



ALD (E)/EN/ROB/2016/OT-3/177

For

Construction of 2 no's ROBs (excluding approaches) over Railways & DFCC Track in lieu of level crossings for LC No. 17C at IR Km 768/19-21 and LC No. 27C at IR Km 797/27-29 between Mughalsarai and Allahabad Eastern Dedicated Freight Corridor Under CPM Allahabad East DFCCIL.

**FINANCIAL BID
(PACKET-B)**

**TENDER DOCUMENT
June 2016**

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

GENERAL INFORMATION / DATA SHEET

TENDER NOTICE NO	ALD(E)/EN/ROB/2016/OT-3/177 Dated : 04.06.2016
Name of the work	Construction of 2nos ROBs (excluding approaches) over Railways & DFCC Track in lieu of level crossings for LC No. 17C at IR Km 768/19-21and LC No. 27C at IR km 797/27-29 between Mughalsarai and Allahabad Eastern Dedicated Freight Corridor Under CPM Allahabad (East) DFCCIL.
(a) Tender Value	Rs. 13,58,44,355.47/-
(b) Completion Period	15 months
(c) Earnest Money	Rs . 27,16,900/-
(d) Date and Time of Issue of Tender	From 07.06.2016 to 03.07.2016 on all working days from 10:30 hrs. to 17:00 hrs& up to13:00hr on04.07.2016 against the prescribed fee of Rs.10700/- which is not refundable.
(e) Last date and Time of submission of Tender	04.07.2016 up to 15:00 hrs
(f) Date and Time of Opening of Tender (Technical bids - Packet A)	On 04.07.2016 at 15:30 hrs
(g) Validity of offer	90 days
(h) Retention Money / Security Deposit	5 % of Contract Value
(i) Performance Bank 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

SUMMARY OF PRICES

Name of work:- Construction of 2 nos ROBs (excluding approaches) over Railways & DFCC Track in lieu of level crossings for LC No. 17C at IR Km 768/19-21, and LC No. 27C at IR Km 797/27-29 between Mughalsarai and Allahabad Eastern Dedicated Freight Corridor Under CPM Allahabad East DFCCIL.

Sl. No.	Description of works	Cost as per USSOR 2010 of NC Rly	DFCCIL updated %	DFCCIL updated cost in Rs	Rates to be quoted in figures & words (Clearly mention above / below / at par on updated DFCCIL 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)	1,86,07,786.91	+ 71.08%	3,18,34,201.85 % age (in figures) (In words)
2.	Execution of all works as per Schedule "B" (items as per USSOR 2010 of NC Rly for chapters other than bridge)	8,89,176.40	+ 11.86%	9,94,632.72 % age (in figures) (In words)

	Chapters and S.N. 4 & 5 below)				
3.	Execution of all works as per Schedule "C" (NS Items)	6,85,06,228.20	-	6,85,06,228.20 % 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)	65,78,000.00	+ 11.86%	73,58,150.80 % age (in figures) (In words)
5.	Execution of all works as per Schedule "E" (items as per USSOR 2010 of NC Rly for supply of Steel Reinforcement including straightening, cutting etc.)	2,58,43,425.00	+ 11.86%	2,89,08,455.21 % age (in figures) (In words)
	Grand Total			13,76,01,668.77	

Notes:

- (i) The above prices are inclusive of all taxes, duties including Excise duty, Sales Tax, Octroi, Local levies, Works Contract Tax 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 (Updation factor is 1.7108, since 71.08% 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 = $(X) \times 1.7108 \times 1.05$
- (b) If percentage quoted by the contractor is 5 % below (-5%), Rate payable to contractor = $(X) \times 1.7108 \times 0.95$
- (c) If percentage quoted by the contractor is at par, Rate payable to contractor = $(X) \times 1.7108$
- (d) Similarly updation factor for Schedule B, D and E is 1.1186.
- (e) In case of NS items i.e. Schedule C, Updating factor shall be 1.

DEDICATED FREIGHT CORRIDOR CORPORATION OF INDIA LTD

**NAME OF WORK : CONSTRUCTION OF 2NOS. ROBS FOR
ELIMINATING L - XINGS BETWEEN Mughalsarai - Allahabad STATIONS
(LEVEL CROSSING NOS :17C &27C)
DETAILED COST ESTIMATE FOR 2 NOS. ROBS**

S.No.	Item no. of NCR USSOR- 2010	BRIEF DESCRIPTION OF ITEM	Unit	Qty	Rate as per NCR USSOR- 2010 (Rs.)	Amount (Rs.)
		SCHEDULE 'A' - SOR ITEMS - ITEMS FROM BRIDGE CHAPTERS (19, 20, 21 & 22)				
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				

(a)	192011	All kinds of soils	cum	1820	165.50	3,01,210.00
(b)	192012	Ordinary rock	cum	50	196.92	9,846.00
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	cum	80	1,782.20	1,42,576.00
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	cum	960	1,694.28	16,26,508.80

		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. Payment for cement, reinforcement and shuttering shall be paid extra.				
4	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,				

		<p>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. 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.</p>				
(a)	192073	1000mm diameter	meter	1340	6,447.67	86,39,877.80

5	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. Payment for cement, reinforcement & shuttering shall be paid extra.	cum			
(a)	192061	Abutment & Pier	cum	580	1,779.00	10,31,820.00
(b)	192063	Abutment cap, Pier Cap, Inspection Platform & Pedestal over Pier cap, Fender wall,	cum	385	1,948.42	7,50,141.70

		Diaphragm wall etc.				
(c)	192064	Approach slab at formation level, Dirt wall/ ballast wall at formation level	cum	70	2,033.14	1,42,319.80
(d)	192065	Extra for every increase of 1m or part thereof in the height above 10m & 20m	cum / m height	40	28.17	1,126.80
6	195030	Centring and shuttering including strutting, propping etc. and removal of form for :				
(a)	195031	RCC Raft Foundation & Pile cap	sqm	780	127.80	99,684.00
(b)	195032	Abutment, pier, wing walls and return walls	sqm	1120	214.70	2,40,464.00
(c)	195033	Abutment cap, Pier Cap, Inspection Platform & Pedestal over Pier cap, Fender wall, Diaphragm wall etc.	sqm	105	213.09	22,374.45
(d)	195034	Approach slab at formation level, Dirt wall / ballast wall at formation level	sqm	240	127.80	30,672.00
7	192080	Providing, fabricating and installing casing pipe for bored piles for all diameters with specified thickness of steel plate including all labour, materials, pumping and bailing out water wherever	MT	40	50,505.25	20,20,210.00

		required, complete as per technical specifications as directed by Engineer. This will include the weight of plate only and no cognizance will be given for the fittings, i.e. rivets and welding etc.				
8	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 above 100 ton capacity upto 250 ton capacity pile	each	2	81,014.6 3	1,62,029.26
(b)	192104	Extra for every increase of 50 T in pile capacity or part thereof over 250 T	each	2	13,676.6 6	27,353.32
(c)	192107	Routine Load Test above 100 ton capacity upto 250 ton capacity pile	each	2	1,25,285. 20	2,50,570.40

9	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)	192112	Piles with lateral load capacity of above 10 ton & upto 20 ton	each	2	33,149.2 1	66,298.42
10	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	meter	96	23,136.28	22,21,082.88
11	201060	Load testing of one or more spans of bridge as selected by the Engineer as per approved load test procedure following relevant IS/IRC/Railway codes with contractor's labour, deflection measuring instruments, loading materials, recoding and analyzing the load testing results including all lead & lift, etc. complete as required. The rates are all inclusive and will be paid after load test is finished and girder is cleared of the kentledges/loading material etc. The load shall be 1.25 times the stipulated design load, based on design load & not				

		span				
(a)	201061	For Span design load upto 100 MT	Each	4	66,772.64	2,67,090.56
(b)	201062	Extra for every increase of 100 MT or part thereof in the span load capacity upto 800 MT	each 100MT	4	65,548.13	2,62,192.52
12	211070	Supplying and fixing anti-slip M.S. Angles/nosing 65mmx 65mmx 8mm or any other size confirming to IS:2062 fixing 10mm dia, anchor bar 600mm c/c and fixing with main girder with M.S. flat on top of step of stair case , making anti-slip grooves 7 nos. arrangement for keeping and maintaining in position as per approved plan with all labour and material as a complete job	kg	5740	50.93	2,92,338.20
		TOTAL OF				1,86,07,786.91

SCHEDULE 'A'						
		Add 71.08% above as per LAR				1,32,26,414.94
		GRAND TOTAL OF SCHEDULE 'A'				3,18,34,201.85
SCHEDULE 'B' - SOR ITEMS - ITEMS OTHER THAN BRIDGE CHAPTERS AND ITEMS OF SCHEDULE "D" & "E"						
13	042010	Centering and shuttering including strutting, propping etc. and removal of form for :				
(a)	042011	Foundations, footings, bases of columns, raft foundation of washable aprons, Pile caps, Footings of FOB etc.	sqm	80	127.80	10,224.00
(b)	042013	Suspended floors, roofs, landings, balconies, FOB slabs, walkway slabs and access platform	sqm	230	213.09	49,010.70
(c)	042014	Lintels, beams, plinth beams, bed blocks, girders, bressumers and cantilevers	sqm	395	184.72	72,964.40
(d)	042015	Columns, pillars, posts and struts	sqm	755	270.20	2,04,001.00
(e)	042016	Stairs (excluding landings) except spiral-staircases	sqm	105	247.30	25,966.50

14	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.	metre	80	105.95	8,476.00
15	081410	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)	081412	In gratings, frames, guard bar, ladders, railings, brackets, gates and similar works	kg	2300	72.53	1,66,819.00
16	237010	Providing and fixing Cat's Eye (Glow studs) heavy integral stem, reflective, aluminium die cast with elegant finish of size 100mmx100mm 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 (3 nos. 7 element or 1 no. 29 element reflector) complete	each	105	536.96	56,380.80
17	236070	Painting road surface marking with adequate number of coats to give uniform finish with ready mixed road marking paint conforming to IS:164, on bituminous surface in white/yellow shade including				

		cleaning the surface of all dirt, scales, oil, grease and foreign material etc. complete				
(a)	236071	New work (minimum two coats)	Sqm	40	80.90	3,236.00
18	094040	Precast Chequered factory made terrazzo tiles 22mm thick with graded marble chips size upto 6mm in floors jointed with neat cement slurry mixed with pigment to match the shade of tiles including rubbing of cement slurry complete on 20mm thick bed of cement mortar 1:4 (1 cement : 4 coarse sand)				
(a)	094042	with ordinary cement with pigment	sqm	80	655.50	52,440.00
19	121060	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade				
(a)	121061	Two or more coats on new work over an under coat of suitable shade with ordinary paint of approved brand and manufacture	sqm	130	66.08	8,590.40

20	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				
(a)	081423	G.I. pipes 40mm nominal bore (class B)	kg	2360	97.91	2,31,067.60
		TOTAL OF SCHEDULE 'B'				8,89,176.40
		Add 11.86% above as per LAR				1,05,456.32
		GRAND TOTAL OF SCHEDULE 'B'				9,94,632.72
		SCHEDULE 'C' - NON-SCHEDULE ITEMS				
21	NS-1	Providing and laying in position machine batched, machine mixed and machine vibrated Design Mix Cement Concrete M-35/M-40 grade (Cast in situ) 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, RCC railing, etc. including pumping of	cum	670	8,076.50	54,11,255.00

	<p>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 labour, tools & plants, material, fuel, consumables, machinery, loading, unloading, lead and lift complete in all respect as a complete job as per specification & as directed by Engineer.</p>				
	<p>NOTES - (i) Payment for cement, reinforcement and shuttering shall be paid extra.</p>				
	<p>(ii) The concrete is to be poured at the approved safe height and distance from live OHE wires carrying 25KV AC traction to cast monolithically to the required level as per approved drawing over already launched main steel girder with proper joining</p>				

		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.				
		(iv) The contractor shall make adequate arrangement below the girders to avoid falling of anything over the track during working for 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.				

22	NS-2	Providing and laying in position machine batched, machine mixed and machine vibrated Design Mix Cement Concrete M-40 grade (Cast in situ) using 20 mm crushed stone aggregate and coarse sand of approved quality in wearing coat 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 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.	cum	120	4,335.35	5,20,242.00
		NOTES - (i) Payment for cement, reinforcement and shuttering shall be paid extra.				

23	NS-3	Supply, fabrication and erection of Welded type Composite plate girders of required span for IRC loading at site as per RDSO drawings, Indian Railway Unified Standard Specifications (W&M) - 2010 (amended up to date) and Indian Railways standard specification for fabrication and erection of steel girder bridges and locomotive turntables (Fabrication Specifications) Serial No B1-2001 (amended up to date) including all incidental works etc., supplying and fixing in position of shop welding / shop bolting with nuts and washers, field bolts, etc. required for complete fabrication of the girders and transportation of the fabricated materials at site and stacking of the same at places as directed by Engineer including metalizing as per clause No 39.2.1 of B1-2001 over the structural	MT	490	1,11,842.90	5,48,03,021.00
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		members with all contractor's labour, fuel, consumables, machinery, loading, unloading, tools & plants, material, load and lift complete in all respect, as a complete job as per specification and as directed by Engineer.				
		NOTES - (i) Steel (Plates and Rolled sections) should conform to IS: 2062-2011. It shall have Sub quality 'B0' & Grade E250 (Fe 410 W).12 mm thick & above plates shall be fully killed and fully normalized / controlled cooled.				
		(ii) The steel shall be procured only from those firms, which are Established, Reliable, Indigenous & Primary Producers of Steel, having Integrated Steel Plants (ISP), using iron ore as the				

		basic raw material and having in house iron rolling facilities, followed by production of liquid steel & crude steel.				
		(iii) (a) 40 % of rate payment shall be made after steel material required for fabrication (as per drawing) is received at contractor workshop / fabrication site. The payment shall be made on the basis of invoice and against bank guarantee of requisite value covering full completion period of bridge.				
		(b) 15 % of rate payment shall be made on acceptance of fabricated components at site and submission of indemnity bond.				
		(c) 20 % of rate payment shall be made after erection & launching				
		(d) 25 % of rate payment shall be made after final approval of DFCCIL and successfully commissioning of work including metallising and				

		finishing complete.				
		(iv) The contractor shall submit the detailed erection drawing and Launching scheme along with necessary design calculations for approval from RITES Ltd before erection of girder.				
		(v) Temporary supports if any required for the erection / launching shall be erected after the approval of Engineer. Nothing extra shall be payable on this account.				
		(vi) The contractor shall take all safety precautions that will be necessary in consultation with Engineer as per extant rules / guidelines. Nothing extra shall be payable on this account.				
		(vii) Notwithstanding above, the contractor shall be fully responsible for any mishap that may occur as a result of negligent working.				

		(viii) Contractor has to take every precautionary measure for safety of running train during and after launching of girder.				
		(ix) The rate includes launching under traffic blocks wherever required. However, the rate does not include the possession of traffic / OHE block.				
		(x) The Block required shall be arranged by DFCCIL. The duration of the block shall be as approved by Engineer. If the Block granted is not made available due to unavoidable reasons, nothing extra / no compensation shall be paid.				
		(xi) However penalties, if any, levied by Indian Railways caused due to any careless working or otherwise of violation of the Terms and Conditions of the track block, shall be payable by the contractor.				

24	NS-4	Providing and laying in position machine batched, machine mixed and machine vibrated Design Mix Cement Concrete M-20 grade (Cast in situ) using 20 mm crushed stone aggregate and coarse sand of approved quality in RCC work in staircase including 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 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.				
	(a)	All works upto plinth level (0.00)	cum	90	2,349.20	2,11,428.00
	(b)	All works above plinth level (0.00) upto floor two level (+3.60 m)	cum	80	2,583.50	2,06,680.00

	(c)	All works in buildings Floor 2 level (3.60) upto floor three level (+7.20 m)	cum	80	2,609.35	208,748.00
	(d)	All works in buildings Floor 3 level (7.20) upto floor four level (+10.80 m)	cum	80	2,635.45	210,836.00
	(e)	In kerbs, steps and the likes etc.	cum	40	2,433.60	97,344.00
		NOTES - (i) Payment for cement, reinforcement and shuttering shall be paid extra.				
25	NS-5	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	kg	2000	114.30	228,600.00

		Engineer.				
26	NS-6	<p>Supplying and fixing 25mm dia and 200mm long Stud Shear Connectors 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. Stud shear connectors and ceramic ferrules shall confirm to TYPE SD1/UF as per BS EN ISO 13918 - 2008 and its Mechanical properties shall be as per ISO 6892/BS EN ISO 13918-2008 and diameter of ceramic ferrule D7 as per BS EN ISO 13918-2008.</p> <p>Welding shall be done by "Drawn Arc Stud welding with Ceramic ferrule"</p>	Nos.	16130	182.00	29,35,660.00

		technique				
27	NS-7	Providing & fixing drainage spout of 50mm dia GI pipe of grade-B quality 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.	metre	100	482.40	48,240.00
28	NS-8	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	per test	70	728.15	50,970.50

		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.				
29	NS-9	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)	18m span welded type composite girder	set	5.00	2,63,597.00	13,17,985.00
	(a)	24m span welded type composite girder	set	7.00	3,22,174.10	22,55,218.70

		NOTES - (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.				
		TOTAL OF SCHEDULE 'C'				6,85,06,228.20
		SCHEDULE 'D' - SUPPLY OF CEMENT				
30	033060	Supply and using cement at worksite:				
(a)	033061	OPC 43 Grade	MT	1100	5,980.00	65,78,000.00

		TOTAL OF SCHEDULE 'D'				65,78,000.00
		Add 11.86% above as per LAR				7,80,150.80
		GRAND TOTAL OF SCHEDULE 'D'				73,58,150.80
		SCHEDULE 'E' - SUPPLY OF REINFORCEMENT				
31	045010	Supplying reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete -				
(a)	045016	Thermo-Mechanically Treated bars	kg	475500	54.35	2,58,43,425.00
		NOTES - (i) The contractor shall quote the rate for Thermo-Mechanically Treated bars of Grade Fe 500.				
		TOTAL OF SCHEDULE 'E'				2,58,43,425.00
		Add 11.86% above as per LAR				30,65,030.21
		GRAND TOTAL OF SCHEDULE 'E'				2,89,08,455.21
		TOTAL COST OF WORK				13,76,01,668.77

Signature of the Tenderer (s) with Seal

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.

Signature of the Tenderer (s) with Seal