



**Tender No: ALD/EN/E/DDU-ALD/ROB-115  
For**

**Name Of Work**:- Construction of Two-Lane Road Over Bridge (ROB) Railway and Approach portion including Service Road in lieu of level crossings No. 115C at IR KM 682/27-683/1 between Jeonathpur to Ahraura Road station on the section of Pt. Deen Dayal Upadhyay Nagar junction – Allahabad of North Central Railway.

**E-TENDER DOCUMENT  
FINANCIAL BID  
(PACKET-B)  
November – 2019**

**Employer:  
DEDICATED FREIGHT CORRIDOR CORPORATION OF INDIA LIMITED  
(A GOVERNMENT OF INDIA ENTERPRISE)  
Under  
MINISTRY OF RAILWAYS**

**ALLAHABAD /EAST OFFICE:-**

2<sup>nd</sup> Floor, OCC BUILDING, SUBEDARGANJ, JHALWA, ALLAHABAD,  
UTTAR PRADESH-211011

**CORPORATE OFFICE:-**

DFCCIL, 5<sup>th</sup> Floor, Pragati Maidan Metro Station Building Complex,  
New Delhi-110001.

### GENERAL INFORMATION/DATA SHEET

TENDER NOTICE NO	<b>ALD/EN/E/DDU-ALD/ROB-115</b>
Name of Work	Construction of Two-Lane Road Over Bridge (ROB) Railway and Approach portion including Service Road in lieu of level crossings No. 115C at IR KM 682/27-683/1 between Jeonathpur to Ahraura Road station on the section of Pt. Deen Dayal Upadhyay Nagar junction – Allahabad of North Central Railway.
(a) Tender Value	Rs. 34,27,31,743 /-
(b) Completion Period	18 months
(c) Earnest Money	Rs. 50,00,000/-
(d) Date and Time of Issue of tender	From 27.11.2019 at 15.00 Hrs
(e) Last date and Time of submission of tender	27.12.2019 upto 15:00hrs
(f) Date and Time of Opening of Tender (Technical bid -Packet A)	On 27.12.2019 at 15:30hrs
(g) Validity of offer	120 days
(h) Retention Money/ Security Deposit	5 % of Contract Value
(i) Performance Bank Gurantee	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

**SUMMARY OF PRICES**

**Name of work:-** Construction of Two-Lane Road Over Bridge (ROB) Railway and Approach portion including Service Road in lieu of level crossings No. 115C at IR KM 682/27-683/1 between Jeonathpur to Ahraura Road station on the section of Pt. Deen Dayal Upadhyay Nagar junction – Allahabad of North Central Railway.

Sl. No.	Description of works	Cost as per USSOR 2010 of N.C. Rly including GST	DFCCIL updated %	DFCCIL updated cost (in Rs.)	Rates to be quoted in figures & words (Clearly mention above / below / at par on updated DFCCIL Rate / cost given in column 4/5)
1.	2.	3.	4.	5.	6
1.	Execution of all works as per Schedule "A" (items as per USSOR 2010 of NC Rly for Bridge Chapter No. 19, 20, 21 & 22	4,27,91,005.90	75.732%	7,51,97,490.49	..... % age (in figures) ..... (In words)
2.	Execution of all works as per Schedule "B" as per USSOR 2010 of NC Rly for Chapter other than bridge Chapters and S.N. 4 & 5 below)	1,68,31,507.85	32.987%	2,23,83,717.34	..... % age (in figures) ..... (In words)
3.	Execution of all works as per Schedule "C" (NS Items)	13,10,96,541.20	-	13,10,96,541.20	..... % age (in figures) ..... (In words)
4.	Execution of all works as per Schedule "D" (items as per USSOR 2010 of NC Rly for supply of cement)	2,25,42,806.00	25.717%	2,83,40,139.42	..... % age (in figures) ..... (In words)
5.	Execution of all works as per Schedule "D" (items as per USSOR 2010 of NC Rly for supply of steel reinforcement including straightening, cutting etc.	7,09,29,342.50	20.844%	8,57,13,854.64	..... % age (in figures) ..... (In words)
	<b>Grand Total (in Rs.):</b>			<b>34,27,31,743.09</b>	

**Notes:**

- (i) The above prices are inclusive of all taxes, duties including GST etc.
- (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 following example:-

For Schedule A (Updating factor is 1.75732, since 75.732% is above the rates of USSOR 2010 of NC Railway), if the rate of any item of USSOR - 2010 of NC Railway / Schedule A is "X" and

- (a) If percentage quoted by the contractor is 5 % above (+5%),  
Rate payable to contractor =  $(X) \times 1.7573 \times 1.05$
- (b) If percentage quoted by the contractor is 5 % below (-5%),  
Rate payable to contractor =  $(X) \times 1.7573 \times 0.95$
- (c) If percentage quoted by the contractor is at par, Rate payable to contractor =  $(X) \times 1.7573 \times 1.0$
- (d) Similarly, updation factor for Schedule B,D and E is 1.3298, 1.2571 and 1.2084
- (e) In case of NS items i.e. Schedule C, Updation factor shall be 1.

**SCHEDULE - A**  
**SCHEDULE OF PRICES & TOTAL PRICES**

Schedule A							
SN	USSOR- 2010 NCR	Description	unit		Qty	Rate	Amount (in Rs.)
1	192010	Earthwork in excavation 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 in charge					
(a)	192011	E/W in All kinds of soils	1	CUM	1808.00	165.50	2,99,224.00
2	192030	Providing and laying Plain Cement Concrete 1:3:6 with graded stone aggregate of 40mm nominal size, in foundation and floors, retaining walls of bridges including mechanical mixing, vibrating, pumping and bailing out water where ever required with all materials and labour complete but excluding the cost of cement and shuttering as per drawings and technical specifications as directed by Engineer	1	CUM	157.00	1,782.20	2,79,805.40

3	192040	Providing and laying in position machine mixed, machine vibrated and machine batched Design Mix Cement Concrete M35 grade (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 recommended proportions (as per IS:9103), if approved in Mix design to accelerate or retard setting of concrete and/or improve workability 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.	1	CUM	366.00	1,694.28	6,20,106.48
4	192060	Providing and laying in position machine mixed, machine vibrated and machine batched Design Mix Cement Concrete M35 grade (Cast in-Situ) using 20mm graded crushed stone aggregate and coarse sand of approved quality for the following Reinforced cement concrete structural elements up to height of 10m from foundation top level, including finishing, using Admixtures in recommended proportions (as per IS:9103), if approved in Mix design to accelerate or retard setting of concrete and/or improve workability without impairing strength and durability complete as per specifications and direction of the Engineer in charge. Payment for cement, reinforcement & shuttering shall be paid extra.					

(a)	192061	Abutment & Pier	1	cum	2836.00	1,779.00	50,45,244.00
(b)	192063	Abutment cap, Pier Cap, Inspection Platform & Pedestal over Pier cap, Fender wall, Diaphragm wall etc.	1	cum	198.00	1,948.42	3,85,787.16
(c)	192064	Approach slab at formation level, Dirt wall/ballast wall at formation level	1	cum	255.00	2,033.14	5,18,450.70
5	192070	Providing, driving and installing Bored cast in-situ Reinforced Cement Concrete piles of specified diameter and length below pile cap in M-35 grade Design Mix Cement Concrete, using 20mm graded crushed stone aggregate and coarse sand of approved quality, to carry a safe working load not less than specified, excluding the cost of casing pipe but including the cost of shoe and length of pile to be embedded in pile cap etc. complete, concreting by machine batching, machine mixing, scaffolding, using Admixture in recommended proportion (as per IS:9103), if approved in design Mix, placing with tremie pipe, chipping off of pile top to remove laitance concrete above cut off level etc., pumping and bailing out water with all labour material complete including crossing of tracks if required, as per approved drawing, specification and direction of the Engineer in charge. Length of the pile for payment shall be measured upto the bottom of pile cap excluding the mud mat. Payment for cement, casing pipe & reinforcement shall be paid extra.					
(a)	192073	Pile 1000mm diameter	1	Meter	1350.00	6,447.67	87,04,354.50

6	192100	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.					
(a)	192103	Initial load test up to 250 MT	1	Each	1.00	81,014.63	81,014.63
(b)	192104	Extra above 250 MT for each 50 MT	1	Each	8.00	13,676.66	1,09,413.28
(c)	192107	Routine load test up to 250 MT	1	Each	2.00	1,25,285.20	2,50,570.40
7	192110	Lateral load testing of single pile in accordance with "IS Code of practice IS:2911 (Part-IV) for determining safe allowable lateral load of pile" with all labour, material, tool & plants, equipment, machinery, etc complete as per drawing and specification as directed by the Engineer					
(a)	192113	Piles with lateral load capacity of above 20 ton	1	Each	2.00	55,199.37	1,10,398.74
8	195030	Centring and shuttering including strutting, propping etc. and removal of form for :					
(a)	195031	RCC Raft Foundation & Pile cap	1	Sqm	241.00	127.80	30,799.80
(b)	195032	Abutment, pier, wing walls and return walls	1	Sqm	547.00	214.70	1,17,440.90
(c)	195033	Abutment cap, Pier Cap, Inspection Platform & Pedestal over Pier cap, Fender wall, Diaphragm wall etc.	1	Sqm	231.00	213.09	49,223.79
(d)	195034	Approach slab at formation level, Dirt wall / ballast wall at formation level	1	Sqm	159.00	127.80	20,320.20



(e)	195038	In Bottom/ top slab, side walls, toe wall and sumps haunch filling head walls or any other component.	1	Sqm	9055.00	214.70	19,44,108.50
9	201010	Providing and laying in position Design Mix Cement Concrete M-40 grade machine mixed, machine vibrated and machine batched using 20mm graded crushed stone aggregate and coarse sand of approved quality for the Cast in-situ Prestressed (Post tensioned) concrete girder / Box girders for spans upto 18.3m (centre to centre) Including finishing, using Admixtures in recommended proportions (as per IS:9103), if approved in Mix design to accelerate, retard setting of concrete, improve workability without impairing strength and durability complete as per specifications and direction of the Engineer incharge. Payment for Shuttering, Cement, Admixtures, reinforcement, HTS cables, sheathing, anchorage cones, stressing of cables and grouting of the ducts will be done extra.					
(a)	201011	With Soffit level upto 9m above Bed level	1	CUM	217.00	2,117.31	4,59,456.27
(b)	201015	Deduct for casting of Slab instead of Girders (for any heights)	1	CUM	-217.00	122.92	-26,673.64

10	201020	<p>Providing and laying in position machine mixed, machine vibrated and machine batched Design Mix Cement Concrete M-40 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 recommended proportions (as per IS:9103), if approved in Mix design to accelerate, retard setting of concrete, improve workability without impairing strength and durability, complete as per specifications and direction of the Engineer. Payment for Shuttering, Cement, Admixtures, 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.</p>	1	Cum	467.00	1,932.92	9,02,673.64
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11	201040	Design, manufacturing, supplying and fixing in position elastomeric bearing pads under prestressed concrete girder, for Pre-cast as well as cast-in-situ girders as per approved drawing. The rate shall include cost of load test of one no. bearing from Railway approved firms and all fixing materials, equipments, machineries, labour, taxes, loading, unloading, leading, lifting etc. complete. Rates include getting the drawing approved from Railway and cost of inspection during manufacturing from railway approved organization.(Note : 1. The rate is for finished item complete and paid only after fixing in position below the girder. 2. The volume shall be given in the drawing and no deduction shall be made for inserted steel plates etc.)-complete assembly including plates and pins as per RDSO/B-11775 Drg.	1	CUM	720000. 00	1.24	8,92,800.00
12	201050	Providing and fixing in position of standard preformed sealed and slab type or strip seal elastomeric type expansion joints for Railway bridge or Road Over Bridges as per approved drawings and latest MOST/IRC specifications. The rates are inclusive of supplying, fixing with contractor's own materials, e.g. inserts, bolts, socket tubes, Neoprene sheet/cap etc., equipments, machineries, labour, all taxes, royalty, all lead & lifts, transport, testing, surface preparations, complete					
(a)	201051	For 80mm expansion	1	Meter	60.00	23,136.28	13,88,176.80

13	211010	<p>Supplying of all types of structural steel conforming to Fe 410 B of IS:2062, fabrication, assembling, erection / slewing / end launching of steel girders (Not requiring traffic block) upto 45.7 M span on sub-structure incl. provision of trolley refuges, if reqd. complete as per approved drawing incl. one coat of Zinc chrome primer to IS-104 &amp; one coat of Zinc Chrome Red Oxide to IS 2074 and painting as per IRS-B-1 on all members, (Detailed fabrication and erection drawings &amp; launching methodology will be prepared and got approved by the contractor from Railway). Rate include fabrication of all the types of battens, bracings, ties, stiffeners, packing, diaphragms, shop rivets / welding, T&amp;F bolts, drifts, shop welds, templates, jigs, fixtures, back up supports, accessories, transporting various components from fabrication shop. to site, contd...</p>					
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		.... Contd. - including loading, unloading, lift and taxes complete. assembly of girders' on- drifts/bolts, field riveting/welding, 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 bearings and bed plates. grouting holes in the bed block for fixing of HD bolts/anchor pins of bed plates, all temporary arrangements. Load testing may be done under chapter 22.The bearing sets to - be provided with the girders will be paid separately as per relevant item separately.					
		Payment Schedule					
		(i) Material at site – 40%					
		(ii) Fabrication at site – 15%					
		(iii) Erection/Launching – 20%					
		(iv) Completion incl. painting & finishing – 25%					
(a)	211011	Plate Girder / Semi Through Girder	1	MT	295.00	67,680.23	1,99,65,667.85
14	211014	Extra for using steel conforming to Fe 490 of IS: 8500 instead of Fe 410		MT	295.00	1161.50	3,42,642.50
15		Item of USSOR -2010 of N.C. Railway, which is not including in above items.					3,00,000.00
		<b>TOTAL</b>					<b>4,27,91,005.90</b>

**SCHEDULE OF PRICES & TOTAL PRICES**

SCH-B							
SN	USSOR-2010 NCR	Description	unit		Qty	Rate	Amount (in Rs.)
1	231040	Providing and laying water bound macadam with specified stone aggregate, stone screening and binding material including screening, sorting, spreading to template and consolidation with power road roller of 8 to 10 tonne capacity etc. Complete					
(a)	231041	Sub-base with stone aggregate 90mm to 45mm including stone screening 13.2mm size	1	cum	3453.00	1,003.48	34,65,016.44
(b)	231043	Base course with 53mm to 22.4mm size including stone screening 11.2mm size	1	cum	2302.00	1,633.81	37,61,030.62
2	233010	Providing and applying tack coat using bitumen emulsion (Rapid setting) complying with IS:8887-1995, spraying the bitumen emulsion with mechanically operated spray unit, cleaning and preparing the existing road surface as per specification.					
(a)	233011	On W.B.M @ 0.4kg/sqm	1	Sqm	12182.00	19.99	2,43,518.18
(b)	233012	On bituminous @0.25kg/sqm	1	Sqm	11510.00	13.81	1,58,953.10

3	237010	Providing and fixing Cat's Eye (Glow studs) heavy integral stem, reflective, aluminium die cast with elegant finish of size 100x100mm and 20mm high having a stem of 50mm (or 12mm dia. 90mm long) screwed and nailed to fix into the road surface or at the nosing of the central verge. The road studs should have reflectors fitted on one side of the studs (3Nos. 7 element or 1No. 29 element reflector) complete		Each	720.00	536.96	3,86,611.20
4	238010	Providing and laying Dense Bituminous macadam on prepared surface with specified graded crushed stone aggregate for profile corrective base / binding course, mixing of stone aggregate, filler and bitumen in hot mix plant, transporting the mixed material and laying with paver finisher fitted with electronic sensing device to the required level and grade and rolling by road roller as per specifications, to achieve the desired density, but excluding the cost of primer / tack coat					
(a)	238014	50mm average compacted thickness with bitumen of 60/70 grade @ 3.5% by weight of total mix	1	Sqm	1267.00	294.17	3,72,713.39

5	238020	Providing and laying Dense Bituminous concrete on prepared surface with specified graded stone aggregate for wearing course, mixing of bitumen, filler & stone aggregate in hot mix plant, transporting the mixed material and laying with mechanical paver finisher fitted with electronic sensing device to the required level and grade and rolling with road rollers, as per specification to achieve the desired density and compaction, but excluding cost of primer / tack coat					
(a)	238021	40mm/50mm compacted thickness with bitumen of grade 60/70 @ 6.5% and lime @ 3% by weight of total mix	1	Cum	677.00	8,351.61	56,54,039.97



6	238040	<p>Manufacturing supplying and fixing retro reflective sign boards made up of 2mm thick aluminium sheet, face to be fully covered with high intensity encapsulated type heat activated retro reflective sheeting conforming to type-IV of ASTM-D 4956-01 in blue and silver white or other colour combination including subject matter, message (bi- lingual), symbols and borders etc. as per IRC ; 67:2001, pasted on substrate by an adhesive backing which shall be activated by applying heat and pressure conforming to class-2 of ASTM-D-4956-01 and fixing the same with suitable sized aluminium alloy rivets @ 20 cm c/c to back support frame of M.S. angle iron of size 25mmx25mmx3mm alongwith theft resistant measures, mounted and fixed with 2 nos. M.S. angles of size 35mmx35mmx5mm to a vertical post made up of M.S. Tee section ISMT 50mmx50mmx6mm welded with base plate of size 100mmx100mmx5mm at the bottom end and including making holes in pipes, angles flats, providing &amp; fixing M.S. message plate of required size steel work to be painted with two or more coats of synthetic enamel paint of required shade and of approved brand &amp; manufacture over priming coat of zinc chromate yellow primer (vertical MS- Tee support to be painted in black and white colours). Backside of aluminium sheet to be painted with two or more coats of epoxy paint over and including</p>					
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		appropriate priming coat including all leads and lifts etc. complete as per drawing, specification and direction of Engineer-in- charge. (Note : Concreting for fixing may be done as per site requirement and paid for separately)					
(a)	238041	Cautionary/warning sign boards of equilateral triangular shape having each side of 900mm with support length of 3650mm	1	Each	10.00	3,255.59	32,555.90
7	238050	Providing and applying 2.5mm thick road marking strips (retro-reflective) of specified shade/colour using hot thermoplastic material by fully/semi automatic thermoplastic paint applicator machine fitted with profile shoe, glass beads dispenser, propane tank heater and profile shoe heater, driven by experienced operator on road surface including cost of material, labour, T&P, cleaning the road surface of all dirt, seals, oil, grease and foreign material etc. complete as per direction of Engineer-in-charge and in accordance with applicable specifications	1	Sqm	475.00	609.41	2,89,469.75
8	108160	Providing and fixing on wall face unplasticised - Rigid PVC single socketed rain water pipes conforming to IS: 13592 Type A including jointing with seal ring conforming to IS: 5382 leaving 10mm gap for thermal expansion.					
(a)	108162	110mm dia.		metre	600.00	196.24	1,17,744.00

9	108180	Providing and fixing on wall face unplasticised - PVC moulded bend and shoe for unplasticised- Rigid PVC rain water pipes conforming to IS: 13592 Type A including jointing with seal ring conforming to IS: 5382 leaving 10mm gap for thermal expansion					
(a)	108182	Bend 87.5o, 110mm dia bend		Each	60.00	170.18	10,210.80
(b)	108184	Shoe (Plain), 110mm dia shoe		Each	60.00	160.89	9,653.40
10	014110	Providing and removing barricading with the help of portable fencing along the running track where the work is to be done in close vicinity of the track. Fencing shall consist of self supporting steel angles of size 50 x50x6mm, 1.5m long provided with hooks etc. and embedded in CC 1:2:4 block of size 0.23x0.23x0.23m placed at c/c distance of 2m along the track. 12mm dia rods in three horizontal layers tack welded with the angle posts including providing retro-reflective tapes in Horizontal & vertical direction. Note : Released material will be the property of the contractor after the completion of work. Cost of cement to be paid separately.	1	Meter	400.00	105.95	42,380.00
11	81410	Steel work welded in built-up sections/ framed work including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required					
(a)	81412	In gratings, frames, guard bar, ladders, railings, brackets, gates and similar works	1	Kg	15000.00	72.53	10,87,950.00

12	081420	Providing and fixing hand rail by welding etc. to steel ladders railing, balcony railing and staircase railing including applying a priming coat of approved steel primer					
	081423	G.I. pipes 40mm nominal bore (class B)	1	Kg	10210.00	97.91	9,99,661.10
13		Item of USSOR -2010 of N.C. Railway, which is not including in above items.					2,00,000.00
		<b>Total (in Rs.)</b>			<b>1,68,31,507.85</b>		

**SCHEDULE - C**  
**SCHEDULE OF PRICES & TOTAL PRICES**

S. No	NS Item	Description	unit	Qty	Rate	Amount (in Rs.)
1	NS-1	Reinforced Earth Structures				
		<p>Providing and laying M-35 grade (using 43/53 grade ordinary Portland Cement) precast concrete fascia wall (Area of each fascia panel shall not be less than 1.5 sqm. Height shall not be less than 900mm, min 180mm thick) including design and getting the approval ` liner finishes as per the design requirements. PVC drainage pipes, 200mm precast cover fascia for drainage pipes, joint filler, as per approved drawings, logo panels, geo-textile filter fabric for warpping pipes etc. including filter media (500mm thick) behind the fascia wall, drain sleeve in lower panels as per drawings and design, supplying and laying in position the specified and approved Geo- Grid soil reinforcement including cutting in required length, placing in position and connecting with the precast fascia panels as per the design and drawings and direction of the Engineer-in-Charge all complete with all materials, labour, lead and lift ,plants,machinery, taxes royalty etc. complete. Item to include all incidental work required to complete the job as per drawing and specifications.</p>				

	<p>The coping beam is not permitted and the top panels shall be casted in the inclined profile as per approved shop drawings. The cost of backfill between reinforced soil wall panels (except filter media) is not included in this item and shall be paid for separately , any ground improvement works for bearing capacity enhancement of ground (if required) shall also be included in the quoted rates. reinforcement used in precast facia panels is also included in the rates of this item.</p>	1	Sqm	7,111.00	6,340.45	4,50,86,917.19
	NOTES					-
(A)	The scope of work in the above item includes:					-
a)	<p>All initial layout and alignment of reinforced soil wall after site clearance and excavation in all type of soils, existing road pavement including BM, AC, WMM, WBM etc. for the construction of Reinforced Soil wall structure including all componenets like reinforcing element, Precast panel, etc. dismantling of footpath, planters, etc. as per the directions of Engineer-in-Charge and preparing designs and shop drawings giving levels etc. The work shall be started only after approval of the design and shop drawings by Engineer-in-Charge.</p>					-

b)	Approval of the fascia patterns on panels including name of clients etc. from the Engineer-in-Charge. Nothing extra shall be payable for mock ups and trials of the fascia panels . The approved mock up fascia shall be protected from any damage during execution of the work, this will form part of landscaping works.					-
c)	Filter media min. 500mm thick with stone crushed aggregates as per approved drawings from the bed level to the top level of the embankment of reinforced earth structure and behind the fascia panels for proper drainage as per approved drawings and particular specifications.					-
d)	Providing and placing 200 mm dia HDPE perforated Pipe (perforation at top half only) wrapped in non woven geotextile and filled with filter media, as per drawings for the drainage of seepage water from the fill between RS walls.					-
e)	All transportation, erection in position alignment and all incidental works as per approved shop drawings to the satisfaction of Engineer-in-Charge.					-
(B)	MEASUREMENT					-

		The reinforced Soil wall area shall be measured from top of concrete levelling pad at base to top of RCC facia wall panel for payment. No separate payment shall be made for any type of reinforcement, filter media, non woven geotextile wrappers filter, perforated pipe, Geo - Grid, levelling pad/course for any of the item/incidental work required to complete the item as per direction of Engineer-in-Charge.					-
2	NS-2	Providing, placing and compacting approved backfill material in layers as per approved methodology for reinforced fill portion and random fill portion in the approaches between the Reinforced Soil (RS) Wall panels as per approved drawings and particular specifications. Item to include 500 mm thick sub-grade construction as per specifications with CBR under soaked conditions not less than 6%. All incidental work required to complete the job shall be included in the quoted rates. 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 behind the RS walls.	1	Cum	28,949.00	2,267.96	6,56,55,174.04
	A)	With Sand					-
	Note s:	1. The specification and construction details to be adopted shall be as per section 3100 of MoRTH Specification.					-



		2. For compaction of Earthwork, attention is invited to clause 3105.5 of MORTH Specification.					-
		3.The earth fill material shall be clean, free draining, granular with high friction and low cohesion, non-corrosive, coarse grained with not 10 per cent of particles passing 75 micron sieve, free of any deleterious matter, chlorides, salts, acids, alkalies, mineral oil, fungus and microbes and shall be of specified PH value.					-
3	NS-3	Painting Two Coats on New Concrete surfaces (crash barrier and curb stone) after filling the surface with synthetic enamel paint in all shades on new concrete surfaces.	1	Sqm	2,004.00	82.60	1,65,530.40
4	NS-4	Supply of Admixture for use in production of cement concrete as per design mix and in required proportion.	1	Litre	12,469.00	65.68	8,18,948.96

5	NS-5	<p>Providing and laying in position machine batched, machine mixed and machine vibrated design Mix Cement concrete M-40 grade (cast in situ / Precast including hoisting and fixing in place as per drawings and specifications) Using 20 mm graded Crushed stone aggregate and coarse sand of approved quality in RCC deck slab laid to required camber including end cantilever, RCC crash barrier, Friction slab, RCC railing etc. including pumping of concrete to site of laying, finishing, using admixtures in recommended proportions (as per IS: 9103), if approved in mix design to accelerate or retard setting of concrete, improve Workability without impairing strength and durability with all contractor's labor, tools &amp; plants material (excluding cost of cement reinforcement and shuttering) Fuel consumables machinery, loading unloading, lead and lift complete in all respect as a complete jobs as per specification &amp; as directed by engineer.</p>	1	Cum	1,843.00	8,690.55	1,60,16,683.65
	Note s:-						

	<p>(i) Payment for cement, reinforcement and shuttering shall be paid extra as per relevant USSOR item included in the relevant schedule.(ii) The concrete is to be poured at the approved safe height and distance from live OHE wires carrying 25KV AC traction (on IR Track) to cast monolithically to the required level as per approved drawing over already launched main steel girder with proper joining arrangement through shear connector.(iii) The necessary shuttering arrangement has to be planned using already launched main steel girder. No support from ground will be allowed for this purpose. The rates includes for working under running traffic condition, all leads, lifts, ascents, descents, all other obstructions etc.(iv) The contractor shall make adequate arrangement below the girders to avoid falling of anything over the track during concreting of the slab. The rate also includes design and provision of all temporary arrangement for casting, erection, scaffolding and submission of detailed design and drawing for temporary works and to ensure safety of running traffic at all times</p>				
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6	NS-6	Supplying, fabrication & fixing in position BRC protection screen with MS angle frame, expanded metal (XPM), GI Sheet of 16 gauge, J Bolts etc of approved Railway design with two coats of aluminium paints of approved manufacturer as per drawing no. RDSO/ETI/C/0068 with all contractor's labour, tools & plants, material, fuel, consumables, machinery, loading, unloading, lead & lift complete in all respect as a complete job as per specification & as directed by Engineer.	kg	2,063	122.75	2,53,171.88
7	NS-7	Integrity testing of Pile using Low Strain/ Sonic Integrity Test/ Sonic Echo Test method in accordance with IS 14893 including surface preparation of pile top by removing soil, mud, dust & chipping lean concrete lumps etc. and use of computerised equipment and high skill trained personal for conducting the test & submission of results, with all contractor's labour, tools & plants, material, fuel, consumables, machinery, loading, unloading, lead & lift complete in all respect as a complete job as per specification & as directed by Engineer.	Nos.	40	780.90	31,236.00

8	NS-8	Manufacturing and Supplying of POT / POT-PTFE bearings for the following spans as per RDSO bearing drawing No RDSO/B- 11757/6R and RDSO/B-11755/6R2 at site including fitting and fixing in position true to line and level with all contractor's materials, labour, tools and plants, loading unloading and stacking at site as per specification and as directed by engineer as a complete job.					-
	(a)	For 36.00 m composite girder	set	1	6,77,970.80	6,77,970.80	
	(b)	For 18.00 m composite girder	set	1	3,11,088.28	3,11,088.28	
	Note s:-						-
	(i)	The drawing upto last alteration / revision/amendment shall be followed.					-
	(ii)	Cast steel of grade 280 - 520 W or					-
		340 - 570 W of IS 1030 shall be used.					-
	(iii)	Each set of bearing shall include 10 nos of bearings (2 POT bearings and 8 POT - PTFE bearings) and all bolts and all other components connected with bearings as shown in respective drawings.					-

	(iv)	The supply of POT / POT-PTFE bearing shall include all materials shown in the drawings. The supply also includes supply of all holding down bolts to fix the bearings at the bottom on pedestal and all bolts to fix the bearings to the bottom of girder.					-
	(v)	75% payment shall be made after supply of each set at site on submission of indemnity bond and balance 25% shall be made after fixing of bearings.					-
9.	NS-9	Drainage Spouts complete as per drawing and Technical specification, including all materials , fixing at site etc	per unit	40	1,410.00		56,400.00
10.	NS-10	Supplying and fixing 25mm dia. And 200mm long Stud shear connector with all contractor's labour, tools and plants, material, fuel, consumables, machinery, loading, unloading, lead & lift complete in all respect as a complete job as per specifications & as directed by Engineer, Stud shear connectors and ceramic ferrules shall conform to TYPE SD1/UF as per BS EN ISO 13918-2008 and its Mechanical properties shall be as per ISO 6892/BS EN ISO 13918-D7 as per BS EN ISO 13918-2008. Welding shall be done by "Drawn Arc Stud welding with ceramic Ferrule" technique.	Each	4000.00	258.48		10,33,920.00

11.	NS-11	Erection of Prestressed Girder on bearing with crane at site on sub structure with labour, equipment,T&P and all temporary arrangements, scaffolding etc. Complete with contractors design and scheme for longitudinal launching/side slewing (not requiring traffic block) approved by Engineer in charge.	1	Cum	400.00	2,473.75	9,89,500.00
		<b>Total</b>					<b>13,10,96,541.20</b>

**SCHEDULE OF PRICES & TOTAL PRICES**

SCH-D							
SN	USSOR- 2010 NCR	Description	unit		Qty	Rate	Amount
1	033060	Supplying and using Cement at worksite:					
(a)	033061	Ordinary Portland Cement Grade -43	1	MT	3,770	5,980.00	2,25,42,806.00
		<b>Sub-Total (in Rs.)</b>					<b>2,25,42,806.00</b>



### **SCHEDULE OF PRICES & TOTAL PRICES**

SCH-E							
SN	USSOR-2010 NCR	Description	unit		Qty	Rate	Amount
1	045010	Supplying reinforcement for RCC work including straightening, cutting, bending, placing in position and binding all complete:					
(a)	045016	Thermo-Mechanically Treated Bars 500D	1	KG	13,05,048	54.35	7,09,29,342.50
		Note: The contractor shall quote the rate for TMT Bars of Grade 500D					
		<b>Sub-Total (in Rs.)</b>					<b>7,09,29,342.50</b>

#### **Explanatory Notes for BOQ:**

- (i) Contractor shall quote rates of shuttering and curing for all heights.
- (ii) The rates of reinforcement item mentioned in the above schedule includes placing of reinforcement under running traffic conditions.
- (iii) All NCR USSOR items contain item nos., if any discrepancy is found in nomenclature, schedule nomenclature will prevail.
- (iv) Tenderer must quote their rates for supply and erection of fabricated girders with their own material including loading, transportation and unloading at site. DFCCIL shall not provide any assistance for procurement of raw material for manufacturing the girders tendered for.
- (v) The rates shall also be inclusive of all taxes legally leviable and / or any other taxes, license fee and royalty charges etc. if any.
- (vi) The above quantity is approximate:-The DFCCIL reserve the right to increase / decrease the same.
- (vii) The contractor has to submit launching scheme and detailed drawing of each component of the Railway safety and nothing extra shall be paid for this activity.