

E-Tender No. MUMBAI/N/EN/ROB/LC -97, Date 23.09.2017

#### For

Construction of one ROB including approaches complete in lieu of existing LC no. 97 at KM 195/2-4 between Atul - Valsad Railway station of Virar – Surat Section of Mumbai Division of Western Railway.

## FINANCIAL BID (PACKET-B)

TENDER DOCUMENT September 2017

Employer:
DEDICATED FREIGHT CORRIDOR CORPORATION OF INDIA LIMITED
CPM/NORTH/MUMBAI UNIT
(A GOVERNMENT OF INDIA ENTERPRISE)
Under
MINISTRY OF RAILWAYS

Signature of tenderer (s) Date:



# DEDICATED FREIGHT CORRIDOR CORPORATION OF INDIA LTD A Govt. of India (Ministry of Railways) Enterprises 7<sup>th</sup> Floor, New Administrative Building, D.N. Road, Mumbai-400001 NOTICE FOR INVITING BIDS (Online i.e. E-Tender)

| Tender No                                 | MUM/N/EN/ROB/LC - 97, date 23.09.2017  |
|---|--|
| Name of work                              | Construction of one ROB including approaches complete in lieu of existing LC no. 97 at KM 194/2-4 between Atul - Valsad Railway station of Virar – Surat Section of Mumbai Division of Western Railway       |
| (a) Type of Tender                        | Open Tender (Single stage two packet ).  |
| (b) Type of Contract                      | Works Contract.  |
| (c) Tender Value                          | Rs. 36,12,75,054.00/-  |
| (d) Completion Period                     | 18 months  |
| (e) Earnest Money                         | Rs. 50,00,000.00/- (Paid through Demand Draft/ banker's Cheque, FDR payable in favour of "Dedicated freight Corridor corporation of India Limited, Mumbai")  |
| (f) Cost of Tender document               | Rs 10000/- plus GST (18%) To be paid by D.D./Banker's Cheque in favour of DFCCIL payable at Mumbai   |
| (g) Tender Processing Fee                 | Rs 7,500/- plus GST (18%), taxes and duties as applicable (non refundable) through e- payment while uploading of tender  |
| (h) Performance Bank<br>Guarantee         | Performance Guarantee (PG) have to be submitted within 30(thirty) days from the date of issue of Letter Of Acceptance (LOA), amounting to 5% of the contract value in the form as give in clause 16.4 of GCC |
| (i) Retention Money /<br>Security Deposit | 5% of Contract Value   |
| (j) Officer:                              | Chief Project Manager (North), Mumbai Dedicated Freight Corridor Corporation of India Limited/Mumbai, 7 <sup>th</sup> Floor, New Administrative Building, D.N. Road, Mumbai-400001                           |
| (k) E-Tendering Web Site                  | E-tendering site- www.tenderwizard.com/DFCCIL  |
|   | Help: Please contact Tender wizard helpdesk at 011-49424365  |
| (L) Pre bidding Conference                | On 10.10.2017 at 11.30 AM at office of Chief Project Manager(North) Mumbai, 7 <sup>th</sup> Floor, New Administrative Building, DN Road, 400001  |

| DATE & TIME SCHEDULE  |                               |
|---|-------------------------------|
| Date of Uploading of NIT & Other Documents (Online Publishing date)                           | 27.09.2017 at 11.00 Hrs.      |
| Documents download/Sell date (Online)   | From 28.09.2017 at 11.00 Hrs. |
| Bid submission Last date (Online)   | 31.10.2017 up to 15.00 Hrs.   |
| Last date of submission of originals of statutory documents i.e. EMD & Tender Document Charge | 08.11.2017 up to 17.30 Hrs.   |
| Bid Opening date & Time (online)  | 09.11.2017 at 15.00 Hrs.      |

Chief Project Manager (North), Mumbai Dedicated Freight Corridor Corporation of India Limited/Mumbai, 7<sup>th</sup> Floor, New Administrative Building, D.N. Road, Mumbai-400001

FORM No. 3

#### **SUMMARY OF PRICES**

Name of work:- Construction of ROB including approaches complete in lieu of existing LC no. 97 at KM 195/2-4 between Atul - Valsad Railway station of Virar – Surat Section of Mumbai Division of Western Railway

| SI.<br>No. | Description of works  | Cost as per<br>Schedules | Rates to be quoted in figures<br>& words (Clearly mention<br>above / below / at par on<br>Schedules/Items updated<br>DFCCIL Rate / cost given in<br>column 3) |
|------------|---|--------------------------|---|
| 1          | 2   | 3                        | 4   |
| 1.         | Execution of all works as per Schedule "A" (Items as per SOR 2015-16 of State Govt. Gujarat R&B Valsad division.) | Rs.<br>4,28,10,970.00    | per<br>ely in   |
| 2.         | Execution of all works as per Schedule "B" (NS Items as per State Govt of Gujarat)                                | Rs.<br>15,32,19,346.00   | at par as<br>I separat<br>I File.   |
| 3.         | Execution of all works as per Schedule "C" (Items as per SOR 2015-16 of State Govt. Gujarat R&B Valsad division.) | Rs.<br>11,70,78,414.00   | Rates above / below / at par as pe<br>schedules shall be filled separately<br>Microsoft Excel File.   |
| 4          | Execution of all works as per Schedule "D" (NS Items as per Western Railway)                                      | Rs.<br>4,54,29,765.00    | bove / below / ss shall be filled   |
| 5          | Execution of all works as per Schedule "E" (NS Items as per Western Railway)                                      | Rs.<br>12,36,559.00      | tes abc<br>edules   |
| 6          | Execution of all works as per Schedule "F" (USSOR Items as per Western Railway)                                   | Rs.<br>15,00,000.00      | Ra  |
|            | Grand Total   | Rs.<br>36,12,75,054.00   |   |

#### Notes:

- (i) The above prices are inclusive of all taxes, duties, levies, etc. Except GST.
  - a. GST as applicable from time to time on taxable value of each running account bill shall be paid by DFCCIL.
  - b. The contractor should adhere to anti profiteering provisions as per section 171 of the CGST Act. Where due to change in the rates of GST / Change in law, the contractor gets any credits / benefits, the same shall be passed on to DFCCIL by way of reduction in prices.
- (ii) The tenderer should quote single percentage above / par / below for each schedule.
- (iii) If the uniform percentage quoted by the Tenderer does not clearly indicate whether the rates are above/at par/below the estimated rates then through sign convention it will be considered to be on plus side and evaluated accordingly.
- (iv) Rate of item payable to contractor shall be as per above/below/at par on rates of schedule.

Signature of tenderer (s)

FORM No. 4

#### SCHEDULE -1 SCHEDULE OF PRICES & TOTAL PRICES

NAME OF WORK: Construction of ROB including approaches complete in lieu of existing LC no. 97 at KM 195/02-04 between Atul - Valsad Railway station of Virar – Surat Section of Mumbai Division of Western Railway

#### Schedule- A

#### Schedule of Approximate quantities

| SN | Item<br>No. | Total<br>Qty. | Item of work   | Rate     | UNIT    | Amount in Rs. |
|----|-------------|---------------|--|----------|---------|---------------|
| 1  | 26117C      | 1             | Clearing and grubbing site/road/land including uprooting all vegetation, grass, bush shrubs, saplings and trees with girth, removal of stumps of trees of girth of all sizes including removing stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable materials as directed by Engineer with all leads and lifts etc. complete as per specification. before commencement and after completion of the work. | 32056.39 | Hectare | 32056.00      |
| 2  | 27007A      | 24299         | Excavation for foundation in sand, gravel, clay soft soils and murrum etc. Including shoring, strutting dewatering as necessary and disposing of the excavated stuff as directed.(a) Depth upto 3.0m.  | 318.15   | Cum     | 7730727.00    |
| 3  | 27039       | 3052          | Empty boring through all sorts of strata for providing 1.20m dia RCC bored piles to required depth   | 3360.27  | Rmt     | 10255544.00   |

Signature of tenderer (s)

For CPM/NORTH/MUMBAI/DFCCIL

Date:

|      |        |     | including flushing necessary casting pipe with all plants and equipments as required as per detailed specifications for Abutment and Piers (Excluding Concrete & Reinforcement).   |          |      |           |
|------|--------|-----|--|----------|------|-----------|
| 4    |        |     | Carrying out load test on any pile as per standard procedure laid down in the IS:2911 specification including construction of test cap, dismantling the cap after test and cleaning the site and maintaining complete records of load settlement as directed by Engineer and as per specification, and submission of records.    |          |      |           |
| 4(a) | 27044  | 2   | Load testing of foundation piles including loading with necessary kentledge of any other suitable method a per details (Initial load Test).  | 39654.62 | Each | 79310.00  |
| 4(b) | 27044  | 2   | Load testing of foundation piles including loading with necessary kentledge of any other suitable method a per details (Routine load Test).  | 39654.62 | Each | 79310.00  |
| 5    | 27001A | 446 | Dismantling the existing structure including removing and stacking the dismantled materials as and where directed (Chipping and dressing of the RCC piles up to cutoff level (Min. 1 D) including cleaning of reinforcement and removal of dismantled materials, etc. for providing pile caps as directed by Engineer and as per | 577.72   | Cum  | 257663.00 |

|   |         |      | specification. for 1000 & 1200 mm dia. pile.   |        |      |            |
|---|---------|------|--|--------|------|------------|
| 6 | 27004AA | 7258 | Providing and laying filter media 600mm thick as directed at the back of abutments, returns and wing walls as per detailed specifications.   | 792.85 | Sqm  | 5754505.00 |
| 7 | 26161   | 1103 | Providing and laying Road marking with hot applied thermoplastic compound reflecting glass bends on bituminous surface. Providing and laying Hot applied thermoplastic compound 2.5 cm thick including reflectorizing glass bends 250 gms/sqmt area, thickness of surface applied glass bends as per IRC 35 the finished surface to be level uniform and free from streaks & holes. (As per Government letter no. SOR 102003/94/S-1, dated 20.07.2004) | 298.96 | Sqm  | 329753.00  |
| 8 | 26163   | 3513 | Supplying and fixing cat eye (stimsonite) made out from Acrilo beautile sterine injection high compressed moulding with reflector made of MMC (prismatic type of size 12cm*6cm*2.5cm) providing with bituminous adhesive 100 g. with each unit for fixing. (High intensity grade).   | 375.72 | No.  | 1319904.00 |
| 9 | 27050A  | 7258 | Providing and laying weep holes in abutment, and returns by using AC pipe of 100 mm dia. including laying in proper grade and jointing the completed as per detailed specification.  | 53.93  | Each | 391424.00  |

| 10 | 27072  | 2956800 | Providing and Fixing in position fully moulded restrained elastomeric bearings as per detailed drawings.   | 1.11    | Cu.cm | 3282048.00 |
|----|--------|---------|--|---------|-------|------------|
| 11 | 27101A | 2       | Providing and fixing marble slab including transporting, engraving and painting all complete. Size 75cm x 60cm x 4cm   | 955.46  | Each  | 1911.00    |
| 12 | 27100A | 184     | Providing PVC 100 mm diameter water spouts including necessary iron gratings as per drawings.  | 187.86  | Each  | 34567.00   |
| 13 | 26093A | 20      | Providing and fixing sign boards made out of 2mm aluminium sheet; size 80 x 60cms. rectangle as per the design of IRC-67-1977 pre treated with phosphating process & acid teching; coated with one coat of epoxy primer and two coats of best quality epoxy paint; reflectorized with retro reflective sheeting as per latest MOST Specifications; 3.1m long stand post and frame fabricated from suitable size iron angle of 35 x 35 x 3mm75x75x6mm as required; painted with best quality epoxy coatings in black and white bends. the details of symbol for each board shall details of symbol for each board shall be as per the instruction of engineer in charge. The fixing at site shall be in 1:2:4 CC block of size 45 x45 x 60cms. for each leg. including excavation curing tec. complete under the supervision of engineer in charge. | 3214.83 | No.   | 64297.00   |

|    |        |    | (A) Engineer grade   |          |     |           |
|----|--------|----|--|----------|-----|-----------|
| 14 | 26098A | 12 | Direction sign (Junction board):- Providing and fixing sing boards made out of 2mm aluminium sheet; size 244 x 122cms. rectangle as per the design of IRC-67-1977 pre treated with phosphating process & acid etching; coated with one coat of epoxy primer and two coats of best quality epoxy paint; reflectorized with retro reflective sheeting as per latest MOST Specifications; Letters and numerals should be as per IRC-30-1968, 3.1m long (2 nos) stand post and frame fabricated from suitable size iron angle of 50 x 50 x 5mm 75x75x6mm as required; painted with best quality epoxy coatings in black and white bends. the details of symbol or inscription / numerals for each board shall be as per the instruction of engineer in charge. The fixing at site shall be in 1:2:4 CC block of size 45 x 45 x 60cms. for each leg. including excavation curing etc. complete under the supervision of engineer in charge. | 12273.52 | No. | 147282.00 |
| 15 | 26102A | 12 | Providing and fixing Hazard marker sign made out of 2mm aluminium sheet, size 100 x 100 cms rectangle, as per the design of IRC 67-1977 Pre treated with phosphating process and acid etching coated with one coat of epoxy primer and two coat of best quality epoxy paint, reflectorized   | 2022.02  | No. | 24264.00  |

Signature of tenderer (s)

For CPM/NORTH/MUMBAI/DFCCIL

Date:

|    |                |      | with retro reflective sheeting as per the latest M.O.S.T. specification, 3.1 Mt. long stand post and frame fabricated from suitable size iron angle of 35 x 35 x 3 mm & 50 x 50 x 5 mm, painted with best quality epoxy coatings. The fixing at site shall be in 1 : 2 : 4 CC block of size 45 x 45 x 60 cms for each leg including excavation                                  |         |     |             |
|----|----------------|------|---|---------|-----|-------------|
|    |                |      | curing etc. complete under the supervision of Engineer in charge.   |         |     |             |
| 16 | 14006A         | 443  | Providing and laying chequered terrazzo tiles 22mm thick for R.C.C Staircase with marble chips of size up to 6mm in floors on 25mm thick bed of lime mortar 1:1.5 (1 - lime putty: 1.5 coarse sand) or C.M. 1:6 jointed with neat cement slurry mixed with pigment to match the shade of the tiles including rubbing & polishing complete. (A) Light shades using white cement. | 474.7   | Sqm | 210292.00   |
| 17 | NH-SOR<br>16.2 | 360  | Removal of existing asphaltic wearing coat comprising of 50 mm thick asphaltic concrete laid over 12mm thick asphalt including disposal with all lift and lead  | 67.67   | Cum | 24361.00    |
| 18 | 27097A         | 215  | Providing and fixing post and pipe railing as per detailed drawing including 3 coats of painting to steel works complete  | 1073.63 | MT  | 230830.00   |
| 19 | 27082A         | 2332 | Providing and Casting in situ or precast controlled Cement Concrete M-45 for prestressed  | 5386.33 | Cum | 12560922.00 |

| concrete work in Superstructure        |                |
|--|----------------|
| including centering, shuttering,       |                |
| curing, scafffolding, ramming,         |                |
| vibrating, finishing, launching or     |                |
| shifting complete (I) Solid slab. (II) |                |
| Deck slab (III) Main Girder. (IV)      |                |
| Diaphragam or cross girder.            |                |
| Total Amount of Schedule – A           | 4,28,10,970.00 |
|  |                |

## Schedule- B

|           |                |               | Schedule of Approximate qu  | antities |      |                     |
|-----------|----------------|---------------|---|----------|------|---------------------|
| Sr.<br>No | Item No.       | Total<br>Qty. | Item of work  | Rate     | UNIT | Amount<br>in<br>Rs. |
| 1         | State<br>NS/01 | 1             | Marking out the centre line of the Bridge and various other component structures and complete lining out and levelling with theodolite, levels, including constructing necessary masonry pillars for lines and levels and establishing necessary bench marks etc. complete as directed.   | 12625.00 | LS   | 12625.00            |
| 2         | State<br>NS/02 | 1060          | Providing & filling in foundation with ordinary cement concrete M 15 mix and providing necessary vertical pin headers including formwork vibrating ramming & curing complete.   | 2622.57  | Cum  | 2779924.00          |
| 3         | State<br>NS/03 | 3146          | Providing and casting in situ controlled cement concrete M-35 for RCC bored pile from 1.00 & 1.20 m. dia. using Tremie Pipe including necessary flushing, dewatering, formwork, mixing in mechanised batch mix plant, transporting, compacting, and finishing including all leads & lifts complete as per detailed specifications. (Excluding Reinforcement). | 4210.89  | Cum  | 13247460.00         |
| 4         | State<br>NS/04 | 2295          | Providing and casting in-situ controlled cement concrete of M35 grade for RCC work for Pile cap ,foundation for pier, abutment,   | 3942.64  | Cum  | 9048359.00          |

|    |                 |      | RCC Stair Case & return walls with 20/40mm down coarse aggregate of the required size for any depth including dewatering, scaffolding centring, shuttering, mixing, placing in position, consolidating with mechanical vibrators, curing, deshuttering carefully, making good the damages, fixing embedment, inserts, pockets, wherever necessary as per specification and drawing. |         |     |             |
|----|-----------------|------|---|---------|-----|-------------|
| 5  | State<br>NS/05  |      | Providing and casting in situ controlled cement M35 for RCC work in piers and abutment return wall as per drawing including centring shuttering scaffolding where necessary laying vibrating curing and finishing complete.   |         |     |             |
| 5a | State<br>NS/05a | 2750 | a) height from 0.0 to 5.0 m   | 4004.25 | Cum | 11011688.00 |
| 5b | State<br>NS/05b | 269  | b) height from 5 to 10.0 m  | 4226.45 | Cum | 1136915.00  |
| 6  | State<br>NS/06  | 1132 | providing and casting in situ controlled cement concrete M35 for RCC works on pier cap, abutment cap, dirt wall and M40 for pedestals including controlled cement concrete or pedestals of required drawings, centring shuttering, scaffolding wherever necessary laying vibrating curing and finishing complete.   | 4056.77 | Cum | 4592264.00  |

| 7 | State<br>NS/07 | 682 | Providing and casting in situ controlled cement concrete M-35 for R.C.C. work in superstructure including centring, shuttering scaffolding, ramming, vibrating curing and finishing complete. (A) T-Beam and Deck slab type of superstructure. (II) Main and cross Girder   | 4153.73 | Cum | 2832844.00 |
|---|----------------|-----|---|---------|-----|------------|
| 8 | State<br>NS/08 | 97  | Providing and casting in-situ controlled cement concrete of M-35 grade with minimum cement content 420kg/cumt without admixture as per IS-456-2000 cement concrete for wearing coat with 10mm & 20mm downgraded crushed stone aggregates of required size in super structure including required formwork, shuttering and supporting arrangement (excluding cost of reinforcement) and transporting concrete from batching plant by transit mixture, placing it in position etc. compacting with needle vibrator including curing with all labour, material, machinery all lead, lift etc. complete as per drawing and technical specification of MORTH 2702 (P. No. 492 MORTH 2702) | 4153.73 | Cum | 402912.00  |
| 9 | State<br>NS/09 | 18  | Providing and casting in-situ controlled cement concrete of M-30 for approach slab including required formwork, curing and finishing complete   | 3991.22 | Cum | 71842.00   |

| 10 | State<br>NS/10 | 30191 | Providing and applying one coat of Epoxy phenolic primer of DFT 50 microns and two coats of Epoxy phenolic coating of DFT 100 microns each for RCC Element or any other equivalent epoxy coating system to all concrete surfaces exposed to atmosphere in substructure and superstructure including cost of material labour, transportation, scaffolding and preparing the surface by cleaning, washing, brushing, sand/grit blasting etc complete and as directed by engineer and as per specification. (Paint shall be approved from Engineer and tested from approved Laboratory) (Total DFT = 50+100+100 = 250 microns). | 182.81  | Sqm | 5519217.00  |
|----|----------------|-------|--|---------|-----|-------------|
| 11 | State<br>NS/11 | 233   | Providing and fixing in position Strip Seal Type Expansion Joint (for movement up to 60mm) as per detailed drawing MORTH specification. The rate is inclusive of supplying, fixing with contractor's own materials, equipments, machineries, labour, transport, testing, bolts, socket tubes, neoprene sheet/cap etc. complete. The rate is finished item complete and will be paid after fixing in all respect.   | 9063.74 | Rmt | 2111851.00  |
| 12 | State<br>NS/12 | 6668  | Reinforced Earth Retaining Wall (Reinforced Earth retaining wall is having following main component  1. Excavation for foundation, foundation concrete (CC grade M15) with cement concrete   | 5913.84 | Sqm | 39433485.00 |

Signature of tenderer (s)

For CPM/NORTH/MUMBAI/DFCCIL

Date:

|    |                |      | grooved seating in foundation for facia panel.  2. Facia panel in concrete grade M  35 and reinforcement FE 500D with hooks, tackles and placement thereof.  3. Assembling & joining with nonoven geotextile at facial panel joints with facia elements and laying of the PP Geosynthetic reinforcement element along with 600mm thick filter media conforming to the specifications and in accordance to the design as approved.  4. RCC coping (M 35) at top of facial panel and levelling pad (PCC M15) at bottom facia panel as per approved layout. |        |     |            |
|----|----------------|------|--|--------|-----|------------|
| 13 | State<br>NS/13 | 6890 | Construction of 300 mm thick Granular Coarse Sub Base (GSB) (Grade - I crushed B.T materials of 53mm to 9.5mm @ 50% 9.5mm to 2.36mm @ 20%, below 2.36mm @ 30%) by providing coarse graded material mixing in a mechanical mix plant at OMC, carriage of a mix material to work site spreading in uniform layers with motor grader on prepared surface, and compacting with vibratory rollers to achieve the desired density, complete as per MORTH specification   | 749.42 | Cum | 5163504.00 |

| 14 | State<br>NS/14 | 6890  | Providing and laying wet mix base course macadam(WMM) 300 mm in Two layer using machine crushed chips as per required gradation mixing with required optimum quantity of water conveying the mix to site and spreading to grade and camber with mechanical paver consolidation by vibratory roller including material, labour, plant and machinery and equipment etc complate.as per MORT&H Specifications  | 801.94  | Cum | 5525367.00 |
|----|----------------|-------|---|---------|-----|------------|
| 15 | State<br>NS/15 | 22967 | Providing and applying priming coat with emulsion (SS1) at the rate of 7.50 kg/ 10 Sq.mt. including cost of emulsion and preparing the surface and applying etc. complete.  | 21.21   | Sqm | 487130.00  |
| 16 | State<br>NS/16 | 2065  | Providing & laying DENSE GRADED BITUMINOUS MACADAM with batch type Drum Mix Plant (DMP) using crushed aggregates of specified grading, premix with bitumen grade 60/70, bituminous binder @ 5.0 per cent by weight of total mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction complete, including providing & laying tack coat 2.5kg /10sqm all as per MORTH specification. | 4253.11 | Cum | 8782672.00 |

| 17 | State<br>NS/17 | 1059  | Providing and laying 40 mm Bitumen concrete using crushed stone aggregate BT chips as per required gradation and using emulsion asphalt as a tack coat @ 2.5 kg / 10 sqmt and the VG 30 grade asphalt at 55 kg/MT)by total weight of mix hot laid process using drum mix plant including heating and mixing asphalt & materials by drum mix process transporting the mix and laying by paver finisher including consolidation with vibratory roller including cost of material, labour, machinery equipment and fuel, oil, lubricant for plant and machinery using contractor's own plant and machineries etc. complete as per MORTH Specifications | 4554.09 | Cum | 4822781.00  |
|----|----------------|-------|---|---------|-----|-------------|
| 18 | State<br>NS/18 | 28590 | Backfilling, grading and compaction with selected backfill soil in layers in soil Reinforced works with peak internal angle of friction as per adopted design parameters, complete as per drawings and Technical Specifications or as directed by Engineer.   | 699.93  | Cum | 20010999.00 |

| 19 | State   | 6600 | Providing and laying 6 mm thick in    | 198.45  | Sqm | 1309770.00 |
|----|---------|------|---------------------------------------|---------|-----|------------|
|    | NS/19   | 0000 | two layer mastic asphalt wearing      | 1301.13 | 39  | 1303770.00 |
|    | 113, 13 |      | course with paving grade bitumen      |         |     |            |
|    |         |      |                                       |         |     |            |
|    |         |      | meeting the requirements given in     |         |     |            |
|    |         |      | table 500-29, prepared by using       |         |     |            |
|    |         |      | mastic cooker and laid to required    |         |     |            |
|    |         |      | level and slope after cleaning the    |         |     |            |
|    |         |      | surface, including providing antiskid |         |     |            |
|    |         |      | surface with bitumen pre-coated       |         |     |            |
|    |         |      | fine grained hard stone chipping of   |         |     |            |
|    |         |      | 13.2 mm nominal size at the rate of   |         |     |            |
|    |         |      | 0.005cum per 10 sqm and at an         |         |     |            |
|    |         |      | approximate spacing of 10 cm          |         |     |            |
|    |         |      | centre to centre in both directions,  |         |     |            |
|    |         |      | pressed into surface when the         |         |     |            |
|    |         |      | temperature of surfaces is not less   |         |     |            |
|    |         |      | than 1000C, protruding 1 mm to 4      |         |     |            |
|    |         |      | mm over mastic surface, all           |         |     |            |
|    |         |      | complete as per clause 515.           |         |     |            |
|    |         |      | complete as per clause 313.           |         |     |            |
| 20 | State   | 950  | Reinforced Cement Concrete Crash      | 3479.35 | Rmt | 3305383.00 |
|    | NS/20   |      | Barrier (Provision of an Reinforced   |         |     |            |
|    |         |      | cement concrete crash barrier at      |         |     |            |
|    |         |      | the edges of the road, approaches     |         |     |            |
|    |         |      | to bridge structures and medians,     |         |     |            |
|    |         |      | constructed with M-40 grade           |         |     |            |
|    |         |      | concrete with TMT reinforcement       |         |     |            |
|    |         |      | conforming to IRC:21 and dowel        |         |     |            |
|    |         |      | bars 25 mm dia. 450 mm long at        |         |     |            |
|    |         |      | expansion joints filled with pre-     |         |     |            |
|    |         |      | moulded asphalt filler board, keyed   |         |     |            |
|    |         |      | to the structure on which it is built |         |     |            |
|    |         |      |                                       |         |     |            |
|    |         |      | and installed as per design given in  |         |     |            |
|    |         |      | the enclosure to MOST circular No.    |         |     |            |
|    |         |      | RW/NH - 33022/1/94-DO III dated       |         |     |            |
|    |         |      | 24 June 1994 as per dimensions in     |         |     |            |
|    |         |      | the approved drawing and at           |         |     |            |
|    |         |      | locations directed by the Engineer,   |         |     |            |
|    |         |      | all as specified) & Provide 150 mm    |         |     |            |

|    |                |      | dia. PVC pipe for utility services etc complete (A) Only crash barrier  |         |     |              |
|----|----------------|------|---|---------|-----|--------------|
| 21 | State<br>NS/21 | 1376 | Reinforced Cement Concrete Crash Barrier (Provision of an Reinforced cement concrete crash barrier at the edges of the road, approaches to bridge structures and medians, constructed with M-40 grade concrete with TMT reinforcement conforming to IRC:21 and dowel bars 25 mm dia. 450 mm long at expansion joints filled with premoulded asphalt filler board, keyed to the structure on which it is built and installed as per design given in the enclosure to MOST circular No. RW/NH - 33022/1/94-DO III dated 24 June 1994 as per dimensions in the approved drawing and at locations directed by the Engineer, all as specified) & Provide 150 mm dia. PVC pipe for utility services etc complete (A) crash barrier with Friction slab | 7336.44 | Rmt | 10094941.00  |
| 22 | State<br>NS/22 | 1725 | providing and fixing 100 dia. runners and down take GI pipe to drain water from drainage spout with necessary fixtures including cost of all materials, labours, bends, fixtures, specials etc. Complete as per drawing and as per direction of engineer.   | 878.5   | RMT | 1515413.00   |
|    |                |      | Total Amount of Schedule – B  |         | 15, | 32,19,346.00 |

#### Schedule- C

## Schedule of Approximate quantities

| SN | Item No. | Total<br>Qty. | Item of work   | Rate     | UNIT | Amount in Rs. |
|----|----------|---------------|--|----------|------|---------------|
| 1  | 27020A   | 106           | Providing and installing 6 mm MS liner for bored-cast-in-situ concrete piles including applying protective coating as per drawing and specification and as directed by Engineer.   | 44690.48 | MT   | 4737191.00    |
| 2  | 27043C   | 473           | Providing and placing in position High Yield Strength Deformed (HYSD) bars reinforcement (TMT Fe 500D grade) conforming to IS 1786 of all categories for Pile including cutting, bending, hooking and tying with 18 gauge mild steel binding wires, supporting in position to ensure lines and levels during concreting, maintaining proper cover / spacing etc. complete as per specification and detailed drawing. | 44549.08 | MT   | 21071715.00   |
| 3  | 27047A   | 335           | Providing and placing in position High Yield Strength Deformed (HYSD) bars reinforcement (TMT Fe 500D grade) conforming to IS 1786 of all categories for Pile cap, foundation for pier/ abutment/ return wall including cutting, bending, hooking and tying with 18 gauge mild steel binding wires,  | 42446.26 | MT   | 14219497.00   |

|   |                  |     | supporting in position to ensure lines and levels during concreting, maintaining proper cover / spacing etc. complete as per specification and detailed drawing.   |          |    |             |
|---|------------------|-----|--|----------|----|-------------|
| 4 | 27109 &<br>27111 | 745 | Providing and placing in position High Yield Strength Deformed (HYSD) bars reinforcement (TMT Fe 500D grade) conforming to IS 1786 of all categories for pier, abutment, pier cap, abutment cap, returns, pedestal, seismic arrester & retaining wall including cutting, bending, hooking and tying with 18 gauge mild steel binding wires, supporting in position to ensure lines and levels during concreting, maintaining proper cover / spacing etc. complete as per specification and detailed drawing. | 45575.24 | MT | 33953554.00 |
| 5 | 27121            | 718 | Providing and placing in position High Yield Strength Deformed (HYSD) bars reinforcement (TMT Fe 500D grade) conforming to IS 1786 of all categories for superstructure including cutting, bending, hooking and tying with 18-gauge mild steel binding wires, supporting in position to ensure lines and levels during concreting, maintaining proper cover / spacing etc. complete as per specification and detailed drawing.   | 44990.45 | MT | 32303143.00 |

| 6 | 27123           | 1.8    | Providing and fixing in position steel bar reinforcement of steel grade Fe-500 (TMT) including cutting ,bending, hooking, tying, welding etc, complete as per detailed drawing and specification (A) R.C.C. Approach slab  | 44298.6  | MT  | 79737.00        |
|---|-----------------|--------|--|----------|-----|-----------------|
| 7 | NH SOR<br>8.23B | 100    | Providing and erecting a "Thrie" metal beam crash barrier comprising of 3 mm thick corrugated sheet metal beam rail, 85 cm above road/ground level, fixed on ISMC series channel vertical post, 150 x 75 x 5 mm spaced 2 m centre to centre, 2 m high with 1.15 m below ground level, all steel parts and fitments to be galvanised by hot dip process, all fittings to conform to IS:1367 and IS:1364, metal beam rail to be fixed on the vertical post with a space of channel section 150 x 75 x 5 mm, 546 mm long complete as per clause 810 | 3503.69  | Rmt | 350369.00       |
| 8 | 27084A          | 151.58 | Providing in position to exact profile high tensile steel wires of required ultimate strength including bending, cutting, tying providing necessary standard and anchorges, sheating, stressing, griouting, ducts as per detailed drawing including necessary plant and machinary complete as per MORTH specification.   | 68367.91 | MT  | 10363208.00     |
|   |                 |        | Total Amount of Schedule -C  |          |     | 11,70,78,414.00 |

|    |             |  |        |           |          | Schedule-D    |
|----|-------------|--|--------|-----------|----------|---------------|
|    |             | Schedule of Approxi  | mate q | uantities |          |               |
| SN | Item<br>No. | Description  | UNIT   | Quantity  | Rate     | Amount in Rs. |
| 1  | NS/1        | Supply & Fabrication of steel girder spans including its components (Stiffeners, Bracings, Splices, Studs etc.) as per the approved drawings for composite construction of superstructure of the Road Over Bridge with contractor's own Steel confirming to IS: 2062 Grade 250(B) with all welds, HSFG Bolts, nuts bolts, rivets etc. with contractor's own materials, fabrication, machinery, templates, fixtures, equipments tools and plants transportation, skilled/unskilled labour, excise duty., Octroi, sales tax and other taxes, all leads lifts, descent, loading, unloading, crossing one or more Railway track if required etc. complete and as per technical specifications. The rate is inclusive of transportation of fabricated girder parts to site by contractor's own means at his cost. The rate shall also be inclusive of cold straightening of deformed and bent girder parts before their assembly. (The Structural Steel to be used Should be manufactured by SAIL/RINL/TISCO /ESSAR/JINDAL Only.) Work has to be done as per drawings and specifications approved by Railway. High quality superior brand of paint should only be used. For Painting, prior approval for superior brand / make of the paint should be taken from engineer | MT     | 363.00    | 94629.73 | 34350592.00   |

|   |      | in charge. Note:1. The fabrication of girders must be got done from RDSO    |      |         |        |            |
|---|------|---|------|---------|--------|------------|
|   |      | approved firms only. 2. The rate is   |      |         |        |            |
|   |      | inclusive of assembly of girder with  |      |         |        |            |
|   |      | service bolts as per approved drawing                                       |      |         |        |            |
|   |      | in shop for checking by Engineer's  |      |         |        |            |
|   |      | representative and dismantling the same                                     |      |         |        |            |
|   |      | after checking for transportation to the                                    |      |         |        |            |
|   |      | site. 3. Weight of HSFG bolts, Rivets,                                      |      |         |        |            |
|   |      | Welds shall not be considered for   |      |         |        |            |
|   |      | payment. Nominal weight of the girder                                       |      |         |        |            |
|   |      | spans including its components  |      |         |        |            |
|   |      | (Stiffeners, Bracings, Splices, Studs etc.)                                 |      |         |        |            |
|   |      | as per drawing will only be considered                                      |      |         |        |            |
|   |      | for payment.  |      |         |        |            |
| 2 | NS/2 | Metalizing girder/girder components   | Sq.m | 2974.00 | 607.09 | 1805486.00 |
|   |      | such as cross girders, top chord  |      |         |        |            |
|   |      | channels, bracing etc. of Steel Girder as                                   |      |         |        |            |
|   |      | directed by Engineer with aluminium   |      |         |        |            |
|   |      | spray not less than two layers after  |      |         |        |            |
|   |      | preparing surface by sand/grit blasting as                                  |      |         |        |            |
|   |      | per provision laid in Appendix VI of IRS B                                  |      |         |        |            |
|   |      | 1179 code (latest alteration) including                                     |      |         |        |            |
|   |      | one coat wash primer (IS-5666) one  |      |         |        |            |
|   |      | coat zinc chrome primer (IS-104) and  |      |         |        |            |
|   |      | two coats of aluminium paint (IS-2339)                                      |      |         |        |            |
|   |      | with approved paint conforming to IS  |      |         |        |            |
|   |      | specification for fabrication & erection of                                 |      |         |        |            |
|   |      | steel girder bridge (RS B 1-79) as  |      |         |        |            |
|   |      | corrected up to date with contractor's own materials, tools, plants labour, |      |         |        |            |
|   |      | loading/unloading, transportation,  |      |         |        |            |
|   |      | handling, re-handling if any including all                                  |      |         |        |            |
|   |      | lead, lifts, crossing of track/ obstruction                                 |      |         |        |            |
|   |      | etc. complete in all respect and as per                                     |      |         |        |            |
|   |      | direction of Engineer.  |      |         |        |            |
| 3 | NS/3 | Assembling, Welding, Erecting, Bolting                                      |      |         |        |            |
|   |      | by HSFG bolts, riveting if any as per                                       |      |         |        |            |
|   |      |   |      |         |        |            |

| approved drawings and Launching of girder spans including its components on running line / Non- Running line /Running electrified line / under block period with the help of road crane of required capacity as per Railway's approved drawings & Scheme with other ancillary steel structures fixed to the girder, where necessary, in proper level and alignment and as per technical specifications. The rate shall be inclusive of supply, erection and dismantling of  |  |
|---|--|
| staging and scaffolding and other temporary arrangements required for assembly, erection and launching of girders. The rate shall also be inclusive of cold straightening of deformed and bent girder parts before/after their assembly. Work has to be done as per drawings and specifications approved by Railway.  |  |
| Note: Weight of HSFG bolts, Rivets, Welds shall not be considered for payment. Nominal weight of the girder spans including its components (Stiffeners, Bracings, Splices, Studs etc.) as per drawing will only be considered for payment. Launching of Steel girder spans Launching of Steel girder spans including its components on running line /Running electrified line / under block period with the help of road crane of required capacity as per Railway's approved drawings with other ancillary steel structures fixed to the girder where necessary in proper level and alignment and as per technical specifications. |  |

|   | NS/3<br>(a) | Launching of Steel girder spans including its components on running line /Running electrified line / under block period with the help of road crane of required capacity as per Railway's approved drawings with other ancillary steel structures fixed to the girder where necessary in proper level and alignment and as per technical specifications.  | MT | 363.00 | 16825.91 | 6107805.00 |
|---|-------------|---|----|--------|----------|------------|
| 4 | NS/4        | Fabricating, supplying and erecting in position standard structural steel sections manufactured from IS approved manufacturers only ,conforming to IS:2062 - 1992 (including latest amendments) including welding with approved quality welding rods, supply and fixing of correct size turn bolts including one primer coat of red lead paint conforming to IS:102 or Zinc chromate paint conforming to IS:102 or Zinc chromate paint conforming to IS:104 followed by two coats of Aluminium paint as per IS: 2339 with all contractor's materials, labour, tools and plants etc in bolted/welded construction as directed by Engineer in charge. Work shall be carried out as per IS:800-1984 (with latest amendments), IRS specification No. B3-61 part 2 and IS 816 for welding. | MT | 20.00  | 71620.22 | 1432404.00 |
| 5 | NS/5        | Providing and fixing POT -PTFE bearing as per IRC 83 in position true to line and level including cost of all materials fixtures surface for receiving bearing, grouting of sleeves with non-shrink high strength grout, load testing of bearing, transporting and fixing in position including all lead and lift etc. complete   |    |        |          |            |

|   |      | Total Amount of Schedule – D   |      |        | 4,54,2   | 29,765.00              |
|---|------|--|------|--------|----------|------------------------|
| 7 | NS/7 | Conducting Pile low strain integrity test as per ASTM D 5882- 96 code of American Society for Testing on cast -in situ RCC pile of 1200 mm diameter inclusive of analysis with all contractor's equipment, manpower, site preparation, lead and lifts etc. complete as per standard procedure, and as directed by the Engineer in charge. Note: - Rate is inclusive All equipment, all labour and consumable required & Mobilization of equipment.                                       | Each | 160.00 | 1199.62  | 191939.00              |
| 6 | NS/6 | Load testing of one composite steel /Span Designing and Load testing of one composite girder/ Span as selected by the Engineer confirming to Rly. Standard's with loads to be applied and removed incrementally etc. complete as per special condition and specification of contract, as per relevant IS/IRC codes with all contactors labour supervisor, T & P's all taxes, equipment, leading materials instruction of load test jacks etc., dial gauges, including all lead and lift. | Each | 1.00   | 256339.2 | 256339.00              |
|   |      | Fixed bearing (Capacity up to 250 MT)  Sliding bearing (Capacity up to 250 MT)  Note: The rate is for finished item complete and paid only after fixing in position below the girder.  | No.  | 12.00  | 53550.00 | 642600.00<br>642600.00 |
|   |      | as per approved designs and drawing and as directed by Engineer.   |      |        |          |                        |

|            |                                    |  |             |           |        | Schedule- E   |  |
|------------|------------------------------------|--|-------------|-----------|--------|---------------|--|
|            | Schedule of Approximate quantities |  |             |           |        |               |  |
| Sr.<br>No. | Item<br>No.                        | Description  | UNIT        | Quantity  | Rate   | Amount in Rs. |  |
| 1          | NS/1                               | AutoCAD Drawings: Preparation / Alternation and submission of drawings such as general arrangement drawings, phase drawings, scheme plan, structural drawings etc. On Auto Cad as per details and directions given by the Engineer in charge including plotting and submitting in standard inkjet film of 50 micron and CD, submitting check prints on A3/A2/A0 size papers and final print complete and as per instructions of Engineer in charge.  | Per<br>Sqcm | 100000.00 | 0.4    | 40000.00      |  |
| 2          | NS/2                               | Site Office Providing, arranging, managing and maintaining 500 sq.ft. well furnished AC office and well equipped Laboratory with 3 tables, 10 chairs, 2 steel almirah, one computer with printer & operator, sufficient number of display etc. to the satisfaction of the Project Manager including Electrical, Water expenses etc. For execution of this item the date of start shall be considered only when the Contractor has rented /constructed the required premises established the office & Laboratory as per requirement. This item shall remain valid only for original contact period; no additional payment shall be made for whatsoever reason even if time extension if provided or date of completion is extended. This office and laboratory including furniture and all other equipment shall be property of contractor after completion of Project. | LM          | 1.00      | 500000 | 500000.00     |  |

| 3 | NS/3 | Providing & fixing Safety Screen as per RDSO Drg. No. EL / C / 0068 MOD " E " , on the Parapet with necessary fixtures etc. as per detailed drawing including contractor's own materials, labours, tools and plants, etc. complete.  | Sqm        | 510.00 | 1179.80 | 601698.00    |
|---|------|--|------------|--------|---------|--------------|
| 4 | NS/4 | Making and supplying of check rails of 52 kg/ 60 kg rails of various lengths for level crossing as per approval drawings.  | Each<br>LC | 4.00   | 2997    | 11988.00     |
| 5 | NS/5 | Providing, fixing and maintaining MS fabricated traffic barricading of 2.50m height on either side of the carriage way / portion of the carriage way closed to the traffic including provision of all sign boards/ bollards and warning lights etc. as per the Engineer in charge. | Meter      | 250.00 | 331.49  | 82873.00     |
|   |      | Total Amount of Schedule – E   |            |        |         | 12,36,559.00 |

|            |                                    |   |      |          |           | Schedule- F         |  |
|------------|------------------------------------|---|------|----------|-----------|---------------------|--|
|            | Schedule of Approximate quantities |   |      |          |           |                     |  |
| Sr.<br>No. | Item<br>No.                        | Item of work  | UNIT | Quantity | Rate      | Amount<br>in<br>Rs. |  |
| 1          | USSOR                              | USSOR of W. Rly. items requiring for successful completion of the work as advised by in-charge of the work. |      | LS       |           | 1500000.00          |  |
|            | Total                              | Amount of Schedule – F  |      |          | 15,00,000 | 0.00                |  |

| Total of Schedule A, B, C, D, E & F | Rs. 36,12,75,054.00 |
|-------------------------------------|---------------------|
|                                     |                     |

## **END OF TENDER DOCUMENTS**