile tiles, fencing at end platform etc.	4.40%
	CS.3.2.3		PF shelters, Mini PF shelters.	1.50%
	CS.3.2.4		Passenger amenities	1.20%
	CS.3.3	Subway		
	CS3.3.1		On completion of barrel of RCC box.	17.50%
	CS3.3.2		On completion of stairs, ramp to platforms including shed, Lift well.	3.50%
	CS3.3.3		On completion of subway in all respect including flooring, wall cladding, drainage, water proofing etc.	2.50%
	CS.3.4	Water Supply	On completion of water supply works including bore well, pump house, underground water storage tanks, water supply distribution system	1.00%
	CS.3.5	Drainage and Sewerage system	On completion of drainage and sewerage system.	1.50%
	CS.3.6	Miscellaneous works	On completion of misc. works such as portico, station name boards at station building and platforms, platform number boards and other incidental works in railway station area.	1.60%
	Total			100.00%

Notes:

- The value of each Milestones will be total lump sum accepted cost of Works for Schedule 'A' (LS) multiplied by X * Y. For example, the value of Milestone CS1.1-will be equal to $LS * X * Y = LS \times 0.043 \times 0.034$
- Adjustment to Contract Price pursuant to GCC 13.7 shall be applicable to the payments of Works executed under this Sub Head / Price Schedule.
- Station Building- Unit of measurement is plinth area in square meters. For the buildings having more than one storey, the total area shall be found out by adding the area of each storey. Unit cost shall be determined on pro rata basis with respect to the total area of all stations and service buildings.
 - 50% Payment shall be paid after completion of structural works i.e beam, columns & slab in case of framed structure or walls & slabs in case of other buildings and

- 30% Payment shall be paid after completion of finishing and
 - 20% Payment on final completion of works in all respects ready for use.
4. Platform- Unit of measurement is area measured in square meter. Unit cost shall be determined on pro rata basis with respect to the total area of all platforms at the station.
 5. Payment will be made on Completion of each Milestones as per weightage given in this schedule.
 6. Variation in 'Station building':
In case of variation in the plinth area of any station building on either side i.e. increase or decrease with respect to the area shown in the Tender Drawings, the total value of station as mentioned in respective Sub-Cost Centres as applicable will get modified accordingly on pro rata basis of plinth area.

6 Schedule 'B': Retaining Wall, Bridges & other Civil works

Schedule 'B' is subdivided into fourteen (14) Sub-Schedules as given below:

SCHEDULE 'B': Bridges, Retaining Wall & other Civil works					
S. No.	Sub Schedule	Description	Item Range	No. of Items	Estimated Amount (INR)
1.	B1	Bridge Works-Steel Super Structure -Open Web Girder (USSOR Based item)	1	1	67,70,29,509.30
2.	B2	Reinforcement (USSOR Based items)	2	1	39,25,25,087.50
3.	B3	RCC Works (NS item)	3	1	17,62,43,627.52
4.	B4	Bridge Works-Pile foundation (NS items)	4	1	10,69,13,193.00
5.	B5	Bridge Works-Steel Super Structure-Composite Girder (USSOR Based item)	5	1	7,63,87,291.44
6.	B6	Backfill Material (USSOR Based item)	6	1	7,12,94,621.42
7.	B7	Bridge Works-Precast Concrete Blocks (NS item)	7	1	4,97,20,839.72
8.	B8	Cement (USSOR Based items)	8	1	4,09,37,764.39
9.	B9	Formation Works (USSOR Based & NS items)	9 to 12	4	6,02,08,512.50
10.	B10	Bridge Works-Steel Super Structure -Miscellaneous (USSOR Based items)	13 to 14	2	10,53,31,396.00
11.	B11	Well foundation, Concrete Superstructure, RE wall & Other miscellaneous Works (USSOR Based & NS items)	15 to 51	37	15,93,37,315.62
12.	B12	Road and Building Works (DSR Based & NS items)	52 to 108	57	16,60,31,563.15
13.	B13	Bridge Bearing & Miscellaneous Structural Steel Works (USSOR Based & NS items)	109 to 123	15	9,20,01,357.06
14.	B14	P Way Works-Ballastless Track, Rails & Special Sleepers (NS items)	124 to 129	6	8,84,27,376.10
Total Estimated Amount of Schedule 'B' (INR)					2,26,23,89,454.72

6.1 Sub-Schedule 'B1': Bridge Works- Steel Super Structure -Open Web Girder (USSOR Based item)

SUB SCHEDULE-B1: Bridge Works-Steel Super Structure -Open Web Girder (USSOR Based item)						
S. No.	USSOR Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
1	041010	<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> <ol style="list-style-type: none"> Detailed fabrication and erection drawings & launching methodology will be prepared by the contractor and got approved from Railway. The item includes fabrication of all types of battens, bracings, ties, stiffeners, packing, diaphragms, shop rivets / welding, T&F bolts, drifts, SAW, templates, jigs, fixtures, accessories, transporting various components from fabrication shop to site including loading & unloading, assembly of girders with drifts/bolts, field riveting /welding /HSFG Bolting, assembling of temporary support for side slewing, raising of girders to the bed block level, providing sliding arrangements and slewing the girder in position, lowering of girder on 				

SUB SCHEDULE-B1: Bridge Works-Steel Super Structure -Open Web Girder (USSOR Based item)						
S. No.	USSOR Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
		<p>bearings and bed plates with all temporary arrangements or any other method of launching complete.</p> <p>3. The bearing sets to be provided with the girders will be paid separately as per relevant item of Sub schedule B13.</p> <p>4. Payment for addition in weight for rivets / welds shall be made as per clause 45 of IRS B-1-2001.</p> <p>5. In case of composite work (welding and HSFG bolts), addition in weight shall be 1% for welding and HSFG bolts shall be paid separately under relevant item of Sub schedule B10.</p> <p>6. Painting of girders will be paid separately under relevant item of this Sub schedule B10.</p> <p>7. Payment Schedule: (i) Receipt of material at plant/workshop against submission of Bank Guarantee: 40% (ii) Fabrication of girders: 20% (iii)Erection/Launching: 20% (iv)Completion in all respects: 20%</p>				
1a	041012	Open Web Girder Upto 45.7 m Clear Span	2,091	MT	1,61,971.98	33,86,83,410.18
1b	041013	Open Web Girder Above 45.7 m Clear Span	1,959	MT	1,72,713.68	33,83,46,099.12
Estimated value of SUB SCHEDULE 'B1': Bridge Works-Steel Super Structure -Open Web Girder (USSOR Based item)						67,70,29,509.30

6.2 Sub-Schedule 'B2'- Reinforcement (USSOR Based items)

SUB SCHEDULE 'B2': Reinforcement (USSOR Based items)						
S. No.	USSOR Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
2	025070	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete.				
2a	025072	Thermo-Mechanically Treated bars of grade Fe-500D or more.	49,49,875	Kg	79.30	39,25,25,087.50
Estimated value of SUB SCHEDULE 'B2': Reinforcement (USSOR Based items)						39,25,25,087.50

6.3 Sub-Schedule 'B3': RCC Works (NS Item)

SUB SCHEDULE-'B3' RCC Works (NS item)						
S. No.	NS Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
3	NS-1	<p>Supplying and laying in position M-35 RCC as per approved design mix with admixtures and manufactured in fully automatic batching plant and transported to site of work in transit mixer for all lifts & leads, having continuous agitated mixer, pumping concrete from transit mixer to site of laying, compacting, finishing & curing, with all labour, material, tools, plants, machinery and equipment, taxes, cess etc., as a complete job ,but excluding supplying & fixing form work (centring & shuttering),in accordance with the specification and drawings.</p> <p>Note –</p> <p>(i) Cost of cement is included in the above item.</p> <p>(ii) Cost of Reinforcement steel is not included in the above item and will be paid separately under relevant item of Sub-Schedule B2.</p> <p>(iii) Cost of supplying & fixing form work (centring & shuttering) is not included in the above item (except pile cap & open foundation) and will be paid separately under relevant item of Sub-Schedule B11.</p>				
3a	NS-1A	In Pile caps, open foundation & RCC Box/Sub way	13,304	Cum	7,732.00	10,28,66,528.00
3b	NS-1B	In Piers, abutments	1,941	Cum	7,995.23	1,55,18,741.43

SUB SCHEDULE-'B3' RCC Works (NS item)						
S. No.	NS Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
3c	NS-1C	Abutment cap & Pier Cap, pedestals, deck slab, Inspection platform, Trolley refuge	1,781	Cum	8,259.09	1,47,09,439.29
3d	NS-1D	Retaining walls, wing walls, return walls, drop walls, curtain walls, Wearing Coat etc. of all heights	5,515	Cum	7,823.92	4,31,48,918.80
Estimated Value of SUB SCHEDULE 'B3': RCC Works (NS item)						17,62,43,627.52

6.4 Sub-Schedule 'B4': Bridge Works-Pile foundation (NS items)

SUB SCHEDULE-B4: Bridge Works-Pile foundation (NS items)						
S. No.	NS Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
4	NS-2	<p>Boring 1200 mm diameter piles using Hydraulic Rig in all kinds of strata including boulder studded soil, underground structure like channel, sewer manholes, old foundation or any other obstruction, irrespective of sub-soil water level in all conditions whether dry or under water, shoe and temporary casing pipe, if required, with contractor plant, machinery & equipment for pile boring, use of bentonite slurry including all operations, cleaning of bore holes, supplying and laying in-situ with tremie pipe M-35 RCC in piles as per approved design mix with admixtures and manufactured in fully automatic batching plant and transported to site of work in transit mixer for all lifts & leads, having continuous agitated mixer, pumping concrete from transit mixer to site of laying including supplying & fixing form work (centering & shuttering), compacting, finishing, curing, chipping off pile top to remove laitance concrete above cut off level, removal and disposal of surplus excavated earth/debris/muck outside ROW including all lead, lift, ascends, descends, loading, unloading handling, re-handling, crossing of stream, nallahs, railway track, level crossing etc. with all labour, material, tools, plants, machinery and equipment, taxes, cess etc. as a complete job in accordance with the Specification and the Drawings.</p> <p>Note –</p> <p>i. Cost of cement is included in the above item.</p> <p>ii. Cost of Reinforcement steel is not included in the above item</p>	8,718	Rmt	12,263.50	10,69,13,193.00

SUB SCHEDULE-B4: Bridge Works-Pile foundation (NS items)						
S. No.	NS Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
		and will be paid separately under relevant item of Sub-schedule-B2 iii. Cost of temporary casing pipe is included in the above item. However, the cost of permanent casing pipe is not included in this item and shall be paid separately under relevant item of Sub-schedule-B13, if required and approved by the Engineer.				
Estimated Value of SUB SCHEDULE 'B4': Bridge Works-Pile foundation (NS items)						10,69,13,193.00

6.5 Sub-Schedule 'B5': Bridge Works-Steel Super Structure - Composite

SUB SCHEDULE 'B5': Bridge Works-Steel Super Structure- Composite Girder (USSOR Based item)						
S. No.	USSOR Item No	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
5	041020	<p>Supplying, fabrication, assembling of all types of steel Composite 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 on sub-structure including provision of stud bolts / shear connectors, 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. Rate includes fabrication of all types of battens, bracings, ties, stiffeners, packing, diaphragms, shop rivets / welding, T&F bolts, drifts, SAW, templates, jigs, fixtures, accessories, transporting various components from fabrication shop to site including loading & unloading, assembly of girders with drifts/bolts, field riveting /welding /HSFG Bolting, assembling of temporary support for side slewing, raising of girders to the bed block level, providing sliding</p>				

		<p>arrangements and slewing the girder in position, lowering of girder on bearings and bed plates with all temporary arrangements or any other method of launching complete.</p> <p>3. The bearing sets to be provided with the girders will be paid separately as per relevant item of Sub schedule B13.</p> <p>4. Payment for addition in weight for rivets / welds shall be made as per clause 45 of IRS B-1-2001.</p> <p>5. In case of composite work (welding and HSFG bolts), addition in weight shall be 1% for welding and HSFG bolts shall be paid separately under relevant item of Sub schedule B10.</p> <p>6. Painting of girders will be paid separately under relevant item of Sub schedule B10.</p> <p>7. Payment Schedule:</p> <p>(i) Receipt of material at plant/workshop against submission of Bank Guarantee: 40%</p> <p>(ii) Fabrication of girders: 20%</p> <p>(iii) Erection/Launching: 20%</p> <p>(iv) Completion in all respects: 20%</p>				
5a	041021	Composite steel girder of span length up to 36.0m	564	MT	1,35,438.46	7,63,87,291.44
<p>Estimated Value of SUB SCHEDULE 'B5': Bridge Works-Steel Super Structure- Composite Girder (USSOR Based item)</p>						7,63,87,291.44

6.6 Sub-Schedule 'B6': Backfill Material (USSOR Based item)

SUB SCHEDULE 'B6' : Backfill Material (USSOR Based item)						
S. No.	USSOR/ NS Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
6	051170	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.	32,782	Cum	2,174.81	7,12,94,621.42
Estimated Value of SUB SCHEDULE 'B6': Backfill Material (USSOR Based item)						7,12,94,621.42

6.7 Sub-Schedule 'B7': Bridge Works-Precast Concrete Blocks (NS item)

SUB SCHEDULE 'B7': Bridge Works-Precast Concrete Blocks (NS item)						
S. No.	USSOR/ NS Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
7	NS-3	<p>Casting, supplying and installation of Pre-cast cement concrete blocks of size 25X25 X20cm. or of required size as directed by the Engineer for protective works at bridges & banks like pitching, toe wall, flooring, drains etc. using M20 design concrete mix with 20mm aggregate size including Contractor's shuttering, leading to bridge site from casting depot, including dressing and levelling of surface, providing gravel backing, laying & jointing blocks with cement mortar 1:3 with Contractor's labour and as directed by Engineer-in-charge (All labour and materials including cement by Contractor).</p> <p>Note:</p> <p>i) Payment for gravel backing will be paid under relevant item of Sub schedule B11.</p> <p>ii) 60% Payment shall be made after casting of pre-cast concrete blocks and bringing at work site. The balance 40% will be made on completion of laying and finishing.</p> <p>iii) Measurement is based on quantity calculation of blocks used only (no of blocks x volume of one block).</p>	8,102	Cum	6,136.86	4,97,20,839.72
Estimated Value of SUB SCHEDULE 'B7': Bridge Works-Precast Concrete Blocks (NS item)						4,97,20,839.72

6.8 Sub-Schedule 'B8': Bridge Works-Steel Super Structure -Miscellaneous (USSOR Based items)

SUB SCHEDULE 'B8': Cement (USSOR Based items)						
S. No.	USSOR Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
8	025060	Supply and using Cement at Worksite				
8a	025062	Ordinary Portland Cement 53 grade	295	MT	8,741.08	25,78,618.60
8b	025063	Pozzolana Portland Cement	4,921	MT	7,794.99	3,83,59,145.79
Estimated Value of SUB SCHEDULE 'B8': Cement (USSOR Based items)						4,09,37,764.39

6.9 Sub-Schedule 'B9': Formation Works (USSOR Based & NS items)

SUB SCHEDULE 'B9' Formation Works (USSOR Based & NS items)						
S.NO.	USSOR/NS Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
9	011010	<p>Earthwork in cutting (classified) in formation, trolley refuges, side drains, level crossing approaches, platforms, catch water drains, diversion of nallah & finishing to required dimension and slopes to obtain a neat appearance to standard profile inclusive of all labour, machine & materials and removing & leading all cut spoils either to make spoil dumps beyond 10m from cutting edge or for filling in embankment with leads within 2 km on either side of cutting edge, lifts, ascent, descent, loading, unloading, all taxes / royalty, clearance of site and all incidental charges, bailing & pumping out water, if required, etc. complete as per directions of the Engineer in-Charge. The work is to be executed as per latest / updated edition of "Guidelines for Earthwork in Railway Projects" issued by RDSO, Lucknow. Cut trees shall be property of HRIDC and to be deposited in the Employers' godown unless specified otherwise in the Special Conditions of Contract.</p> <p>{Note - (i) All usable earth arising from cut spoils shall be led into bank formation and Unusable spoils shall be dumped / stacked</p> <p>(ii) All hard rock /and boulders not fit for filling will be stacked by the Contractor and will be property of HRIDC.}</p>				
9a	011011	In all conditions and classifications of soil except rock	1,000	Cum	184.70	1,84,700.00

SUB SCHEDULE 'B9' Formation Works (USSOR Based & NS items)						
S.NO.	USSOR/NS Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
10	013050	Turfing / planting, including all lead & lift and watering as required until properly rooted with. Note - Initially payment of only 40% will be made. Balance 60% will be paid only after 3 months of maintenance period, if the turfing is properly rooted.				
10a	013053	Planting Sarkanda / sarpat or any other suitable species approved by the Engineer	250	100 sqm	7,744.21	19,36,052.50
11	NS-4	Earthwork in embankment for 32.5t axle load and as per RDSO specification No. RDSO/2020/GE:004 September 2020 "Comprehensive Guidelines and Specification for Railway Formation" with contractor's own earth from borrow areas including all lead, lift, ascent, descent, royalty, taxes, cess, compensation, crossing of nallahs /stream and other obstructions including mechanical compaction in layers with watering, handling, re-handling, dressing of banks to the final profile with all labour, material, tools, plant, machinery and equipment, taxes, cess etc. as a complete job in accordance with the specification and drawings. Note: 10% of payment shall be withheld till the slopes are dressed to the required profile and compacted mechanically with vibratory rollers as per RDSO guidelines.	1,35,000	Cum	330.24	4,45,82,400.00

SUB SCHEDULE 'B9' Formation Works (USSOR Based & NS items)						
S.NO.	USSOR/NS Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
12	NS-5	<p>Supplying and laying blanketing material produced through mechanical means using crushers and pug mill for 32.5 T axle load as per RDSO specification No. RDSO/2020/GE:004 September 2020 "Comprehensive Guidelines and Specification for Railway Formation" over the top of subgrade including all lead, lift, ascent, descent, royalty, taxes, cess, crossing of nallahs /stream and other obstructions including mechanical compaction in layers not exceeding 200 mm thick with vibratory rollers, watering, handling, re-handling and dressing of formation to the final profile with all labour, material, tools, plants, machinery and equipment, taxes, cess, etc. as a complete job in accordance with the specification and drawings.</p> <p>Note: 10% of payment shall be withheld till the slopes are dressed to the required profile and compacted mechanically with vibratory rollers as per RDSO guidelines.</p>	5,500	Cum	2,455.52	1,35,05,360.00
Total Estimated Value of SUB SCHEDULE 'B9': Formation Works (USSOR Based & NS items)						6,02,08,512.50

6.10 Sub-Schedule 'B10': Bridge Works-Precast Concrete Blocks (NS item)

SUB SCHEDULE 'B10' Bridge Works-Steel Super Structure -Miscellaneous (USSOR Based items)						
S. No.	USSOR Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
13	041030	Supplying and fixing HSFGB 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.	1,87,500	Kg	306.36	5,74,42,500.00
14	041050	Metalizing 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 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.	56,320	Sqm	850.30	4,78,88,896.00
Estimated Value of SUB SCHEDULE 'B10' Bridge Works-Steel Super Structure -Miscellaneous (USSOR Based items)						10,53,31,396.00

6.11 Sub-Schedule 'B11': Well foundation, Concrete Superstructure, RE wall & Other miscellaneous Works (USSOR Based & NS items)

SUB SCHEDULE 'B11': Well foundation, Concrete Superstructure, RE wall & Other miscellaneous Works (USSOR Based & NS items)						
S. No.	USSOR Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
15	013130	Shoring with 'Z' section MS sheet piles side by side in all kinds of soil mechanically or manually as per approved drawing with contractor's own arrangement complete in all respects and removal of sheet piles after completion of the work as directed by engineer in-charge. {Note - Payment will be made as per actual driven length of pile}	400	Sqm	917.12	3,66,848.00
16	014020	Supplying and laying of drainage composite for use behind abutments, wing walls, return walls and retaining walls geo composite drain (vertical) as per RDSO Specification No.-RDSO/2018/GE: IRS-0006 Latest version with all material, labour, equipment, tools and plants, lead, lift etc. complete in all respects as per the direction of engineer-in-charge.	1,407	Sqm	755.43	10,62,890.01

SUB SCHEDULE 'B11': Well foundation, Concrete Superstructure, RE wall & Other miscellaneous Works (USSOR Based & NS items)						
S. No.	USSOR Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
17	022010	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 upto 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. 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.				
17a	022011	All kinds of soils	47,932	Cum	238.30	1,14,22,195.60

SUB SCHEDULE 'B11': Well foundation, Concrete Superstructure, RE wall & Other miscellaneous Works (USSOR Based & NS items)						
S. No.	USSOR Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
18	022040	<p>Providing and laying in position machine batched, machine mixed and machine vibrated Design Mix Cement Concrete of specified grade (M-20 Cast in-Situ) using 20mm graded crushed stone aggregate and coarse sand of approved quality in RCC raft foundation & Pile cap including finishing, using Admixtures in approved proportions (as per IS:9103), to modify workability & other properties without impairing strength and durability complete as per specifications and direction of the Engineer in charge. Payment for cement, reinforcement and shuttering shall be paid extra.</p> <p>Note-Cement concrete in drainage and other miscellaneous works shall be paid under this item.</p>	8,804	Cum	3,383.45	2,97,87,893.80
19	022070	<p>Providing and fixing Weep Holes in Abutments, RCC Box, Wing walls and Return walls etc, of new bridges with 110mm dia UPVC pipe (IS :13592) Type A ISI marked with all contractor's men, material, transportation, all taxes as per specifications and as directed by Engineer-in-Charge.</p>	5,601	Meter	259.80	14,55,139.80

SUB SCHEDULE 'B11': Well foundation, Concrete Superstructure, RE wall & Other miscellaneous Works (USSOR Based & NS items)						
S. No.	USSOR Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
20	022120	Conducting load testing of a single pile upto following 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.				
20a	022123	Initial load test above 100 ton capacity upto 250 ton capacity pile	6	Each	97,491.59	5,84,949.54
20b	022124	Extra for every increase of 50 ton in pile capacity or part thereof over 250 ton	50	Each	9,599.01	4,79,950.50
20c	022127	Routine Load Test above 100 ton capacity upto 250 ton capacity pile	26	Each	65,525.51	17,03,663.26
21	022130	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				
21a	022131	Piles with lateral load capacity of upto 50 ton	5	Each	24,363.19	1,21,815.95
22	022140	Pulse Echo Test (PET) for integrity testing of piles with contractor's men, materials and machines. The rate includes cost of Inspection of site, preparation of pile head and any other	356	Each	3,476.42	12,37,605.52

SUB SCHEDULE 'B11': Well foundation, Concrete Superstructure, RE wall & Other miscellaneous Works (USSOR Based & NS items)						
S. No.	USSOR Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
		unforeseen cost required for the test, submission of reports in triplicate as per satisfaction of the Engineer in Charge at site.				
23	023010	Earth work in OPEN excavation in foundation of bridges, for placing of well curbs of all shapes and designs in all kinds of soil including taking out the excavated soil, levelling, ramming of bottom of excavation and trimming of sides, returning the soil in layers, consolidation, disposal of surplus soil within a lead of 300m, including all lift, dewatering, shoring and strutting complete as per technical specification and as directed by Engineer in charge. (compaction of surplus soil when led to the bank will be paid as per relevant item separately)	1,654	Cum	263.18	4,35,299.72
24	023040	Dry/Wet Sinking of Circular Wells (Other than pneumatic method) in all types of strata except hard rock requiring ballasting, including bailing and pumping out water, removal of excavated soil with all labour and material required for sinking as per drawing and direction of the Engineer in charge, disposal of surplus soil in the adjoining bank/embankment (compaction to be paid separately under the relevant item).				
24a	023041	From initial level of cutting edge & upto 3m depth	1,145	Cum	196.29	2,24,752.05

SUB SCHEDULE 'B11': Well foundation, Concrete Superstructure, RE wall & Other miscellaneous Works (USSOR Based & NS items)						
S. No.	USSOR Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
24b	023042	Above 3m to 10m depth	2,671	Cum	296.00	7,90,616.00
24c	023043	Above 10m to 15m depth	1,908	Cum	429.42	8,19,333.36
24d	023044	Above 15m to 20m depth	1,908	Cum	507.41	9,68,138.28
24e	023045	Above 20m to 25m depth	500	Cum	923.30	4,61,650.00
24f	023046	Above 25m to 30m depth	500	Cum	1,147.29	5,73,645.00
25	023090	Providing and laying in position machine batched, machine mixed and machine vibrated Design Mix Cement Concrete of specified grade (Cast in-Situ) using 20mm graded crushed stone aggregate and coarse sand of approved quality in the following elements of well including finishing, using Admixtures in approved proportions (as per IS:9103), to modify workability & other properties without impairing strength and durability complete as per drawings and technical specifications as directed by Engineer. Payment for cement, reinforcement and shuttering shall be made extra.				
25a	023091	In well Curb	360	Cum	3,555.81	12,80,091.60
25b	023092	In Steining of wells	3,179	Cum	3,555.81	1,13,03,919.99

SUB SCHEDULE 'B11': Well foundation, Concrete Superstructure, RE wall & Other miscellaneous Works (USSOR Based & NS items)						
S. No.	USSOR Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
25c	023093	In Bottom plug for wells including arrangements for placing concrete under water with tremie or bottom opening skips.	1,526	Cum	4,006.18	61,13,430.68
25d	023095	In Intermediate/Top plug with internal shuttering	351	Cum	4,296.35	15,08,018.85
25e	023096	In Well cap and corbel, if provided	668	Cum	4,296.35	28,69,961.80
26	023100	Supplying and filling ordinary sand in between bottom plug and top plug in wells including all lead lift handling, re-handling, as a complete job. Sand should be simultaneously filled with water for three days to achieve full compaction so that further chances of shrinkage due to voids are eliminated.				
26a	023102	Using sand from other than River bed (This item is to be operated if suitable sand is not available in River Bed for filling)	2,543	Cum	1,909.88	48,56,824.84
27	025020	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	4,740	Sqm	184.49	8,74,482.60
28	025030	Centering and shuttering including strutting, propping etc. and removal of form for :				
28a	025032	All types of bridge super-structures, e.g. slabs, I-girders, T-girders, Box girders etc. upto 5m above ground level	2,360	Sqm	933.91	22,04,027.60

SUB SCHEDULE 'B11': Well foundation, Concrete Superstructure, RE wall & Other miscellaneous Works (USSOR Based & NS items)						
S. No.	USSOR Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
28b	025033	Extra for additional height over item no. 025032 wherever required with adequate bracing, propping etc. over initial height of 5 metres for every additional height of 1 metre or part thereof	9,030	Sqm	117.66	10,62,469.80
29	031020	Providing and laying in position machine batched, machine mixed and machine vibrated Design Mix Cement Concrete of specified grade using 20mm graded crushed stone aggregate and coarse sand of approved quality for the Precast Prestressed (Post tensioned) concrete girder/Box (spans upto 30.5m) in contractor's casting yard, including finishing, using Admixtures in approved proportions (as per IS:9103), to modify workability & other properties without impairing strength and durability, complete as per drawings, specifications and direction of the Engineer. Payment for Shuttering, Cement, reinforcement, HTS cables, anchorage cones, stressing of cables and grouting of the ducts will be done extra. Launching of girder/slab in position is not included in this item.	71	Cum	3,055.96	2,16,973.16
29a	031021	Deduct from 0310220 for casting of Slab in place of Girder/Box	71	Cum	-95.71	-6,795.73

SUB SCHEDULE 'B11': Well foundation, Concrete Superstructure, RE wall & Other miscellaneous Works (USSOR Based & NS items)						
S. No.	USSOR Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
30	031040	Providing, fabricating & fixing in position to exact design profiles, prestressing 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.	4	MT	1,99,689.58	7,98,758.32
31	031060	Extra for Using HDPE Sheathing in place of CRCA Sheathing	367	Meter	159.26	58,448.42

SUB SCHEDULE 'B11': Well foundation, Concrete Superstructure, RE wall & Other miscellaneous Works (USSOR Based & NS items)						
S. No.	USSOR Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
32	031140	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				
32a	031142	100mm dia. Drainage Spouts	186	Meter	1,270.12	2,36,242.32
33	041240	Surface preparation for painting of bridge plate/composite girders and other steel structures where the finishing coat shows signs of deterioration; but primer coat of paint is sufficiently in good condition and there are no signs of rusting etc. Surface shall be cleaned free from oil grease, scaling and other foreign matters without disturbing the primer coat {Rate includes cost of labour, consumables, tools & plants, scaffolding, jhoola, ladder etc.}	3,250	Sqm	26.97	87,652.50
34	041260	Painting cleaned bridge plate/composite girders including all scaffolding, shuttering and strutting along with provision of Jhoola / hanging scaffolding ladders etc. where required				
34a	041261	With one coat ready mix Zinc Chromate conforming to IS:104 with DFT of 25-30 Microns followed by one coat of Zinc Chromate	3,250	Sqm	101.72	3,30,590.00

SUB SCHEDULE 'B11': Well foundation, Concrete Superstructure, RE wall & Other miscellaneous Works (USSOR Based & NS items)						
S. No.	USSOR Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
		red oxide conforming to IS:2074 DFT of 25 Microns.				
35	041330	Launching & fixing in specified Bridge location all types of Steel Plate girders / PSC girders / Slabs including loading/unloading and transport to the site of launching with a lead of five kilometres & lifting to any height as per site requirement, provision of approaches for leading, cleaning of bed block and minor repairs to bed block with epoxy if required, as directed by Engineer in charge with all labour, tools and plant, equipment etc., complete.				
35a	041331	PSC girders / slabs	176	MT	5,643.58	9,93,270.08
36	051010	Providing and laying boulders apron on river bed for protection against scour with stone boulders weighing not less than 35 kg each with voids filled with spalls complete as per drawing and Technical Specification.	55	Cum	1,510.18	83,059.90
37	051120	Stenciling of Girders with black / blue lettering over yellow background with ready mix paint w.r.t. details of executed inspection, greasing and painting, other details as directed by Engineer in charge.	840	Each	43.40	36,456.00

SUB SCHEDULE 'B11': Well foundation, Concrete Superstructure, RE wall & Other miscellaneous Works (USSOR Based & NS items)						
S. No.	USSOR Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
38	052220	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.	225	Each	299.88	67,473.00
39	052230	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.	14	Each	846.77	11,854.78
40	052240	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.	26	Each	1,108.92	28,831.92

SUB SCHEDULE 'B11': Well foundation, Concrete Superstructure, RE wall & Other miscellaneous Works (USSOR Based & NS items)						
S. No.	USSOR Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
41	052250	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).				
41a	052252	450mm dia.	100	Meter	2,756.69	2,75,669.00
42	052260	Supplying, spreading and filling coarse sand (no cohesive materials to be used) of approved quality including watering and ramming in foundation, plinth, behind the abutment, wing wall, retaining wall in layers not exceeding 150mm thick including its compaction as per direction of Engineer-in-charge. The rate includes all lead, lift, ascent, descent, crossing of Railway line etc. complete with contractor's labour, materials, tools and plant.	7,958	Cum	2,020.70	1,60,80,730.60

SUB SCHEDULE 'B11': Well foundation, Concrete Superstructure, RE wall & Other miscellaneous Works (USSOR Based & NS items)						
S. No.	USSOR Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
43	191310	Fabrication, supplying and fixing 600mm x 450mm Bridge Board made from 16 SWG MS Sheet duly welded or rivited to back support of two 600mm long horizontal angles of size 25mm x 25mm x 3mm & two 2.5 metre long vertical support of MS Angle of size 50mm x 50mm x 5mm, welded /rivited 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 x300mm 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 under Sub Schedule-B12}	14	Each	2,715.86	38,022.04
44	195030	Centring and shuttering including strutting, propping etc. and removal of form for :				
44a	195032	Abutment, pier, wing walls and return walls	6,581	Sqm	376.01	24,74,521.81
44b	195033	Abutment cap, Pier Cap, Inspection Platform & Pedestal over Pier cap, Fender wall, Diaphragm wal etc.	2,110	Sqm	364.94	7,70,023.40
44c	195034	Approach slab at formation level, Dirt wall/ ballast wall at formation level	668	Sqm	237.17	1,58,429.56

SUB SCHEDULE 'B11': Well foundation, Concrete Superstructure, RE wall & Other miscellaneous Works (USSOR Based & NS items)						
S. No.	USSOR Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
44d	195038	In Bottom/top slab & side walls of RCC Box , toe wall and sumps haunch filling head walls, In well Kerb & Steining or any other component	23,550	Sqm	376.01	88,55,035.50
45	NS-6	Supplying and laying of 150mm thick well graded stones aggregate/gravel as base layer over the slopes of embankment with manual dressing with water compaction including the cost of supply of all material, labour, lead, lift, tools, plants, crossing of tracks etc. complete as per approved drawings and technical specifications.	6,188	Cum	1,096.18	67,83,161.84
46	NS-7	Providing Boulder Backing behind wing wall, return wall, retaining wall with hand packed boulders & cobbles not less than 15cm in any direction & not less than 15kg (except smaller boulders required for filling voids) including all lead, lift, labour & other incidental charges as complete work in all respect. Cost of boulder/cobbles is included in this item.	4,601	Cum	1,219.73	56,11,977.73
47	NS-8	Providing and fixing of 75mm dia PVC pipe for weep holes in abutments, Wing Wall, Return Wall, Face wall, retaining wall etc. at suitable intervals as directed by the Engineer-in-charge.	1,500	Meter	232.42	3,48,630.00

SUB SCHEDULE 'B11': Well foundation, Concrete Superstructure, RE wall & Other miscellaneous Works (USSOR Based & NS items)						
S. No.	USSOR Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
48	NS-9	<p>Manufacturing, transportation (including loading & unloading) and installation in position (including joining and grouting) M-35 or higher grade precast reinforced cement concrete U-shaped drain/duct with cover as per the directions of the Engineer. Precast reinforced U-shaped drain shall be factory-made, and steam cured in a controlled environment with inserts for handling/transportation. Dimensional tolerances shall be as per IS: 6408 (part 2) for PC Class 6.</p> <p>Notes:-</p> <ol style="list-style-type: none"> 1. This item includes cost of all the materials, labour, machinery, tools & plant etc. complete required for manufacture of precast segments except Steel Reinforcement which shall be paid separately under relevant item of Sub schedule B2. 2. Excavation of soil for foundation shall be paid separately under item relevant of Sub Schedule B11. 3. Before placing of wall segments, 20 mm thick stiff 1:3 cement mortar bedding layer shall be laid over a levelling course of 50 mm thick of M20 concrete. Payment for M20 concrete shall be made under relevant item of Sub Schedule 	360	Cum	26,770.42	96,37,351.20

SUB SCHEDULE 'B11': Well foundation, Concrete Superstructure, RE wall & Other miscellaneous Works (USSOR Based & NS items)						
S. No.	USSOR Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
		B11 and for mortar under relevant item of Sub-Schedule- B12. 4. 60% of the rate shall be paid on receipt of the precast retaining wall segments at site and balance 40% will be paid on fixing the same in position in satisfactory condition.				
49	NS-10	Designing, Providing and erection of specified grade precast RCC Facia Panel of thickness 180 mm made with M-35 Grade Concrete Batching plant, Transit Mixer, Concrete Pump and Vibrator for retaining earth with all element and accessories including reinforcing element complete as per approval drawing and Section 3100 of MORT&H specification including all material labour machinery etc. (Scope of work including designing, getting approval, casting in yad, curing, storing, Transporting, lifting, placing in position, erection with all necessaries fasteners etc complete). The cost of cement & steel are included in this item & no separate payment shall be paid whatsoever. The rate also include cost for excavation, foundation, reinforcing element, fasteners, drainage layer, drain pipe, coping beam and other accessories for which nothing extra shall be paid. Mode of Payment:	2640	Sqm	6,068.85	1,60,21,764.00

SUB SCHEDULE 'B11': Well foundation, Concrete Superstructure, RE wall & Other miscellaneous Works (USSOR Based & NS items)						
S. No.	USSOR Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
		1- Casting of RE Panel: 60% 2- Erection & fixing: 35 % 3- Final Bill: 5%				
50	NS-11	Providing Placing & Compacting to desired density approved backfill material in layers as per approved methodology including testing of reinforced fill portion in approaches between reinforced soil (RS) wall panels as per approved drawing as per Section 3103 of MORT&H Specification. The soil should be predominantly coarse grained, Not more than 10 % of particles should pass 75 micron sieve. The item shall be measured and paid for the finished volume of backfill and subgrade placed in position excluding the volume of filter media at base and behind the RS RE Wall.	8316	Cum	373.31	31,04,445.96
51	NS-12	Providing & constructing of RCC Crash Barrier of M35 at the edge of road , approaches to bridge structures and medians, constructed with specified grade of concrete using batching plant , transit mixer, concrete pump and vibrator with 450 mm long at expansion joint filled with premolded asphalt filler board, keyed to the structure on which it is built and installed as per design and dimension in the approved drawing and at location directed by the engineer, all as specified as per Section 809 of MORT&H	238	Cum	6,996.32	16,65,124.16

SUB SCHEDULE 'B11': Well foundation, Concrete Superstructure, RE wall & Other miscellaneous Works (USSOR Based & NS items)						
S. No.	USSOR Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
		Specification including all material labour, scaffolding etc.				
Estimated Value of SUB SCHEDULE 'B11' Well foundation, Concrete Superstructure, RE wall & Other miscellaneous Works (USSOR Based & NS items)						15,93,37,315.62

6.12 Sub-Schedule 'B12': Road and Building Works (DSR Based & NS items)

SUB SCHEDULE 'B12': Road and Building Works (DSR Based & NS items)						
S. No.	DSR-2021 Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
52	2.27	Supplying and filling in plinth with sand under floors, including watering, ramming, consolidating and dressing complete	96	Cum	2,212.30	2,12,380.80
53	3.8	1:3 (1 Cement : 3 coarse sand (zone-III)) cement sand levelling mortar. Item will be used as below precast item. Note:- cost of cement is included in the item.	33	Cum	5,142.94	1,69,717.02
54	4.17	Making plinth protection 50mm thick of cement concrete 1:3:6 (1 cement : 3 coarse sand (zone-III) derived from natural sources : 6 graded stone aggregate 20 mm nominal size derived from natural sources) over 75mm thick bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand, including necessary excavation, levelling & dressing & finishing the top smooth.	120	Sqm	697.77	83,732.40
55	4.6	Providing and fixing at or near ground level precast cement concrete in kerbs, edgings etc. as per approved pattern and setting in position with cement mortar 1:3 (1 Cement : 3 coarse sand), including the cost of required centering, shuttering complete.				
55a	4.6.1	1:1½:3 (1 Cement: 1½ coarse sand(zone-III) derived from natural sources: 3 graded stone aggregate 20 mm nominal size derived from natural sources)	10	Cum	8,322.88	83,228.80

SUB SCHEDULE 'B12': Road and Building Works (DSR Based & NS items)						
S. No.	DSR-2021 Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
56	5.1	Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement - All work up to plinth level.				
56a	5.1.2	1:1.5:3 (1 cement : 1.5 coarse sand (zone-III) derived from natural sources : 3 graded stone aggregate 20 mm nominal size de rived from natural sources).	51	Cum	8,561.96	4,36,659.96
57	5.3	Reinforced cement concrete work in beams, suspended floors, roofs having slope up to 15° landings, balconies, shelves, chajjas, lintels, bands, plain window sills, staircases and spiral stair cases above plinth level up to floor five level, excluding the cost of centering, shuttering, finishing and reinforcement with 1:1.5:3 (1 cement : 1.5 coarse sand(zone-III) derived from natural sources : 3 graded stone aggregate 20 mm nominal size derived from natural sources).	48	Cum	10,972.74	5,26,691.52
58	5.9	Centering and shuttering including strutting, propping etc. and removal of form for				
58a	5.9.1	Foundations, footings, bases of columns, etc. for mass concrete	450	Sqm	315.23	1,41,853.50
58b	5.9.2	Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.	300	Sqm	685.38	2,05,614.00
58c	5.9.3	Suspended floors, roofs, landings, balconies and access platform	1,200	Sqm	784.67	9,41,604.00
58d	5.9.5	Lintels, beams, plinth beams, girders, bressumers and cantilevers	690	Sqm	622.73	4,29,683.70
58e	5.9.6	Columns, Pillars, Piers, Abutments, Posts and Struts	540	Sqm	823.27	4,44,565.80

SUB SCHEDULE 'B12': Road and Building Works (DSR Based & NS items)						
S. No.	DSR-2021 Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
58f	5.9.19	Weather shade, Chajjas, corbels etc., including edges	240	Sqm	834.22	2,00,212.80
59	5.33	<p>Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete.</p> <p>Notes:- Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 1.10 times of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement</p>				
59a	5.33.1	All works upto plinth level				
59aa	5.33.1.1	Concrete of M25 grade with minimum cement content of 330 kg /cum	90	Cum	8,889.11	8,00,019.90
59b	5.33.2	All works above plinth level upto floor V level				

SUB SCHEDULE 'B12': Road and Building Works (DSR Based & NS items)						
S. No.	DSR-2021 Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
59ba	5.33.2.1	Concrete of M25 grade with minimum cement content of 330 kg /cum	132	Cum	10,549.87	13,92,582.84
60	6.1	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in:				
60a	6.1.2	Cement mortar 1:6 (1 cement : 6 coarse sand)	9	Cum	6,815.67	61,341.03
61	6.4	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in :				
61a	6.4.2	Cement mortar 1:6 (1 cement : 6 coarse sand)	201	Cum	8,484.36	17,05,356.36
62	8.31	Providing and fixing Ist quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.	15	Sqm	1,088.59	16,328.85
63	9.7.7	Providing and fixing panelling or panelling and glazing in panelled or panelled and glazed shutters for doors, windows and clerestory windows (Area of opening for panel inserts excluding portion inside grooves or rebates to be measured). Panelling for				

SUB SCHEDULE 'B12': Road and Building Works (DSR Based & NS items)						
S. No.	DSR-2021 Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
		panelled or panelled and glazed shutters 25 mm to 40 mm thick: Float glass panes.				
63a	9.7.7.1	4 mm thick glass pane (weight not less than 10kg/sqm).	27	Sqm	1,941.95	52,432.65
64	9.21	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters.				
64a	9.21.1	35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	41	Sqm	2,063.41	84,599.81
65	9.48	Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. including priming coat with approved steel primer all complete.				
65a	9.48.1	Fixed to steel windows by welding	300	Kg	185.28	55,584.00
66	9.83	Providing and fixing aluminium die cast body tubular type universal hydraulic door closer (having brand logo with ISI, IS : 3564, embossed on the body, door weight upto 35 kg and door width upto 700 mm), with necessary accessories and screws etc. complete.	6	Each	1,049.90	6,299.40

SUB SCHEDULE 'B12': Road and Building Works (DSR Based & NS items)						
S. No.	DSR-2021 Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
67	9.96	Providing and fixing aluminium sliding door bolts, ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868), transparent or dyed to required colour or shade, with nuts and screws etc. complete.				
67a	9.96.1	300x16 mm	18	Each	266.51	4,797.18
68	9.97	Providing and fixing aluminium tower bolts, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade, with necessary screws etc. complete				
68a	9.97.1	300x10 mm	18	Each	120.43	2,167.74
68b	9.97.4	150x10 mm	10	Each	77.34	773.40
69	9.100	Providing and fixing aluminium handles, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade, with necessary screws etc. complete				
69a	9.100.1	125 mm	18	Each	61.47	1,106.46
70	9.101	Providing and fixing aluminium hanging floor door stopper, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour and shade, with necessary screws etc. complete				
70a	9.101.2	Twin rubber stopper	6	Each	63.72	382.32

SUB SCHEDULE 'B12': Road and Building Works (DSR Based & NS items)						
S. No.	DSR-2021 Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
71	10.13	Providing and fixing T-iron frames for doors, windows and ventilators of mild steel Tee-sections, joints mitred and welded, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer				
71a	10.13.1	Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)	600	Kg	117.36	70,416.00
72	10.14	Providing and fixing pressed steel door frames conforming to IS: 4351, manufactured from commercial mild steel sheet of 1.60 mm thickness, including hinges, jamb, lock jamb, bead and if required angle threshold of mild steel angle of section 50x25 mm, or base ties of 1.60 mm, pressed mild steel welded or rigidly fixed together by mechanical means, including M.S. pressed butt hinges 2.5 mm thick with mortar guards, lock strike-plate and shock absorbers as specified and applying a coat of approved steel primer after pre-treatment of the surface as directed by Engineer-in-charge:				
72a	10.14.1	Profile B				
72aa	10.14.1.1	Fixing with adjustable lugs with split end tail to each jamb	180	Meter	455.01	81,901.80
73	10.17	Providing and fixing M.S. fan clamp type I or II of 16 mm dia M.S. bar, bent to shape with hooked ends in R.C.C. slabs or beams during laying, including painting the exposed portion of loop, all as per standard design complete	24	Each	189.58	4,549.92

SUB SCHEDULE 'B12': Road and Building Works (DSR Based & NS items)						
S. No.	DSR-2021 Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
74	10.25	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				
74a	10.25.2	in gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	6,913	Kg	145.66	10,06,947.58
75	10.26	Providing and fixing hand rail of approved size by welding etc. to steel ladder railing, balcony railing, staircase railing and similar works, including applying priming coat of approved steel primer				
75a	10.26.1	M.S. tube	102	Kg	160.87	16,408.74
75b	10.26.3	G.I. pipes	114	Kg	184.46	21,028.44
76	10.29	Providing & fixing fly proof wire gauze to windows, clerestory windows & doors with M.S. Flat 15x3 mm and nuts & bolts complete				
76a	10.29.1	Galvanised M.S. Wire gauze with 0.63 mm dia wire and 1.4 mm aperture on both sides	120	Sqm	749.51	89,941.20
77	11.20	Chequered precast cement concrete tiles 22 mm thick in footpath & courtyard, jointed with neat cement slurry mixed with pigment to match the shade of tiles, including rubbing and cleaning etc. complete, on 20 mm thick bed of cement mortar 1:4 (1 cement: 4 coarse sand)				
77a	11.20.1	Light shade pigment using white cement	600	Sqm	1,262.20	7,57,320.00

SUB SCHEDULE 'B12': Road and Building Works (DSR Based & NS items)						
S. No.	DSR-2021 Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
78	11.21	Providing and fixing 10 mm thick acid and/or alkali resistant tiles of approved make and colour using acid and/or alkali resisting mortar bedding, and joints filled with acid and/or alkali resisting cement as per IS : 4457, complete as per the direction of Engineer-in-Charge				
78a	11.21.1	In flooring on a bed of 10 mm thick mortar 1:4 (1 acid proof cement : 4 coarse sand)				
78aa	11.21.1.1	Acid and alkali resistant tile	120	Sqm	1,551.28	1,86,153.60
78b	11.21.2	In dado/skirting on 12 mm thick mortar 1:4 (1 acid proof cement : 4 coarse sand)				
78ba	11.21.2.1	Acid and alkali resistant tile	90	Sqm	1,676.42	1,50,877.80
79	11.27	Kota stone slabs 20 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement: 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.	600	Sqm	2,086.75	12,52,050.00
80	11.38	Providing and laying Ceramic glazed floor tiles of size 300x300 mm (thickness to be specified by the manufacturer), of 1st quality conforming to IS : 15622, of approved make, in all colours, shades, except White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick bed of cement mortar 1:4 (1 Cement : 4 Coarse sand), jointing with grey cement slurry @ 3.3 kg/ sq.m including pointing the joints with white cement and matching pigments etc., complete	35	Sqm	1,133.22	39,662.70

SUB SCHEDULE 'B12': Road and Building Works (DSR Based & NS items)						
S. No.	DSR-2021 Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
81	11.41	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joints with white cement and matching pigments etc., complete				
81a	11.41.2	Size of Tile 600x600 mm	411	Sqm	1,450.14	5,96,007.54
82	11.55	Providing and laying flamed finish Granite stone flooring in required design and patterns, in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing, curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge :				
82a	11.55.1	Flamed finish granite stone slab Jet Black, Cherry Red, Elite Brown, Cat Eye or equivalent.	100	Sqm	2,651.13	2,65,113.00
83	13.1	12 mm cement plaster of mix				
83a	13.1.2	1:6 (1 cement: 6 fine sand)	1,800	Sqm	288.67	5,19,606.00

SUB SCHEDULE 'B12': Road and Building Works (DSR Based & NS items)						
S. No.	DSR-2021 Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
84	13.2	15 mm cement plaster on the rough side of single or half brick wall of mix				
84a	13.2.2	1:6 (1 cement: 6 fine sand)	420	Sqm	331.97	1,39,427.40
85	13.16	6 mm cement plaster of mix				
85a	13.16.1	1:3 (1 cement : 3 fine sand)	360	Sqm	259.03	93,250.80
86	13.42	Distempering with 1st quality acrylic distemper (ready mixed) having VOC content less than 50 gms/litre, of approved manufacturer, of required shade and colour complete, as per manufacturer's specification.				
86a	13.42.1	Two or more coats on new work	780	Sqm	94.94	74,053.20
87	13.45	Finishing walls with textured exterior paint of required shade.				
87a	13.45.1	New work (Two or more coats applied @ 3.28 ltr/10 sqm) over and including priming coat of exterior primer applied @ 2.20kg/10 sqm.	420	Sqm	250.79	1,05,331.80
88	13.47	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade.				
88a	13.47.1	New work (Two or more coats applied @ 1.43 ltr/10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/10 sqm).	600	Sqm	166.19	99,714.00

SUB SCHEDULE 'B12': Road and Building Works (DSR Based & NS items)						
S. No.	DSR-2021 Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
89	13.48	Finishing with Deluxe Multi surface paint system for interiors and exteriors using Primer as per manufacturers specifications:				
89a	13.48.2	Painting wood work with Deluxe Multi Surface Paint of required shade. Two or more coat applied @ 0.90 ltr/10 sqm over an under coat of primer applied @0.75 ltr/10 sqm of approved brand and manufacture.	24	Sqm	148.33	3,559.92
89b	13.48.3	Painting Steel work with Deluxe Multi Surface Paint to give an even shade. Two or more coat applied @ 0.90 ltr/ 10 sqm over an under coat of primer applied @ 0.80 ltr/ 10 sqm of approved brand and manufacture.	30	Sqm	143.36	4,300.80
90	13.50	Applying priming coat:				
90a	13.50.1	With ready mixed pink or Grey primer of approved brand and manufacture on wood work (hard and soft wood).	54	Sqm	62.90	3,396.60
91	13.60	Wall painting with acrylic emulsion paint of approved brand and manufacture to give an even shade.				
91a	13.60.1	Two or more coats on new work	1,170	Sqm	141.11	1,65,098.70
92	13.61	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade.				

SUB SCHEDULE 'B12': Road and Building Works (DSR Based & NS items)						
S. No.	DSR-2021 Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
92a	13.61.1	Two or more coats on new work.	111	Sqm	134.56	14,936.16
93	13.80	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	2,580	Sqm	126.78	3,27,092.40
94	16.54	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				
94a	16.54.1	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.	195	Cum	10,250.05	19,98,759.75
95	16.57	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				

SUB SCHEDULE 'B12': Road and Building Works (DSR Based & NS items)						
S. No.	DSR-2021 Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
		achieve the desired compaction and density as per specification, complete and as per directions of Engineer-in-Charge.				
95a	16.57.1	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.	103	Cum	11,127.77	11,46,160.31
96	16.69	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).	161	Cum	8,817.20	14,19,569.20
97	16.75	Providing and laying C.C. pavement of mix M-25 with ready mixed concrete from batching plant. The ready mixed concrete shall be laid and finished with screed board vibrator , vacuum dewatering process and finally finished by floating, brooming with wire brush etc. complete as per specifications and directions of Engineer-incharge. (The panel	5,848	Cum	8,473.26	4,95,51,624.48

SUB SCHEDULE 'B12': Road and Building Works (DSR Based & NS items)						
S. No.	DSR-2021 Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
		shuttering work shall be paid for separately). (Note:- Cement content considered in this item is @ 330 kg/cum. Excess/less cement used as per design mix is payable/ recoverable separately).				
98	16.78	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.				
98a	16.78.2	With material conforming to Grade-II (size range 53 mm to 0.075 mm) having CBR Value-25	6,279	Cum	2,841.28	1,78,40,397.12
99	16.79	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.	4,868	Cum	2,869.94	1,39,70,867.92

SUB SCHEDULE 'B12': Road and Building Works (DSR Based & NS items)						
S. No.	DSR-2021 Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
100	16.80	Construction of dry lean cement concrete sub base over a prepared sub-grade with coarse and fine aggregate conforming to IS:383, the size of coarse aggregate not exceeding 25 mm, aggregate cement ratio not to exceed 15:1, aggregate gradation after blending to be as per specifications, cement content not to be less than 150 Kg/cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in a batching plant, transported to site, for all leads & lifts, laid with a mechanical paver, compacting with 8-10 tonne vibratory roller, finishing and curing etc. complete as per direction of Engineer in- charge.	5,043	Cum	4,228.21	2,13,22,863.03
101	16.90	Providing and laying tactile tile (for vision impaired persons as per standards) of size 300x300x9.8mm having with water absorption less than 0.5% and conforming to IS:15622 of approved make in all colours and shades in for outdoor floors such as footpath, court yard, multi modals location etc., laid on 20mm thick base of cement mortar 1:4 (1 cement : 4 coarse sand) in all shapes & patterns including grouting the joints with white cement mixed with matching pigments etc. complete as per direction of Engineer-in-Charge.	1,000	Sqm	1,759.64	17,59,640.00

SUB SCHEDULE 'B12': Road and Building Works (DSR Based & NS items)						
S. No.	DSR-2021 Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
102	16.91	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.				
102a	16.91.1	60mm thick cement concrete paver block of M-35 grade with approved colour, design & pattern.	100	Sqm	954.39	95,439.00
102b	16.91.2	80 mm thick C.C. paver block of M-30 grade with approved color design and pattern.	3,570	Sqm	1,035.11	36,95,342.70
103	19.1	Providing, laying and jointing glazed stoneware pipes class SP-1 with stiff mixture of cement mortar in the proportion of 1:1 (1 cement : 1 fine sand) including testing of joints etc. complete :				
103a	19.1.2	150 mm diameter	100	RMT	605.38	60,538.00
104	19.6	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete :				

SUB SCHEDULE 'B12': Road and Building Works (DSR Based & NS items)						
S. No.	DSR-2021 Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
104a	19.6.5	450 mm dia. R.C.C. pipe	100	RMT	1,516.58	1,51,658.00
104b	19.6.7	600 mm dia. R.C.C. pipe	100	RMT	2,147.71	2,14,771.00
105	19.36	Providing and laying Non Pressure NP-4 class (Heavy duty) R.C.C. pipes including collars/spigot jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete.				
105a	19.36.5	1200 mm dia RCC pipes. (Laying by manual/mechanical means)	10	RMT	10,104.64	1,01,046.40
106	21.1	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / panelling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, panelling and dash fasteners to be paid for separately)				
106a	21.1.1	For fixed portion				

SUB SCHEDULE 'B12': Road and Building Works (DSR Based & NS items)						
S. No.	DSR-2021 Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
106aa	21.1.1.1	Anodised aluminium (anodised transparent or dyed to required shade according to IS: 1868, Minimum anodic coating of grade AC 15).	360	Kg	444.21	1,59,915.60
106b	21.1.2	For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately).				
106ba	21.1.2.1	Anodised aluminium (anodised transparent or dyed to required shade according to IS: 1868, Minimum anodic coating of grade AC 15).	240	Kg	544.37	1,30,648.80
107		Items included in Delhi Schedule of Rate-(Horticulture & Landscaping) 2020.		LS		10,00,000.00
108	NS-13	Earthwork in filling with contractor's own earth of approved quality from borrow areas including all lead all lead, lift, ascent, descent, royalty, taxes, cess, compensation, crossing of nallahs /stream and other obstructions including mechanical compaction in layers with watering to 95% of MDD (as per IS 2720 part 8), handling, re-handling, dressing to the final profile with all labour, material, tools, plant, machinery and equipment, taxes, cess etc. as a complete job in accordance with the specification and drawings. Note:- This item will be used for earthwork in filling for other than railway embankment work.	1,43,601	Cum	259.50	3,72,64,459.50
Estimated value of SUB SCHEDULE 'B12': Road and Building Works (DSR Based & NS items)						16,60,31,563.15

6.13 Sub-Schedule 'B13': Bridge Bearing & Miscellaneous Structural Steel Works (USSOR Based & NS items)

SUB SCHEDULE 'B13': Bridge Bearing & Miscellaneous Structural Steel Works (USSOR Based & NS items)						
S. No.	USSOR/NS Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
109	022100	Providing, fabricating and installing permanent casing pipe for bored piles for all diameters with specified thickness of steel plate including all labour, materials, pumping and bailing out water wherever required, complete as per technical specifications as directed by Engineer in charge. This will include the weight of plate only and no cognizance will be given for the fittings, i.e. rivets and welding etc.	194	MT	93,323.45	1,81,04,749.30
110	023030	Supplying, Fabrication, assembly, erection & placing in position the cutting edge of well curb with structural steel including MS sheet/Plates of specified thickness for pier/abutment complete as per approved plans and as per direction of Engineering In charge including all operations like cutting, bending, straightening, drilling holes, bolting, riveting, welding, threading, jointing of steel sections including outer and inner places liners and skin plates, stiffeners, hooks, bottle nuts, bond rods etc. as per design including all ascent, descents, leads, lifts, handing, re-handling, all other obstructions whatsoever, diverting channels, pumping / bailing out of water wherever required including cost of steel such as flats, sheets, angles,	18	MT	1,01,005.73	18,18,103.14

SUB SCHEDULE 'B13': Bridge Bearing & Miscellaneous Structural Steel Works (USSOR Based & NS items)						
S. No.	USSOR/ NS Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
		steel bars etc. with all labour and material as a complete job.				
111	031090	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 Precast 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.	4,42,368	Cu.Cm.	1.68	7,43,178.24

SUB SCHEDULE 'B13': Bridge Bearing & Miscellaneous Structural Steel Works (USSOR Based & NS items)						
S. No.	USSOR/NS Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
112	041060	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.	9,933	Kg	107.58	10,68,592.14
113	041080	Providing and fixing various size HTS holding down bolts conforming to IS:1364 in concrete column or in other structures with proper nuts, bolts, washers/plates, grouting of holes with all material, labour, T&P as a complete job. Note: Cement used in grouting will be paid separately under relevant item.	2,000	Kg	165.20	3,30,400.00

SUB SCHEDULE 'B13': Bridge Bearing & Miscellaneous Structural Steel Works (USSOR Based & NS items)						
S. No.	USSOR/ NS Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
114	041180	<p>Design, supply and fixing 300MT capacity Spherical Bearing in position true to line and level consisting of set of concave and convex mating steel backing plate with a low friction sliding interface, flat sliding elements ,guides and restraining rings; with all components conforming to approved drawing and technical specifications & Bridge Code including grouting of holes for anchor bolts and underside of baseplate with approved non-shrink epoxy grout with all material, labour, T&P as a complete job.</p> <p>Note: Sliding surface with PTFE or UHMWPE low friction thermoplastic material and steel for backing plate of Mild steel in accordance to IS:2062 grade-B. Cast steel in accordance with IS 1030 Grade 280-520W. Stain less steel in accordance with AISI 304/316.Low friction thermo -plastic sliding PTFE material either pure polytetrafluroethalyne (PTFE) Or Ultra High Molecular weight Polythylene (UHMWPE). Austanitic steel is of stainless steel for the sliding interface shall be in accordance with AISI 316L or O2 Cr17 NI12 of IS-6911. The thickness of the stain less steel sheet shall be 3mm minimum. The stainless steel sheet shall be attached to its backing plate either by screwing/riveting or by continuous fillet weld. Hard chromium plated surface shall be entire curved surface of the convex steel plate mating with hard chromium plated</p>				

SUB SCHEDULE 'B13': Bridge Bearing & Miscellaneous Structural Steel Works (USSOR Based & NS items)						
S. No.	USSOR/NS Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
		concave sliding surface. The thickness of the hard chromium plating shall be at least 100 microns and the final surface roughness of the plated surface shall not exceed 3 microns. Bearing manufacturer shall give the guarantee for satisfactory performance of bearing for period specified.				
114a	041181	Spherical Fixed Bearing	26	Each	1,19,070.94	30,95,844.44
114b	041182	Spherical Free Float Bearing	26	Each	1,30,006.81	33,80,177.06
114c	041183	Spherical Slide Guide (L) Bearing	26	Each	1,30,488.44	33,92,699.44
114d	041184	Spherical Slide Guide (T) Bearing	26	Each	1,30,233.46	33,86,069.96

SUB SCHEDULE 'B13': Bridge Bearing & Miscellaneous Structural Steel Works (USSOR Based & NS items)						
S. No.	USSOR/NS Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
115	041390	Supplying fabricating and erecting welded and/or bolted and/or riveted steel work in built up sections, trusses and framed work, staging, racks 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.	85	MT	1,05,186.17	89,40,824.45
116	191260	Supplying & fixing MS chequered plates 6 to 8mm thick between guard rails on unballasted deck bridge for gang pathway, overlapping at regular intervals of 2m to 2.5m with rail screws or bolts duly drilling holes in chequered plate, as directed. [Note: Overlapping of chequered plates shall not fall in between sleepers]	5	MT	94,164.70	4,70,823.50
117	NS-14	Construction of Mild Steel pipe of 323.9 mm outer diameter in the embankment at approximately 500m interval (except in station yards) for crossing utilities in future as shown in drawings.	500	RMT	3,909.00	19,54,500.00

SUB SCHEDULE 'B13': Bridge Bearing & Miscellaneous Structural Steel Works (USSOR Based & NS items)						
S. No.	USSOR/NS Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
118	NS-15	Supplying, fabrication and fixing pathway on Open Web Girder bridges & Composite with hollow steel, rolled and chequered plate including 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 as RDSO drawing No. CBS 0045 & CBS 0046.	293	MT	1,17,302.05	3,43,69,500.65
119	NS-16	Supplying and fixing M.S. Angles 100mmx 100mm x 10mm size conforming to IS:2062 in expansion joint of Composite girder bridges including provision of 10mm dia dowel bar & 12mm dia anchor bolts at 150 mm centre to centre and 250mm wide GI plate over the top of angles as per relevant RDSO standard drawing with all material, labour, T&P as a complete job.	88	Each	6,139.09	5,40,239.92

SUB SCHEDULE 'B13': Bridge Bearing & Miscellaneous Structural Steel Works (USSOR Based & NS items)						
S. No.	USSOR/NS Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
120	NS-17	Supplying, fabricating, transportation and fixing galvanized H-Beam sleepers as per RDSO drawing RDSO/B/1636/4/R & RDSO/B/1636/5 with latest alteration and specifications thereto complete with all fittings and fixtures including the cost of all steel sections, all fittings and fixtures ,elastomeric pad, galvanized bolts, nuts, washer, split pin, fish plates 1m and 0.6m long along with fish bolts and nuts for 60Kg running rail and 52Kg guard rail respectively, track fittings and fastenings (Zero Toe Load Fastening) for 60 kg running rail and 52 Kg guard rail as per RDSO drg -RDSO/T-8759 to RDSO/T8765. labour, lead, lift, plants and equipments including galvanized work of full steel components complete in all respects as per approved drawing and technical specifications & as per direction of Engineer on Open Web Girder (OWG) bridges. The rate is also inclusive of the cost of supply of approved quality of epoxy/adhesive and fixing of elastomeric pads with different components of steel sleepers & girder in accordance with approved drawings. The steel to be supplied by the contractor for fabrication of steel H-Beam sleepers shall conform to IS-2062-2006, Grade B0 only. The rate is also inclusive of inspection charges of components of sleepers including all fixtures & fastening, galvanization etc. from the reputed laboratory/organization. Elastomeric pad plate and	135	Each	30,640.06	41,36,408.10

SUB SCHEDULE 'B13': Bridge Bearing & Miscellaneous Structural Steel Works (USSOR Based & NS items)						
S. No.	USSOR/NS Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
		<p>other track fittings shall be procured from RDSO approved source.</p> <p>Note: Payment under this item shall be made in following manner;</p> <p>i. 75% of the rate shall be paid after fabrication, galvanization and transportation of H beam sleepers to the site and submission of material test certificate of manufacturer and inspection certificate of the agency nominated by Engineer.</p> <p>ii. 15% of the rate shall be paid after supply of fittings to the site and submission of inspection certificate of the agency nominated by Engineer.</p> <p>iii. 10% of the rate will be paid after fixing H Beam sleepers to the girder in satisfactory manner.</p> <p>iv. In case fixing is not required, then balance payment will be released on handing over of the sleepers after making recovery @ Rs.850/- per sleeper.</p>				

SUB SCHEDULE 'B13': Bridge Bearing & Miscellaneous Structural Steel Works (USSOR Based & NS items)						
S. No.	USSOR/ NS Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
121	NS-18	Providing and fixing stainless steel (Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge, (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.).	4,144	Kg	651.22	26,98,655.68
122	NS-19	Supply, fabrication and erection of bed plate of approved sizes(as per relevant RDSO drawing No. RDSO/B-11751/4R2, B-11753/5R1, B-11754/3R2 with UpToDate corrections), in exact position over bed block on pier/abutments by giving full and even bearing, setting them on the layer of free flow non-shrinkable grouting compound, scrapping or chipping of bed block, if required, fabrication and fixing of HD bolts of suitable sizes along with nuts, washers etc., drilling holes of required size, grouting of holes by epoxy mortar after fixing HD bolts with all labour, material, T & P as a complete job.				
122a	NS-19A	More than 12.2m and upto 18.3m clear span	8,800	Kg	225.63	19,85,544.00

SUB SCHEDULE 'B13': Bridge Bearing & Miscellaneous Structural Steel Works (USSOR Based & NS items)						
S. No.	USSOR/NS Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
123	NS-20	Supply and fixing of Metallic Guided Bearing in position true to line and level as per RDSO drawing No. RDSO/B-11754/3R2 and IRC:83 pt. III-2018 including supply & grouting of anchor bolts with approved non-shrinking epoxy grout with all material, labour, T&P as a complete job.	32	Each	49,532.72	15,85,047.04
Estimated value of SUB SCHEDULE 'B13' Bridge Bearing & Miscellaneous Structural Steel Works (USSOR Based & NS items)						9,20,01,357.06

6.14 Sub-Schedule 'B14': P Way Works-Ballastless Track, Rails & Special Sleepers (NS items)

SUB SCHEDULE 'B14': P Way Works- Ballastless Track, Rails & Special Sleepers (NS items)						
S. No.	NS Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
124	NS-21	Construction of ballast less track on straight, curved track on bridges including linking of track with 60 Kg rails in LWR including, supply and fixing of rail fittings/ fastening, Construction of derailment guard , as per design approved by the Engineer. The item include supply and leading of all material, labour and tools & plants as a complete job including welding of track in LWR, distressing, drainage arrangement as per the approved drawing complete in all respect. Nothing extra shall be paid. Note:- 1- 60 Kg, 350 R Rails shall be paid under item no NS-25 of this Sub-Schedule	1,072	Rmt	52,879.28	5,66,86,588.16
125	NS-22	Construction of Transition system of ballastless track to ballasted track on bridge approach including linking of track with 60 Kg rails in LWR including, supply and fixing of rail fittings/ fastening, Construction of derailment guard , as per design approved by the Engineer. The item include supply and leading of all material, labour and tools & plants as a complete job including welding of track in LWR, distressing, drainage arrangement as	8	Each	11,42,190.26	91,37,522.08

SUB SCHEDULE 'B14': P Way Works- Ballastless Track, Rails & Special Sleepers (NS items)						
S. No.	NS Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
		per the approved drawing complete in all respect. Nothing extra shall be paid. Note:- 1- 60 Kg, 350 R Rails shall be paid under item no NS-25 of this Sub-Schedule				
126	NS-23	Linking of track on H- beam sleepers on Open Web Girder (OWG) bridges with 60 Kg running rail and 52 kg guard rail with track fittings/fastenings including leading of Running and guard rails from bridge approach and fixing of running rails & guard rails, bending of guard rails, notching, drilling of holes, cutting of rails etc., as directed and making track structure fit for sectional speed. Note- 1. 60Kg, 350R Rails for running rails and 52 Kg class 'IU' rails for guard rails shall be paid under item No. NS-25 & NS -26 respectively.	82	RTM	1,425.98	1,16,930.36
127	NS-24	Supplying at site of work including leading, loading, unloading and stacking of special PSC wider base sleepers for bridge approaches with provision of guard rails as per RDSO Drawing No. T-8673 to T-8680 for 60 Kg Rail.	2	Set	49,622.71	99,245.42

SUB SCHEDULE 'B14': P Way Works- Ballastless Track, Rails & Special Sleepers (NS items)						
S. No.	NS Item No.	Description of Item	Quantity	Unit	Estimated Rate (INR)	Estimated Amount (INR)
128	NS-25	Supplying, Transporting of Rail 60 kg Class 'A' ,R350 rail of 13/26 meter length as per IRS: T-12/2009 Specifications with latest amendments issued by RDSO.	2912	Rmt	7,396.29	2,15,37,996.48
129	NS-26	Supplying, Transporting of Rail 52 kg Class 'IU' as per IRS: T-12/2009 Specifications with latest amendments issued by RDSO.	164	Rmt	5,177.40	8,49,093.60
Estimated Value of SUB SCHEDULE 'B14' P Way Works- Ballastless Track, Rails & Special Sleepers (NS items)						8,84,27,376.10
Total Estimated Amount of Schedule 'B'						2,26,23,89,454.72

Total Estimated Amount of Schedule 'B': INR: 2,26,23,89,454.72

7 Schedule 'C': General Electrical Services

Schedule C: General Electrical Services					
Item No.	Item Description	Unit	Quantity	Unit Rate (INR)	Amount (INR)
1	2	3	4	5	6
1	CONDUITS, WIRING, PLUGS, FAN AND DISTRIBUTION BOARDS				
1.1	Point Wiring By 3x2.5 sqmm Copper Cable (With Modular Switches & Socket) in Conduits.	Nos	672	448.27	3,01,236.91
1.2	Supply of Material and Provision of 3x2.5 Sqmm Copper Cable Sub-Mains in Conduits.	m	4363	93.20	4,06,649.10
1.3	Supply of Material and Provision of 3x6 Sqmm Copper Cable Sub-Mains in Conduits.	m	673	141.86	95,473.18
1.4	Supply and Installation of 6A Modular Switch Socket.	Nos	511	254.38	1,29,989.36
1.5	Supply and Installation of 16A Modular Power Switch Socket.	Nos	144	281.42	40,524.21
1.6	Supply and Installation of 02 Module Plate GI Box.	Nos	86	109.37	9,406.00
1.7	Supply and Installation of 04 Module Plate GI Box.	Nos	272	151.15	41,114.08

Schedule C: General Electrical Services					
Item No.	Item Description	Unit	Quantity	Unit Rate (INR)	Amount (INR)
1	2	3	4	5	6
1.8	Supply and Installation of 08 Module Plate GI Box.	Nos	106	260.53	27,615.84
1.9	Supply and Installation of 12 Module Plate GI Box.	Nos	12	280.19	3,362.27
1.10	Supply, Installation, Testing and Commissioning (SITC) of 1200 mm Sweep Ceiling Fan with Fan Regulator.	Nos	196	2775.38	5,43,974.87
1.11	Supply, Installation, Testing and Commissioning (SITC) of 300 mm Sweep Exhaust Fan.	Nos	32	1606.70	51,414.56
1.12	Supply, Installation, Testing and Commissioning of Double Door, MCB TPN 440V, 8 Module Distribution Boards (DB).	Nos	17	19614.74	3,33,450.61
1.13	Supply, Installation, Testing and Commissioning of Double Door, MCB SP, 12 Way Distribution Board (DB).	Nos	19	9319.16	1,77,063.95
1.14	Supply, Installation, Testing and Commissioning of Change Over Distribution Board.	Nos	2	25884.66	51,769.31

Schedule C: General Electrical Services					
Item No.	Item Description	Unit	Quantity	Unit Rate (INR)	Amount (INR)
1	2	3	4	5	6
1.15	Supply, Installation, Testing and Commissioning of MCCB 200A (4 Pole, 36 KA).	Nos	4	20784.60	83,138.42
1.16	Supply, Installation, Testing and Commissioning of Double Door, 63A MCB SP 8 Way Distribution Board.	Nos	22	4659.58	1,02,510.71
1.17	Supply and Installation of Junction Box Size 390(H)x305(B)x170(D) mm.	Nos	10	3024.90	30,248.98
1.18	Supply, Installation, Testing and Commissioning of Control and Distribution Panel for Colour Light Signalling (CLS) for 10/ 25/ 50 kVA AT supply.	Nos	3	94442.82	2,83,328.45
1.19	Supply and Installation of Metal Clad Plug Socket 20A, Single Phase with 32A MCB.	Nos	26	1098.64	28,564.55
1.20	Supply and Installation of Metal Clad Plug Socket 16A, Single Phase with 20A MCB.	Nos	12	878.91	10,546.91
1.21	Supply, installation, testing and commissioning of 20 mm dia GI Conduit.	m	80	128.39	10,271.36

Schedule C: General Electrical Services					
Item No.	Item Description	Unit	Quantity	Unit Rate (INR)	Amount (INR)
1	2	3	4	5	6
1.22	Supply, installation, testing and commissioning of 25 mm dia GI Conduit.	m	600	146.89	88,133.51
1.23	Design and Drawing of conduits, wiring, panels, distribution board, as built drawings, survey, calculation etc. for Item no. 1.1 to 1.22.	LS	LS		55,878.63
2	LT & HT CABLES AND LAYING				
2.1	Supply of 2 Core x 10 Sqmm Copper Cable.	m	11645	194.24	2,261,866.58
2.2	Supply of 2 Core x 16 Sqmm Copper Cable.	m	7250	310.78	22,53,126.00
2.3	Supply of 2 Core x 35 Sqmm Copper Cable.	m	2400	679.82	1,631,574.00
2.4	Supply of 2 Core x 70 Sqmm Copper Cable.	m	16000	1359.65	2,17,54,320.00
2.5	Supply of 2 Core x 95 Sqmm Copper Cable.	m	3200	1845.23	59,04,744.00
2.6	Supply of 4 Core x 120 Sqmm Copper Cable.	m	1800	3884.70	69,92,460.00
2.7	Supply of 4 Core x 240 Sqmm Copper Cable.	m	600	7769.40	46,61,640.00

Schedule C: General Electrical Services					
Item No.	Item Description	Unit	Quantity	Unit Rate (INR)	Amount (INR)
1	2	3	4	5	6
2.8	Supply, Installation, Testing and Commissioning of LT Heat Shrinkable Straight Through Joint.	Nos	20	2581.41	51,628.20
2.9	Supply of 3 Core x 120 Sqmm 11 kV Copper Cable.	m	600	7320.32	43,92,194.40
2.10	Supply and Installation of End Termination Kit for 3 core 70 to 185 Sqmm, 11 kV Copper Cable.	Nos	24	14797.94	3,55,150.60
2.11	Laying of LT/ HT Cables (All Size) In Air/ Pipe/ Cable Tray/ Trench Etc.	m	20210	46.96	9,49,016.05
2.12	Excavation and Refilling of Trench of Size 500 mm Wide and depth up to 1200 mm (as per design) for cables.	m	20210	129.47	26,16,575.36
2.13	Laying of Cable Under the Road/ Railway Track, Recessing in Platform/ Wall laid in GI pipe.	m	2100	70.64	1,48,347.41
2.14	Supply and Laying of HDPE Pipe (90 mm outside dia).	m	8400	143.90	12,08,740.14
2.15	Supply and Laying of HDPE Pipe (90 mm outside dia) at platform along with pit and cover.	m	2400	151.09	3,62,622.04

Schedule C: General Electrical Services					
Item No.	Item Description	Unit	Quantity	Unit Rate (INR)	Amount (INR)
1	2	3	4	5	6
2.16	Supply and Laying of HDPE Pipe (125 mm outside dia).	m	3200	466.37	1,492,391.69
2.17	Supply and Laying of HDPE Pipe (160 mm outside dia).	m	600	596.96	3,58,174.01
2.18	Supply and Laying of GI Pipe (nominal bore 125 mm).	m	1800	1694.86	30,50,746.55
2.19	Supply and Installation of Cable Route Marker.	Nos	210	2119.38	4,45,069.22
2.20	Drilling of horizontal bore below Railway track by pushing method for laying of HDPE/ GI pipe.	m	1610	2754.27	44,34,374.85
2.21	Design and Drawing of cable layout, trench layout, route markers, cable and pipe schedule, as built drawings, survey, calculation etc. for Item no. 2.1 to 2.20.	LS	LS		12,80,887.92
3	LIGHTING, STREET LIGHT POLE AND HIGH MAST				
3.1	Provision of 22 Watt LED Tube Light.	Nos	497	733.38	3,64,490.16
3.2	Provision of 40 Watt LED Street Light Fitting.	Nos	100	5080.26	5,08,026.27

Schedule C: General Electrical Services					
Item No.	Item Description	Unit	Quantity	Unit Rate (INR)	Amount (INR)
1	2	3	4	5	6
3.3	Provision of 120 Watt LED Street Light Fitting.	Nos	44	12700.66	5,58,828.90
3.4	Provision of Rechargeable Batten Type 240 Watt Emergency Light.	Nos	8	3179.16	25,433.31
3.5	Provision of Outdoor LED Type Flood Light Luminaries (200 Watt).	Nos	60	33066.46	19,83,987.75
3.6	Supply, installation, testing and commissioning of 11 meter high cast iron decorative street light pole.	Nos	210	30000.00	63,00,000.00
3.7	Supply, Installation, Testing and Commissioning of (OFF Delay) Modular Digital Timers.	Nos	15	6527.92	97,918.75
3.8	Supply, Installation, Testing and Commissioning of 20 Meter High Mast.	Nos	6	355937.16	21,35,622.94
3.9	Design and Drawing of high masts, street poles, digital timer, foundation, lighting lux calculations, earthing, calculation, survey, as built drawings etc. for Item no. 3.1 to 3.8.	LS	LS		2,34,792.23
4	ELECTRICAL EQUIPMENTS (PUMPS, AIR-CONDITIONERS, UPS, WATER COOLER, ETC.)				

Schedule C: General Electrical Services					
Item No.	Item Description	Unit	Quantity	Unit Rate (INR)	Amount (INR)
1	2	3	4	5	6
4.1	Supply of Submersible Pump Set of 7.5 kW.	Nos	4	69291.53	2,77,166.11
4.2	Supply, Installation, Testing and Commissioning of Automatic Control Panel for 7.5 kW Three- Phase Submersible Pump.	Nos	3	20031.07	60,093.21
4.3	Installation, Testing and Commissioning of Submersible Pump Set of 7.5 kW.	Nos	3	4505.15	13,515.44
4.4	Supply, installation, testing and commissioning of Mono-Block Pump 1.5 kW Complete with All Accessories.	Nos	1	15953.58	15,953.58
4.5	Supply and Installation of G.I. Pipe 50 mm nominal dia Medium Class With Flanges and Sockets.	m	300	529.17	158,750.51
4.6	Supply and Installation G.I. Pipe Fitting Bends, Sockets, Flanges, Delivery Valve, Non-Return Valve.	Set	3	4592.40	13,777.20
4.7	Supply, Installation, Testing, Commissioning of 3 Core, 10 Sqmm Copper Flat Cable.	m	1350	165.90	223,967.03
4.8	Supply of Mono Block Pump 3.75 kW.	Nos	3	41574.92	124,724.75

Schedule C: General Electrical Services					
Item No.	Item Description	Unit	Quantity	Unit Rate (INR)	Amount (INR)
1	2	3	4	5	6
4.9	Supply, Installation, Testing and Commissioning of Automatic Control Panel with DOL Starter for 3.75 kW Three-Phase Pump.	Nos	2	12018.64	24,037.28
4.10	Installation, Testing and Commissioning of 3.75 kW Mono Block Pump Set.	Nos	2	2703.09	5,406.18
4.11	Supply, Installation, Testing and Commissioning of 32A DP MCB.	Nos	12	2123.01	25,476.08
4.12	Supply, Installation, Testing and Commissioning of Heavy Duty 5 Star, 1.5 Ton Split Inverter Type Air Conditioner.	Nos	12	50385.48	6,04,625.74
4.13	Supply, Installation, Testing and Commissioning of Heavy Duty 5 Star, 2 Ton Split Inverter Type Air Conditioner.	Nos	26	67180.64	17,46,696.58
4.14	Supply, Installation, Testing and Commissioning of 2 KVA, 240 Volt, AC, Pure Sine Wave Online UPS cum Inverter.	Nos	4	53940.00	2,15,760.00
4.15	Supply, Installation, Testing and Commissioning of Water Cooler (150 Litre).	Nos	7	78612.49	5,50,287.41

Schedule C: General Electrical Services					
Item No.	Item Description	Unit	Quantity	Unit Rate (INR)	Amount (INR)
1	2	3	4	5	6
4.16	Supply, Installation, Testing and Commissioning of 5 star rated storage geyser 25 litre capacity.	Nos	4	4763.22	19,052.87
4.17	Design and Drawing of pumps, control panels, AC, water coolers, geyser, UPS, survey, calculation, as built drawings etc. for Item no. 4.1 to 4.16.	LS	LS		79,986.72
5	SUBSTATION 11kV/ 0.44 KV, HT PANEL, LT PANEL, DG SET AND EARTHING				
5.1	Supply, Installation, Testing and Commissioning Of 11kV/0.44kV, 1x250 kVA, Compact Substation (CSS).	Nos	2	11,37,257.24	22,74,514.48
5.2	Supply, Installation, Testing and Commissioning of Indoor Type 250A LT Panel.	Nos	2	2,10,318.23	4,20,636.45
5.3	Supply, Installation, Testing and Commissioning of Indoor Type 160A LT Panel.	Nos	1	1,26,190.94	1,26,190.94
5.4	Supply, Installation, Testing and Commissioning of Indoor Type 160A Essential LT Panel.	Nos	1	1,26,190.94	1,26,190.94

Schedule C: General Electrical Services					
Item No.	Item Description	Unit	Quantity	Unit Rate (INR)	Amount (INR)
1	2	3	4	5	6
5.5	Supply and Installation of 3 mm Thick Rubber Mat.	Sqm	60	11,743.53	7,04,611.50
5.6	Supply, Installation, Testing and Commissioning of 125 kVA Capacity, Radiator Cooled Silent DG Set.	Nos	1	12,40,029.30	12,40,029.30
5.7	Supply, Installation, Testing and Commissioning of Feeder Pillar.	Nos	6	1,14,443.66	6,86,661.93
5.8	Supply, Installing, Testing and Commissioning Earth Electrode Complete.	Nos	39	3778.11	1,47,346.40
5.9	Supply, Installing, Testing and Commissioning Earth Electrode buried in ground complete.	Nos	136	3589.21	4,88,132.17
5.10	Supply and Installation of 40x5 mm Copper Strip on Surface or in Recess or in GI Pipe.	m	100	1700.35	1,70,034.98
5.11	Supply and laying 40mm x 6mm GI Flat.	m	1080	137.78	1,48,806.27
5.12	Supply and Installation of 5 mm Dia GI Wire.	m	4500	70.13	3,15,562.50

Schedule C: General Electrical Services					
Item No.	Item Description	Unit	Quantity	Unit Rate (INR)	Amount (INR)
1	2	3	4	5	6
5.13	Supply, installation, testing and commissioning of CO2 Panel Flooding System for length above 6000 mm - Fire Trace Tube system for Panel with size: Panel length above 6000 mm.	Nos	2	3,09,812.99	6,19,625.99
5.14	Supply, installation, testing and commissioning of CO2 Panel Flooding System for length up to 6000 mm - Fire Trace Tube system for Panel with size: Panel length up to 6000 mm.	Nos	1	2,59,765.55	2,59,765.55
5.15	Design and Drawing of Sub-station, panels, DG set, earthing, feeder pillar, fire trace system, as-build drawings, calculations, survey etc. for Item no. 5.1 to 5.14.	LS	LS		1,51,532.77
6	FIRE DETECTION & ALARM SYSTEM AND FIRE FIGHTING				
6.1	Supply and Installation of Safety Items in the Substation.	Set	3	18,559.30	55,677.90
6.2	Supply and installation of Set of 04 fire buckets (10 litre) capacity with one GI stand and GI cover.	Set	5	6709.54	33,547.72

Schedule C: General Electrical Services					
Item No.	Item Description	Unit	Quantity	Unit Rate (INR)	Amount (INR)
1	2	3	4	5	6
6.3	Supply and installation of Portable fire extinguisher Dry Chemical Powder (5 kg).	Nos	33	1263.03	41,680.05
6.4	Supply and installation of Carbon dioxide fire extinguishers complete as required, capacity 4.5 kg.	Nos	33	6249.38	2,06,229.38
6.5	Supply, installation, testing and commissioning of microprocessor based 4 loop Fire Alarm Control Panel.	Nos	2	3,80,582.58	7,61,165.17
6.6	Supply, installation, testing & commissioning of Repeater Panel.	Nos	2	80,652.00	1,61,304.00
6.7	Supply, installation, testing & commissioning of analogue addressable microprocessor based photo thermal multi criteria smoke cum heat detector.	Nos	68	3506.25	2,38,425.00
6.8	Supply, installation, testing & commissioning of Multi Co-operative Sensing Analogue Addressable Rate of Rise Cum Fixed temperature, heat detector.	Nos	8	4207.50	33,660.00
6.9	Supply, Installation, testing & commissioning of addressable Manual Glass Break station.	Nos	8	3646.50	29,172.00

Schedule C: General Electrical Services					
Item No.	Item Description	Unit	Quantity	Unit Rate (INR)	Amount (INR)
1	2	3	4	5	6
6.10	Supply, installation, testing & commissioning of Conventional Sounder cum strobe.	Nos	8	4024.63	32,197.00
6.11	Supply, Installation, testing & commissioning of Addressable Control modules for Hooters/ Sounders/ Strobes.	Nos	8	4978.88	39,831.00
6.12	Supply, installation, testing & commissioning of addressable type Fault isolator.	Nos	8	1823.25	14,586.00
6.13	Supply, installation, testing & commissioning of Response Indicators.	Nos	30	189.75	5692.50
6.14	Supply and laying on surface/ conduit 2x1.5 sq.mm 1100V grade FRLS insulated PVC sheathed copper conductor armoured cable.	m	760	140.25	1,06,590.00
6.15	Supply, installation, testing & commissioning of single pair PVC insulated twisted 32/0.2 mm dia copper conductor cable.	m	170	44.61	7584.06
6.16	Design and Drawing of Fire detection and alarm system, fire safety items, calculation, survey, as-built drawings etc for Item no. 6.1 to 6.15.	LS	LS		34,654.04
7	VIADUCT LIGHTING				
7.1	Provision of 22 Watt LED and Bulkhead Light Fitting on Viaduct.	Nos	420	3461.19	14,53,699.17

Schedule C: General Electrical Services					
Item No.	Item Description	Unit	Quantity	Unit Rate (INR)	Amount (INR)
1	2	3	4	5	6
7.2	Laying of 2 Core x 70 Sqmm LT Cable in Viaduct/ Tunnel/ Air Etc.	m	16000	205.93	32,94,856.33
7.3	Laying of 2 Core x 10 Sqmm LT Cable in Viaduct/ Tunnel/ Air Etc.	m	8000	94.24	7,53,931.44
7.4	Supply and Installation of Junction Box Size 250(H)x200(B)x105(D) mm.	Nos	22	2817.98	61,995.61
7.5	Design and Drawing of Viaduct lighting, cabling, earthing, calculation, survey, as-built drawings etc. for Item no 7.1 to 7.4.	LS	LS		1,09,108.37
8	MISCELLANEOUS				
8.1	Supply, Installation, Testing and Commissioning of 25 Litre Fully Automatic with Auto Cut-Off RO water purification system.	Nos	5	17000.00	85,000.00
8.2	Supply, Installation, Testing and Commissioning of Single Sided LED Signage Board.	Sqm	300	7780.43	23,34,128.65
8.3	Supply, Installation, Testing and Commissioning of Double Sided LED Signage Board.	Sqm	360	9649.85	34,73,946.28

Schedule C: General Electrical Services					
Item No.	Item Description	Unit	Quantity	Unit Rate (INR)	Amount (INR)
1	2	3	4	5	6
8.4	Dismantling of Rail Pole, Cable Tray Pole, Overhead Line, Cable Tray Complete.	Nos	12	693.72	8324.59
8.5	Supply and Installation of GI Cable Duct 40x60 mm (wxh) Minimum 2 mm Thick.	m	250	105.78	26,445.39
8.6	Supply and Installation of Stainless Steel Wire Mesh 25mm x 25mm (of 5 mm dia wire) Welded on GI Angle.	Kg	500	66.93	33,463.73
8.7	Supply, Installation, Testing and Commissioning of Perforated Cable Tray of Size 150x50 mm with Thickness 1.6 mm.	m	400	636.63	2,54,650.00
8.8	Spares				
8.8.1	Digital Earth Testers	Nos	2	9991.00	19,982.00
8.8.2	Earth Leakage Detector 1000 V	Nos	2	24,849.00	49,698.00
8.8.3	Digital Insulation Tester 2.5 kV	Nos	2	8559.00	17,118.00
8.8.4	Digital Insulation Tester 0 – 1000 V	Nos	2	2175.00	4350.00
8.8.5	Digital Vernier Caliper	Nos	5	12,872.00	64,360.00
8.8.6	Portable Diesel Generating set, 3 kVA, 240 V AC	Nos	1	1,10,400.00	1,10,400.00

Schedule C: General Electrical Services					
Item No.	Item Description	Unit	Quantity	Unit Rate (INR)	Amount (INR)
1	2	3	4	5	6
8.8.7	Digital micrometer	Nos	5	9957.00	49,785.00
8.8.8	Digital Multi-meter	Nos	5	1490.00	7450.00
8.8.9	Safety Helmet	Nos	10	995.00	9950.00
8.8.10	Tool Kit Box	Nos	3	6603.00	19,809.00
8.8.11	Portable Grinder Electrically Operated	Nos	2	8463.00	16,926.00
8.8.12	Portable Electrical Drill	Nos	2	14,914.00	29,828.00
8.9	Operation and Maintenance Manuals	LS	LS	99,222.49	99,222.49
8.10	Training to Staff	LS	LS	2,48,056.23	2,48,056.23
Total of Schedule 'C'					10,81,97,813.95

Total Estimated amount of Schedule 'C': INR 10,81,97,813.95

8 Schedule 'D': Signalling & Telecommunication (S&T) Works

Schedule 'D': Signalling & Telecommunication (S&T) Works					
S. No.	Item Description	Unit	Quantity	Estimated Rate (INR)	Estimated Amount (INR)
D1	Supply of Signalling & Telecom equipment and associated material (S. No. 1-12)				
1.	Supply of Relay- AC immune plug in type QNA1, DC neutral line relay, 24 V DC 8F/8B contacts, metal to carbon with plugging arrangement etc. conforming to BRS:930 and 931A.The interlocking code for this unit shall be ABDGH or latest.	Nos	4,360	15	65,400
2.	Supply of 16/0.2mm size tinned flexible single core indoor wire as per IRS:S 76/89 (latest) a specification, PVC coated in different colours as per requirement and to be supplied in coils of 100 meters.	Nos	1,041	50	52,050
3.	Supply Fabrication and fixing of cable termination board of size as per Drg. No.NR/S&T/Project/13/2015 duly fitted with Bakelite sheet of size 6mm thick. This also includes fixing of ARA terminals & fuse bases with location box inside/outside painting, writing , cable fining , banching , numbering as per Indian Railway standard.	Nos	54,930	1	54,930
4.	Supply of disconnect terminal block for four conductors with screwless cage clamp type/sliding switch disconnect as per RDSO Specification No. RDSO/SPN/189/2004 version 1.2 (latest), for conductor size upto 2.5 sq. mm.for M6 Terminals.	Nos	140	200	28,000
5.	Supply of ARA terminal block 25 mm centre spacing for small M-6 terminal as per RDSO specifications IRS-S75/2006 (latest).	Nos	98	200	19,600

Schedule 'D': Signalling & Telecommunication (S&T) Works					
S. No.	Item Description	Unit	Quantity	Estimated Rate (INR)	Estimated Amount (INR)
6.	Supply of PVC insulated armoured, unscreened, underground railway signalling cable copper conductor as per specification no. IRS-S-63/2014 (latest) Size 24 Core x 1.5 Sq. mm.	Km	4,98,267	2	9,96,535
7.	Supply of PVC insulated armoured, unscreened, underground railway signalling cable copper conductor as per specification no. IRS-S-63/2014 (latest) Size 12 Core x 1.5 Sq. mm.	Km	2,22,628	8	17,81,024
8.	Supply of PVC insulated armoured, unscreened, underground railway signalling cable copper conductor as per specification no. IRS-S-63/2014 (latest) Size 6 Core x 1.5 Sq. mm.	Km	1,43,385	2	2,86,770
9.	Supply of power cable as per BIS specification No.IS:694/2010 s (2 x 25 sq. mm, red & black colour).	Km	1,43,038	3	4,29,113
10.	Supply of 6 Quad 0.9 mm jelly filled underground, screened, armoured cable as per RDSO specification No IRS TC: 30/2005 (latest) amendment.	Km	2,95,313	11	32,48,443
11.	Supply of Armoured Optical Fiber Cable (OFC) (24 Fiber) Mono Mode as per spec. No. RDSO/SPN/TC/110/2020.	Km	1,01,792	11	11,19,709
12.	Supply of permanently lubricated high density polyethylene (PLB-HDPE) duct of 40 mm/ 33 mm as per RDSO specn No. RDSO/SPN/TC/45/2013 Revision 2.0.for complete with all accessories like caps, couplers, collers, bends etc.	Km	77,794	10	7,77,940
Sub-Total 'D1' (INR)					88,59,514

Schedule 'D': Signalling & Telecommunication (S&T) Works					
S. No.	Item Description	Unit	Quantity	Estimated Rate (INR)	Estimated Amount (INR)
D2	Signalling Installation, Testing & Commissioning (S. No. 13- 34)				
13.	Final Location Survey of cable route, preparation of cable route plan, track crossing plan, location description plan, cable insulation chart and other outdoor diagram for way side stations. Three sets of drawings will be submitted for approval & for execution of work to engineer (Job: complete work).	Nos	48,245	1	48,245
14.	Supply of apparatus case Single with 'E' type lock and key ward no.42 and handle as per RDSO drg. No. RDSO/S-11500.	Nos	24,550	6	1,47,300
15.	Supply of apparatus case steel half with E type lock and key ward no. 42 and handle as per RDSO drg.no. RDSO/S-11507.	Nos	19,254	6	1,15,524
16.	Casting, concreting and curing of foundation and erection of Single Apparatus. cases as per Drg.No.NR/S&T/CON/2.7/97- . All installation material such as cement, sand, aggregate and anchor bolt etc. shall be supplied by contractor.	Nos	13,045	6	78,270
17.	Casting, concreting and curing of foundation and erection of half app. cases as per Drg.No.NR/S&T/CON/ 2.8/97. All installation material such as cement, sand, aggregate and anchor bolt etc. shall be supplied by contractor.	Nos	8,764	6	52,584
18.	Fabrication and fixing of phenolic laminated sheet of grade P3/bakelite hylem sheet, minimum 10mm thick ,as per apparatus case diagram/plan, in location box by providing all fixtures like ARA/Disconnect terminals, fuse blocks, fuse relays on square bars etc. including fixing of PVC coated string rods at the back side for cable support with conductor's own material like iron angle, nuts,	Nos	5,961	6	35,766

Schedule 'D': Signalling & Telecommunication (S&T) Works					
S. No.	Item Description	Unit	Quantity	Estimated Rate (INR)	Estimated Amount (INR)
	bolts etc. The iron angle for fixing shall be minimum 3mm thick. This also fixing of teak wood shelf minimum 25mm thick for holding track circuit equipment. the work shall be done as per instruction of engineer. (apparatus case single involving wiring of relays.)				
19.	Fabrication and fixing of phenolic laminated sheet of grade P3/bakelite hylem sheet, minimum 10mm thick ,as per apparatus case diagram/plan, in location box by providing all fixtures like ARA/Disconnect terminals, fuse blocks, fuse relays on square bars etc. including fixing of PVC coated string rods at the back side for cable support with conductor's own material like iron angle, nuts,bolts etc. The iron angle for fixing shall be minimum 3mm thick. This also fixing of teak wood shelf minimum 25mm thick for holding track circuit equipment. the work shall be done as per instruction of engineer. (apparatus case half).	Nos	3,322	6	19,932
20.	Termination of all type of cables at either end on terminal boards providing identification, ferrules, dressing, lacing with thread. This includes testing, meggering and submitting test reports etc. and defect rectification (Per Conductor).	Nos	16	213	3,408
21.	Dismantling and releasing of location boxes/Apparatus cases/Jn boxes including releasing of terminal boards, relays, terminals, fittings installed therein. complete with fittings. All dismantled material to be transported and stacked in the store of the Employer.	Nos	779	12	9,348

Schedule 'D': Signalling & Telecommunication (S&T) Works					
S. No.	Item Description	Unit	Quantity	Estimated Rate (INR)	Estimated Amount (INR)
22.	Excavating and refilling of trench in Normal Soil to the level of ground with rammed earth as per drg. No. (NR/S&T/CON/1.1/97-A) so as not to form a drain 0.3m wide & 1.0 m. deep alongside the track.	M	83	10,000	8,30,000
23.	Excavating and refilling of trench 0.3 m wide & 1.0 m Deep from bottom of rail flange across the track or 0.5m. from ground level whichever is more (NR/S&T/CON /1.2/97). Earth should be rammed so as not form a drain. This includes removal and refilling of ballast & restoration of surface under normal traffic conditions. Lesser depth of the trench is to be paid proportionately.	M	95	200	19,000
24.	Supply and installation of double walled corrugated HDPE pipe of outer dia 120mm (other than black in colour) (in 6m straight length with one coupler for every 6m length) conforming to RDSO/SPN/204/2011 or equivalent IS specifications wherever required as per approved cable route plan. This includes brick work and other arrangements required to secure the pipe for road crossing/platform/track crossing & for bridges and culverts etc.	M	546	200	1,09,157
25.	Supply & installation of Half Split Double wall corrugated pipe of HDPE in 2 or 3 m. Length produced out of full round DWC pipes RDSO/SPN/204/2011 or equivalent IS specifications. The pipe should have necessary fixing and coupling arrangements. Size : 200 mm outer dia. And 175 mm inner dia.	M	389	5,000	19,45,000
26.	Supply and laying of 2nd class bricks in the trench and laying as per drg. No.(NR/S&T/CON/1.1/97-A) as per instructions of the Engineer's Representative.	Nos	8	1,000	8,000

Schedule 'D': Signalling & Telecommunication (S&T) Works					
S. No.	Item Description	Unit	Quantity	Estimated Rate (INR)	Estimated Amount (INR)
27.	Supply & installation of earth electrodes pipe of 3 metre length and 50 mm dia. pointed on lower end by tapering for a length of 150mm as per drg. No. NR / S&T/ Proj /16.1 /2015 and connecting with signalling gears. This includes casting, plastering of cement concrete enclosures as per drg. No. NR / S&T/ Proj /16.2 /2015.	Nos	3,751	12	45,012
28.	Fabrication, supply and fixing of cable marker of 1:3:6 concrete as per No.NR/S&T/CON/1. 5/97A. The marker shall be fixed at various places of cable route as per instructions of the Engineer's Representative.	Nos	387	100	38,700
29.	Laying of signalling/Telecom/power/ other all type of cables etc. of different sizes as per drg. No. (NR/S&T/CON/1.1/97-A) and testing meggering of cable before and after laying.	M	8	21,000	1,68,000
30.	Laying of HDPE duct in the trenches, HDD/Manual Boring, RCC ducts, Pipes etc and supply pulling of Nylon rope through it as required.	M	10	10,000	1,02,960
31.	"Blowing/Drawing of OFC cable in the HDPE duct laid in trenches & protective works "	M	14	10,000	1,43,710
32.	Supply and installation of optical fibre cable joint enclosure as per RDSO/SPN/TC/68/2014 or equivalent TEC specifications (Make: Reychem or superior) and splicing of OFC cables. This includes fabrication & installation of RCC jointing pit (1 m inner dia x1m deep) for OFC joint closure.	Nos	17,622	10	1,76,220
33.	Supply & installation of Thermo shrinkable straight through joint suitable for making straight through/deviation joint without transformer in under ground 6 quad/jelly filled cables. RDSO	Nos	6,421	10	64,208

Schedule 'D': Signalling & Telecommunication (S&T) Works					
S. No.	Item Description	Unit	Quantity	Estimated Rate (INR)	Estimated Amount (INR)
	Specification No. RDSO/SPN/TC/77/2010 (latest amendment) with all accessories.				
34.	Supply & Installation of 1120:470 Ohms VF isolation transformer rack mounting type as per RDSO specification IRS/TC/22/76 with latest amendment applicable on the date of opening of the tender. (Select joint type)	Nos	1,605	10	16,050
Sub-Total 'D2' (INR)					41,76,394
Total Estimated Amount of Schedule 'D'					1,30,35,908.00

Total Estimated amount of Schedule 'D' - INR 1,30,35,908.00