



Dedicated Freight Corridor Corporation of India Ltd. (DFCCIL)
Government of India, Ministry of Railways

Tender No. MGS/EN/2020-21/ROB/LC-72B/317
for

Name of Work: Construction of Two-Lane Road Over Bridge (ROB) & 5.5mtr wide FOB in lieu of level crossing no. 72B at IR Chainage 649/5-7 between Chandauli Majhwar (CDMR) - Saidraja (SYZ) including Obligatory Spans, Viaduct Spans, approaches roads etc. complete and Superstructure of obligatory spans of LC no. 41/C/E at IR Chainage 569/19-17 between SSM-KWD (clear span 1x60 M + 1x18 M), LC no. 46C/T IR Chainage 581/1-3 KMGE station limit (clear span 1x18 M 1x60 M + 1x18M), LC no. 49C/T IR Chainage 586/21-23 SSG Station limit (clear span 1x18 M 1x60 M + 1x18M) & LC no. 50 C/E IR Chainage 588/25-27 KVD-SSG (clear span 1x18 M 1x60 M + 1x18M) in all respect in DDU Division of East Central Railway.

E-TENDER DOCUMENT
FINANCIAL BID (PACKET-B)

Jun-20

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

CGM OFFICE
General Manager/Coordination, DDU
DFCCIL
Manas Nagar Railway Colony,
Pt Deen Dayal Upadhyay Nagar (Mughalsarai)
Chandauli -232101, Uttar Pradesh, India

CORPORATE OFFICE
DFCCIL, 5TH Floor, Pragati Maidan Metro Station Building,
New Delhi-110001

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GENERAL INFORMATION / DATA SHEET

TENDER NOTICE NO	MGS/EN/2020-21/ROB/LC-72B/317
Name of the work	Construction of Two-Lane Road Over Bridge (ROB) & 5.5mtr wide FOB in lieu of level crossing no. 72B at IR Chainage 649/5-7 between Chandauli Majhawar (CDMR) - Saidraja (SYZ) including Obligatory Spans, Viaduct Spans, approaches roads etc. complete and Superstructure of obligatory spans of LC no. 41/C/E at IR Chainage 569/19-17 between SSM-KWD (clear span 1x60 M + 1x18 M), LC no. 46C/T IR Chainage 581/1-3 KMGE station limit (clear span 1x18 M 1x60 M + 1x18M), LC no. 49C/T IR Chainage 586/21-23 SSG Station limit (clear span 1x18 M 1x60 M + 1x18M) & LC no. 50 C/E IR Chainage 588/25-27 KVD-SSG (clear span 1x18 M 1x60 M + 1x18M) in all respect in DDU Division of East Central Railway.
(a) Tender Value (in Rs.)	₹ 712,222,028.00
(b) Completion Period	24 months
(c) Earnest Money	₹ 7,122,225
(d) Date and Time of Issue of Tender	From 11 Hrs of 30.05.2020
(e) Last date and Time of submission of Tender	10.07.2020 upto 15:00 hrs
(f) Date and Time of Opening of Tender (Technical bids -Packet A)	On 10.07.2020 at 15:30 hrs Opening date of Financial Bid will be Notified later
(g) Validity of offer	120 days from the date of opening of Technical Bid
(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

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SUMMARY OF PRICES

Name Of Work:- Construction of Two-Lane Road Over Bridge (ROB) & 5.5mtr wide FOB in lieu of level crossing no. 72B at IR Chainage 649/5-7 between Chandauli Majhwar (CDMR) – Saidraja (SYZ) including Obligatory Spans, Viaduct Spans, approaches roads etc. complete and Superstructure of obligatory spans of LC no. 41/C/E at IR Chainage 569/19-17 between SSM-KWD (clear span 1x60 M + 1x18 M), LC no. 46C/T IR Chainage 581/1-3 KMGE station limit (clear span 1x18 M 1x60 M + 1x18M), LC no. 49C/T IR Chainage 586/21-23 SSG Station limit (clear span 1x18 M 1x60 M + 1x18M) & LC no. 50 C/E IR Chainage 588/25-27 KVD-SSG (clear span 1x18 M 1x60 M + 1x18M) in all respect in DDU Division of East Central Railway.

S. No.	Description of works	Cost as per USSOR 2012 of EC Rly / Basic Cost	DFCCIL updated %	DFCCIL updated cost in Rs
1	2	3	4	5
1	Execution of all works as per Schedule "A-I" (NS Item)	78,165,442.00	0	78,165,442.00
2	Execution of all works as per Schedule "A-II" (NS Item)	261,058,702.00	0	261,058,702.00
3	Execution of all works as per Schedule "A-III" (NS Item)	1,666,986.00	0	1,666,986.00
4	Execution of all works as per Schedule "B-I " (Items as per SOR 2012 of EC Rly Chapter -1 only)	511,421.80	32.62	678,247.59
5	Execution of all works as per Schedule "B-II " (Items as per SOR 2012 of EC Rly Chapters - 3,4,9,11 & 18 only)	9,834,331.83	32.95	13,074,744.17
6	Execution of all works as per Schedule "B-VI " (Items as per SOR 2012 of EC Rly Chapters - 19,20 & 22 only)	73,019,425.14	34.48	98,196,522.93
7	Execution of all works as per Schedule "B-VII " (Items as per SOR 2012 of EC Rly Chapters - 21 only)	50,520,539.72	56.65	79,140,425.47
8	Execution of all works as per Schedule "B-VIII " (Items as per SOR 2012 of EC Rly Chapters - 23 & 24 only)	17,837,990.00	40.20	25,008,861.98
9	Execution of all works as per Schedule "B-X " (Items as per SOR 2012 of EC Rly Chapters - 8,10& 17 only)	12,990,113.61	20.65	15,672,572.07
10	Execution of all works as per Schedule "B-XII " (Items as per SOR 2012 of EC Rly not covered by the items of Schedule -A ,Schedule-B-I,B- II,B-VI , B-VII ,B-VIII , C-I & C-II only)	1,000,000.00	25.24	1,252,400.00
11	Execution of all works as per Schedule "C-I " (Cement- OPC 43 Grade)	33,103,749.12	23.33	40,826,853.79
12	Execution of all works as per Schedule "C-II " (Reinforcement Steel FE 500D)	78,229,622.90	24.61	97,480,270.14
	Grand Total	617,938,324.12		712,222,028.13

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Execution of all works as per Schedule "C-II " (Reinforcement Steel FE 500D)

SN	USSOR-2012 ECR	Description	unit		Qty	Rate	Amount
1	045010	Suppying reinforcement for RCC work including straightening, cutting, bending, placing in position and binding all complete:					
(a)	045016	Thermo-Mechanically Treated Bars 500D	1	KG	1,213,615.00	64.46	78,229,622.90
		Note: The contractor shall quote the rate for TMT Bars of Grade 500D					
		Sub-Total					78,229,622.90

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Execution of all works as per Schedule "C-I " (Cement- OPC 43 Grade)

SN	USSOR-2012 ECR	Description			Qty	Rate	Amount
1	033060	Supplying and using Cement at worksite:					
(a)	033061	Ordinary Portland Cement Grade -43	1	MT	4,992.00	6,631.36	33,103,749.12
		Sub-Total					33,103,749.12

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Execution of all works as per Schedule "B-XII " (Items as per SOR 2012 of EC Rly not covered by the items of Schedule -A ,Schedule-B-I,B- II,B-VI , B-VII ,B-VIII , C-I & C-II only)

SN	USSOR-2012 ECR	Description	unit		Qty	Rate	Amount
1		Any items of USSOR 2012 of EC Rly, which are not covered in above schedule – A, Schedule B-I to B-VIII, Schedule C-I & C-II,	% above or %below	LS amount			1,000,000.00
		Sub-Total					1,000,000.00

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Execution of all works as per Schedule "B-X " (Items as per SOR 2012 of EC Rly Chapters - 8,10& 17 only)

SN	USSOR-2012 ECR	Description	unit		Qty	Rate	Amount
1	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)	081420	In gratings, frames, guard bar, ladders, railings, brackets, gates and similar works	1	Kg	46,008.00	87.45	4,023,399.60
(b)	081421	M.S. tube (medium) 40mm nominal bore	1	Kg	565.00	106.20	60,003.00
2	081031	In RSJ, tees, angles and channels	1	kg	66,666.67	87.27	5,818,000.00
3	081032	In flats, plates , round or square bars Note for Item 081030 : Purlins and wind bracings shall be paid separately under item 81010. Note for Items 081011, 081021 & 081022 : These rates are not to be paid for ironwork with rails, which should be paid under each item separately.	1	kg	29,833.33	84.23	2,512,861.67
4	081140	Supplying and fixing lewis/holding down bolts of approved design with nuts and washers complete	1	kg	467.00	67.14	31,354.38

Execution of all works as per Schedule "B-X " (Items as per SOR 2012 of EC Rly Chapters - 8,10& 17 only)

SN	USSOR-2012 ECR	Description	unit		Qty	Rate	Amount
5	109200	Providing and fixing permanently colour coated trapezoidal profiled sheet of depth 28-30mm at 195-205mm pitch distance with precisely engineered "Rib & Flute" design. Profiled sheets shall be min. 0.5mm TCT/0.45mm BMT high tensile zinc aluminium alloy coated zincalume / galvalume steel sheet (550 mpa yield strength) having a coating of mass of 150 gsm zinc-aluminium coating AZ- 150 total on both sides as per AS 1397:1993 finished with 20 microns approved colour coating of Silicon Modified Polyester (SMP) / Super Polyester paint coat on exposed surface over a primer coat of 5 microns and a back coat of 5 microns on reverse side over a 5 microns primer coat. There shall be 2 small ribs/square flutes between profiles for providing additional strength. The sheet to be fixed over the purlins with hexagonal head self drilling suitable fasteners with neoprene / EPDM washer on crests of the sheet	1	m2	650.00	713.34	463,671.00
6	109261	Upto 600mm width (girth)	1	m2	84.00	486.89	40,898.76
7	081110	Providing and fixing expanded metal 20mmX60mm strands 3.25mm wide and 1.6mm thick on angle iron flat iron frames including all incidental work complete. Cost of frames to be paid separately under relevant item	1	m2	84.00	475.30	39,925.20

Execution of all works as per Schedule "B-X " (Items as per SOR 2012 of EC Rly Chapters - 8,10& 17 only)

SN	USSOR-2012 ECR	Description	unit	Qty	Rate	Amount
		Sub Total				12,990,113.61

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Execution of all works as per Schedule "B-VIII " (Items as per SOR 2012 of EC Rly Chapters - 23 & 24 only)

SN	USSOR-2012 ECR	Description	unit		Qty	Rate	Amount
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	1266.00	1,925.10	2,437,176.60
(b)	231042	Base course with 63mm to 45mm size including stone screening 13.2mm size	1	cum	506.00	1,691.15	855,721.90
(c)	231043	Base course with 53mm to 22.4mm size including stone screening 11.2mm size	1	cum	506.00	1,955.22	989,341.32
2	231070	Providing and laying 4cm thick moorum surfacing (Consolidated thickness) on platforms, pathways, etc including spreading watering and consolidation with 3T Roller or light power roller complete.	1	Sqm	800.00	21.88	17,504.00
3	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	5065.00	22.20	112,443.00
(b)	233012	On bituminous @0.25kg/sqm	1	Sqm	11312.00	15.47	174,996.64
4	234010	2.5 cm thick bitumastic sheet with hot bitumen of approved quality using stone chippings (60% 12.5 mm nominal size and 40% 10 mm nominal size) @ 1.65 cum per 100 sqm and coarse sand at 1.65 cum per 100 sqm of road surface and with bitumen @ 56 kg/cum of stone chippings and @ 128 kg/cum, of sand over a tack coat with hot straight run bitumen including consolidation with road roller of 8 to 10 tonne etc. complete, (tack coat to be paid separately) :					
(a)	234011	With paving bitumen 80/100 heated and then mixed with solvent at the rate of 70 gram per kg of asphalt	1	Sqm	3333.00	195.41	651,301.53

Execution of all works as per Schedule "B-VIII " (Items as per SOR 2012 of EC Rly Chapters - 23 & 24 only)

SN	USSOR-2012 ECR	Description	unit		Qty	Rate	Amount
5	237050	Supplying and laying precast Kerb Stone of concrete M-25 Grade 30cmx20cm (in section / including chamfering as per design if any) including fixing in 1:6 cement sand mortar and pointing with 1:2 cement mortar (1 cement :2 sand ordinary) including all excavation/refilling, ramming and other incidental works as required.	1	Metre	1400.00	324.19	453,866.00
6	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					
(a)	238014	50mm average compacted thickness with bitumen of 60/70 grade @ 3.5% by weight of total mix	1	Sqm	5065.00	356.81	1,807,242.65
7	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	452.00	9,261.19	4,186,057.88

Execution of all works as per Schedule "B-VIII " (Items as per SOR 2012 of EC Rly Chapters - 23 & 24 only)

SN	USSOR-2012 ECR	Description	unit		Qty	Rate	Amount
8	238040	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 size25mmx25mmx3mm 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 & fixing M.S. message plate of required size steel work to be painted with two or more coats of synthetic enamel paint of required shade and of approved brand & manufacture over priming coat of zinc chromate yellow primer (vertical MS- Tee support to be painted in black and white colours). Backside of aluminium sheet to be painted with two or more coats of epoxy paint over and including appropriate priming coat including all leads and lifts etc. complete as per drawing, specification and direction of Engineer-in- charge. (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	80.00	3,766.42	301,313.60

Execution of all works as per Schedule "B-VIII " (Items as per SOR 2012 of EC Rly Chapters - 23 & 24 only)

SN	USSOR-2012 ECR	Description	unit		Qty	Rate	Amount
9	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	1500.00	3,769.00	5,653,500.00
10	238060	Providing and fixing of raised pavement markers made of polycarbonate moulded body and reflective panels with micro prismatic lens made of polycarbonate with abrasion resistant coating. The length, weight and width of body shall not exceed 95mm, 18mm and 105mm respectively. The lower surface of the RPM shall be supported with two nylon shanks, each of length not less than 25mm. Fixed to the road by using twin nylon shanks using bituminous adhesive on bitumen roads or thout nylon shanks with epoxy resin adhesive on concrete roads as per tions of Engineer Incharge. The RPM should conform to the quality standards as laid down in IR Standard Specifications	1	Each	80.00	767.05	61,364.00
11	241010	Supplying at site					
(a)	241018	MS angle posts/struts of required size including bottom to be split and bent at right angle in opposite direction for 10cm length and drilling holes upto 10mm dia. etc. complete	1	Kg	1732.00	64.34	111,436.88
12	242060	Providing 1.8m high fencing with 2.4m angle iron 50mmx50mmx6mm posts placed every 3m centre to centre embedded in cement concrete blocks every 15th posts (or nearer if there is abrupt change of ground slope) last but one end post and corner post shall be strutted on both sides and end posts on one side only, and struts embedded in cement concrete blocks and provided with 7 horizontal lines and two diagonals interwoven with horizontal GI barbed wires of barbed wire 9.38 kg/100m (min) between the two posts fitted and fixed with G.I. staples, turn buckles etc. complete (cost of posts, struts and concrete to be paid for separately)	1	Metre	400.00	61.81	24,724.00
		Sub-Total					17,837,990.00

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Execution of all works as per Schedule "B-VII " (Items as per SOR 2012 of EC Rly Chapters - 21 only)

SN	USSOR-2012ECR	Description	unit	Qty	Rate	Amount
1	211140	Supplying, fitting and fixing in position true to line and level POT-PTFE bearing consisting of a metal piston supported by a disc or un reinforced elastomer confined within a metal cylinder, sealing rings, dust seals, PTFE surface sliding against stainless steel mating surface, complete assembly to be of cast steel / fabricated structural steel, metal and elastomer elements complete as per IS:2062, IS:1030, AISI:304, AISI:316, IS:6911, BS:3784, IS:3400, IS:226, BS-5400, Bridge Code and as per drawing and approved Technical Specifications. The design of the bearings shall be submitted by the manufacturers/contractor and got approved from Railway before fixing. Test report of the bearings should be got approved before the materials are lifted from the manufacturer premises. Payment is based on 250 MT capacity of Bearing.				
(a)	211141	POT-PTFE Bearing	1 MT Bearing Capacity	17,453.00	412.94	7,207,041.82
	211010	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 45.7m span on sub-structure including provision of trolley refuges, if required complete as per approved drawing including one coat of Zinc chrome primer to 1S:104 & 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 & launching methodology will be prepared and got approved by the contractor from Railway). Rate includes fabrication of all the types of battens, bracings, ties, stiffeners, packing, diaphragms, shop rivets / welding, T&F bolts, drifts, shop welds, templates, jigs, fixtures, back up supports, accessories, transporting various components from fabrication shop to site, 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%				

SN	USSOR-2012ECR	Description	unit	Qty	Rate	Amount
	211011	Plate Grider / Semi Through Girder	MT	542.00	78,585.50	42,593,341.00
	211013	Extra for metalising including preparation of surface and applying one coat etch primer to 1S:5666	Sqm	5,570.00	16.27	90,623.90
	211014	Extra for using steel conforming to Fe 490 of IS:8500 instead of Fe 410	MT	542.00	1,161.50	629,533.00
		Sub-Total				50,520,539.72

Name Of Work:- Construction of Two-Lane Road Over Bridge (ROB) & 5.5mtr wide FOB in lieu of level crossing no. 72B at IR Chainage 649/5-7 between Chandauli Majhwar (CDMR) – Saidraja (SYZ) including Obligatory Spans, Viaduct Spans, approaches roads etc. complete and Superstructure of obligatory spans of LC no. 41/C/E at IR Chainage 569/19-17 between SSM-KWD (clear span 1x60 M + 1x18 M), LC no. 46C/T IR Chainage 581/1-3 KMGE station limit (clear span 1x18 M 1x60 M + 1x18M), LC no. 49C/T IR Chainage 586/21-23 SSG Station limit (clear span 1x18 M 1x60 M + 1x18M) & LC no. 50 C/E IR Chainage 588/25-27 KVD-SSG (clear span 1x18 M 1x60 M + 1x18M) in all respect in DDU Division of East Central Railway.

Execution of all works as per Schedule "B-VI " (Items as per SOR 2012 of EC Rly Chapters - 19,20 & 22 only)

SN	USSOR-2012ECR	Description	unit	Qty	Rate	Amount	
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	1,581.00	292.92	463,106.52
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	150.00	2,234.33	335,149.50
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	1,110.00	2,745.77	3,047,804.70
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	766.00	2,883.06	2,208,423.96
(b)	192063	Abutment cap, Pier Cap, Inspection Platform & Pedestal over Pier cap, Fender wall, Diaphragm wall etc.	1	CUM	600.00	3,157.63	1,894,578.00

Execution of all works as per Schedule "B-VI " (Items as per SOR 2012 of EC Rly Chapters - 19,20 & 22 only)

SN	USSOR-2012ECR	Description	unit		Qty	Rate	Amount
(c)	192064	Approach slab at formation level, Dirt wall/ballast wall at formation level	1	CUM	28.00	3,294.92	92,257.76
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	3,990.00	8,244.28	32,894,680.59

Execution of all works as per Schedule "B-VI " (Items as per SOR 2012 of EC Rly Chapters - 19,20 & 22 only)

SN	USSOR-2012ECR	Description	unit	Qty	Rate	Amount
7	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	94,429.95
(b)	192104	Extra above 250 MT for each 50 MT	1	Each	32.00	12,282.86
(c)	192107	Routine load test up to 250 MT	1	Each	3.00	76,386.05
8	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	1.00	56,648.87
10	195030	Centring and shuttering including strutting, propping etc. and removal of form for ;				
(a)	195031	RCC Raft Foundation & Pile cap	1	Sqm	795.00	138.30
(b)	195032	Abutment, pier, wing walls and return walls	1	Sqm	1,530.00	227.40
(c)	195033	Abutment cap, Pier Cap, Inspection Platform & Pedestal over Pier cap, Fender wall, Diaphragm wall etc.	1	Sqm	1,657.00	230.28
(d)	195034	Approach slab at formation level, Dirt wall / ballast wall at formation level	1	Sqm	66.00	138.30
(e)	195038	In Bottom/ top slab, side walls, toe wall and sumps haunch filling head walls or any other component.	1	Sqm	5,774.00	227.40
11	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	930.00	3,199.36
(b)	201014	Extra for increase in span by every 1m or part thereof for spans above 18.3m & upto 30.5m	1	Meter	59.00	36.93
(c)	201015	Deduct for casting of Slab instead of Girders (for any heights)	1	CUM	-930.00	147.72

Execution of all works as per Schedule "B-VI " (Items as per SOR 2012 of EC Rly Chapters - 19,20 & 22 only)

SN	USSOR-2012ECR	Description	unit		Qty	Rate	Amount
12	201020	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 contactor'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.	1	Cum	831.00	2,977.78	2,474,535.18
13	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.)	1	CU. CM	1,263,600.00	1.37	1,731,132.00

Execution of all works as per Schedule "B-VI " (Items as per SOR 2012 of EC Rly Chapters - 19,20 & 22 only)

SN	USSOR-2012ECR	Description	unit		Qty	Rate	Amount
14	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	317.00	28,789.51	9,126,274.67
15	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 Kent ledges/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	1	Each	2.00	64,285.56	128,571.12
(b)	201062	Extra for every increase of 100 MT or part thereof in the span load capacity upto 800 MT	1	Each	2.00	63,125.55	126,251.10
16	201070	Providing, fabricating & fixing in position to exact design profiles, prestressing H.T.S. cables of all classification made from Low Relaxation strands conforming to IS:14268-1995 in Prestressed Concrete girders/slabs etc. including supplying, cutting, making into cables with necessary spacers, colour coding, protecting with water soluble oil at all time, anchoring of cables, supplying and placing spiral corrugated type galvanized metal steel ducts sheathing made up of Cold Rolled Cold Annealed (CRCA) mild steel conforming to IS:513 of required diameter/thickness, vent pipe, placing, bending, routing, fixing, stressing & grouting of cable ducts with cement grout, Anchorage sets in required number with provision for future prestressing, if any including all lead and lift with contractor's own materials, labour, equipments etc. complete as per drawings & specifications. Rate also includes covering anchorage pads with epoxy mortar of approved quality to avoid corrosion. Cement for grouting to be paid separately.	1	MT	81.00	135,257.06	10,955,821.86
17	222170	Providing and fixing of Drainage Spouts of 100mm UPVC complete as per drawing and Technical specification		metre	4,912.00	359.48	1,765,765.76
		Sub-Total	1				73,019,425.14

Name Of Work:- Construction of Two-Lane Road Over Bridge (ROB) & 5.5mtr wide FOB in lieu of level crossing no. 72B at IR Chainage 649/5-7 between Chandauli Majhwar (CDMR) – Saidraja (SYZ) including Obligatory Spans, Viaduct Spans, approaches roads etc. complete and Superstructure of obligatory spans of LC no. 41/C/E at IR Chainage 569/19-17 between SSM-KWD (clear span 1x60 M + 1x18 M), LC no. 46C/T IR Chainage 581/1-3 KMGE station limit (clear span 1x18 M 1x60 M + 1x18M), LC no. 49C/T IR Chainage 586/21-23 SSG Station limit (clear span 1x18 M 1x60 M + 1x18M) & LC no. 50 C/E IR Chainage 588/25-27 KVD-SSG (clear span 1x18 M 1x60 M + 1x18M) in all respect in DDU Division of East Central Railway.

Execution of all works as per Schedule "B-II " (Items as per SOR 2012 of EC Rly Chapters - 3,4,9,11 & 18 only)

SN	USSOR-2012ECR	Description	unit	Qty	Rate	Amount
1	031010	Providing and laying in position cement concrete of specified proportion excluding cost of cement, centering and shuttering - All works upto plinth level :				
(a)	031011	1:3:6 (1 cement : 3 sand : 6 graded stone aggregate 20mm nominal size)	1 cum	3.00	2813.6	8,440.80
2	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.	1 Sqm	23.00	138.30	3,180.90
(b)	042013	Suspended floors, roofs, landings, balconies, FOB slabs, walkway slabs and access platform	1 Sqm	6,943.00	230.28	1,598,834.04
(c)	042014	Lintels, beams, plinth beams, bed blocks, girders, bressumers and cantilevers	1 Sqm	5,197.00	201.54	1,047,403.38
(d)	042015	Columns, pillars, posts and struts	1 Sqm	144.00	282.30	40,651.20
(e)	042030	Extra for additional height in centering, shuttering wherever required with adequate bracing, propping etc. including cost of de-shuttering and de-centering at all levels, over a height of 3.5 m for every additional height of 1 meter part thereof in suspended floors, landing, beams and balconies (plan area to be measured)	1 Sqm	6,943.00	90.40	627,647.20
3	041010	Providing and laying in position M-20 Grade concrete for reinforced concrete structural elements, but excluding cost of centering, shuttering, reinforcement and Admixtures in recommended proportion (as per IS:9103) to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer in charge.				-
(a)	041011	All work upto plinth level including raft foundation of washable aprons, HS tank, pile cap, footings of FOB and Platform shelter etc.	1 cum	14.00	3,341.60	46,782.40

Execution of all works as per Schedule "B-II " (Items as per SOR 2012 of EC Rly Chapters - 3,4,9,11 & 18 only)

SN	USSOR-2012ECR	Description	unit		Qty	Rate	Amount
(b)	041012	All works in buildings above plinth level upto floor two level	1	cum	59.00	3,619.33	213,540.47
4	096060	Kota stone slab flooring of size up to 30cmx30cm over 20mm (average) thick base of 1:4 cement mortar (1 cement: 4 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slab including rubbing and polishing complete					-
(a)	096061	20mm thick	1	Sqm	132.00	1,082.51	142,891.32
5	098020	Supplying and laying interlocking pre-cast CC block pavers of approved design factory manufactured of specified grade cement concrete on passenger platform, foot paths, circulating area etc. including setting in position over 25mm thick bedding layer of fine sand, filling the joints with fine sand, leveling including compaction as per IS:15658					-
(a)	098022	80mm thick blocks of M-35 grade for medium traffic	1	Sqm	2,000.00	726.57	1,453,140.00
							-
6	091032	Flat Brick		m2	250.00	237.25	59,312.50
7	031051	All works upto plinth level		m3	22.00	2856.68	62,846.96
8	041011	Providing and laying in position M-20 Grade concrete for reinforced concrete structural elements, but excluding cost of centering, shuttering, reinforcement and Admixtures in recommended proportion (as per IS:9103) to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer in charge		m3	77.00	3341.6	257,303.20
9	041012	All works in buildings above plinth level upto floor two level		m3	50.00	3619.33	180,966.50
10	042011	Foundations, footings, bases of columns, raft foundation of washable aprons, Pile caps, Footings of FOB etc.		m2	217.00	138.3	30,011.10
11	042014	Lintels, beams, plinth beams, bed blocks, girders, bressumers and cantilevers		m2	84.00	201.54	16,929.36
12	042015	Columns, pillars, posts and struts		m2	252.00	282.3	71,139.60

Execution of all works as per Schedule "B-II " (Items as per SOR 2012 of EC Rly Chapters - 3,4,9,11 & 18 only)

SN	USSOR-2012ECR	Description	unit	Qty	Rate	Amount
13	042040	Supplying and applying shuttering oil for mould releasing, having (flash point 54°C and specific gravity 0.88±0.02) for concrete formwork to be applied either by brush or with spray machine to the entire satisfaction of Engineer Incharge	m2	528.00	8.02	4,234.56
14	042030	Extra for additional height in centering, shuttering wherever required with adequate bracing, propping etc. including cost of de-shuttering and de-centering at all levels, over a height of 3.5m for every additional height of 1 metre or part thereof in suspended floors, roofs, landing, beams and balconies (plan area to be measured)	m2	267.00	90.4	24,136.80
15	042025	Edges of slabs and beams in floors and walls under 20cm wide	m	100.00	88.1	8,810.00
16	043013	In lintels, beams, bressumers	m3	104.00	5388.95	560,450.80
17	045014	High yield strength deformed bars	kg	15,000.00	64.46	966,900.00
18	042013	Suspended floors, roofs, landings, balconies, FOB slabs, walkway slabs and access platform	m2	265.00	230.28	61,024.20
19	099184	Granite Pink - Area of slab over 0.5 sqm but upto 1.0 sqm	m2	580.00	3748.67	2,174,228.60
20	121091	Two or more coats on new work	m2	835.00	42.95	35,863.25
21	121170	Painting two coats (excluding priming coat) with white or green ready mixed paint of approved quality on steel or wood work	m2	500.00	46.67	23,335.00
22	181030	Demolishing R.C.C. work including cutting and stacking of steel bars and disposal of unserviceable material within 50m lead. (Extra payment for scraping, cleaning and straightening of bars to be made separately)	m3	50.00	729.06	36,453.00
23	181021	1:2:4 or richer mix with max. 20 mm coarse aggregate	m3	14.00	489.61	6,854.54
24	181040	Extra over Item Nos. 181021 and 181050, if pavement breaker is used on orders of Engineer	m3	17.00	218.72	3,718.24
25	182013	In cement mortar	m3	32.00	400.63	12,820.16
26	186020	Dismantling steel work and trusses upto 10m span and 5m height in built up sections in angles, tees, flats and channels including all gusset plates, bolts, nuts, cutting rivets, welding etc. including dismembering and stacking within 50m lead	kg	40,231.96	1.15	46,266.75
27	184082	Asbestos sheet	m2	500.00	16.43	8,215.00
		Sub Total				9,834,331.83

Name Of Work:- Construction of Two-Lane Road Over Bridge (ROB) & 5.5mtr wide FOB in lieu of level crossing no. 72B at IR Chainage 649/5-7 between Chandauli Majhwar (CDMR) – Saidraja (SYZ) including Obligatory Spans, Viaduct Spans, approaches roads etc. complete and Superstructure of obligatory spans of LC no. 41/C/E at IR Chainage 569/19-17 between SSM-KWD (clear span 1x60 M + 1x18 M), LC no. 46C/T IR Chainage 581/1-3 KMGE station limit (clear span 1x18 M 1x60 M + 1x18M), LC no. 49C/T IR Chainage 586/21-23 SSG Station limit (clear span 1x18 M 1x60 M + 1x18M) & LC no. 50 C/E IR Chainage 588/25-27 KVD-SSG (clear span 1x18 M 1x60 M + 1x18M) in all respect in DDU Division of East Central Railway.

Execution of all works as per Schedule "B-I " (Items as per SOR 2012 of EC Rly Chapter -1 only)

SN	USSOR-2012 ECR	Description	unit		Qty	Rate	Amount
1	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	1,100.00	256.95	282,645.00
2	011010	Earth work in excavation as per approved drawings and dumping at embankment site or spoil heap, within railway land, including 50m lead and 1.5m lift, the lead to be measured from the centre of gravity of excavation to centre of gravity of spoil heap; the lift to be measured from natural ground level and paid for in layers of 1.5m each including incidental work, as per specifications					-
(a)	011011	All kinds of soils	1	cum	42.00	93.54	3,928.68
2	012050	Supplying and filling sand in plinth and under floors including watering, ramming, consolidating and dressing complete	1	m3	24.00	602.73	14,465.52

3	013120	Earthwork in filling in embankment, guide bunds, around buried type abutments, bridge gaps, trolley refuges, rain bunds, if provided, platforms etc. with earth excavated from outside railway boundary entirely arranged by the contractor at his own cost as per RDSO's latest guidelines and specifications and special condition of contract including all leads, royalty, lifts, ascents, descents, crossing of nallahs or any other obstructions. The rates shall include all dressing of bank to final profile, demarcation and setting out of profile, site clearance, removing of shrubs, roots of vegetations growth, heavy grass, benching of existing slope of old bank, all handling/re-handling, taxes, octroi and royalty etc. as a complete job. Cut trees shall be property of railways and to be deposited in the railway godown unless specified otherwise in the Special Conditions of Contract. (Corrigendum-1) dated 19.12.12	1	Cum	920.00	139.23	128,091.60
4	013130	Extra for mechanical compaction of earth/blanketing material filled in embankment with contractor's rollers of suitable capacity, type and size to achieve specified density as per specification, testing as per IS codes including cost of water, T&P, consumable material and all labour as a complete job. The work is to be executed as per Latest edition of "Guidelines for Earthwork in Railway Projects" issued by RDSO, Lucknow.	1	Cum	920.00	14.8	13,616.00
5	013140	Removal of excavated / slip earth / debris / malba from the site of works to any other place outside Railway land/premises, including all excavations, handling, rehandling, loading, unloading & leading etc. all labour and material as a complete job. Removal of Earth (all kinds of soils)/Rocks, Boulders including mud/slush, slipped earth in catch water drains, side drains, over berms in cutting, water way of bridges, over coping of toe/breast /retaining walls etc. including crossing of nallah, railway tracks, making/repairing approach roads, if required, all lead, lift, ascent, descents, or any other obstruction. Earth spoils to be dumped outside the cutting or railway embankments as per direction of Engineer in charge.		m3	500.00	137.35	68,675.00
		Sub-Total					511,421.80

Name Of Work:- Construction of Two-Lane Road Over Bridge (ROB) & 5.5mtr wide FOB in lieu of level crossing no. 72B at IR Chainage 649/5-7 between Chandauli Majhawar (CDMR) – Saidraja (SYZ) including Obligatory Spans, Viaduct Spans, approaches roads etc. complete and Superstructure of obligatory spans of LC no. 41/C/E at IR Chainage 569/19-17 between SSM-KWD (clear span 1x60 M + 1x18 M), LC no. 46C/T IR Chainage 581/1-3 KMGE station limit (clear span 1x18 M 1x60 M + 1x18M), LC no. 49C/T IR Chainage 586/21-23 SSG Station limit (clear span 1x18 M 1x60 M + 1x18M) & LC no. 50 C/E IR Chainage 588/25-27 KVD-SSG (clear span 1x18 M 1x60 M + 1x18M) in all respect in DDU Division of East Central Railway.

Execution of all works as per Schedule "A-III" (NS Item)

SN	NS Item	Description	unit		Qty	Rate	Amount
1	NS-1	Erection of Prestressed Girder on bearings 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	831.00	2,006.00	1,666,986.00
		Sub-Total					1,666,986.00

Name Of Work:- Construction of Two-Lane Road Over Bridge (ROB) & 5.5mtr wide FOB in lieu of level crossing no. 72B at IR Chainage 649/5-7 between Chandauli Majhawa (CDMR) – Saidraja (SYZ) including Obligatory Spans, Viaduct Spans, approaches roads etc. complete and Superstructure of obligatory spans of LC no. 41/C/E at IR Chainage 569/19-17 between SSM-KWD (clear span 1x60 M + 1x18 M), LC no. 46C/T IR Chainage 581/1-3 KMG station limit (clear span 1x18 M 1x60 M + 1x18M), LC no. 49C/T IR Chainage 586/21-23 SSG Station limit (clear span 1x18 M 1x60 M + 1x18M) & LC no. 50 C/E IR Chainage 588/25-27 KVD-SSG (clear span 1x18 M 1x60 M + 1x18M) in all respect in DDU Division of East Central Railway.

Execution of all works as per Schedule "A-II" (NS Item)

SN	NS Item	Description	unit		Qty	Rate	Amount
1	NS-1	Supply, fabrication and erection of Welded type BOW STRING girders of required span BOW STRING girder of span more than 45.7 m as per RDSO standard drg / approved drawings, East Central Railway Unified Standard Specifications – 2012(amended up to date) and Indian Railways Standard specification for fabrication and erection of steel girder bridges and locomotive turntables (Fabrication Specification) 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, STUD SHEAR CONNECTOR 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 members with all contractor's labour, fuel, consumables, machinery, loading, unloading, tools & plants, material, lead and lift complete job as per specifications and as directed by Engineer.	1	MT	1,877.00	136,730.00	256,642,210.00
		Notes					
		(i) Steel (Plates and Rolled section) should conform to IS: 2062-2011. It shall have Sub quality 'BO' & Grade E250 (Fe 410) for rolled sections and E350 (Fe 490) for plates shall be fully killed and fully 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)40% of rate payment shall be made after steel material required for fabrication (as per drawing) is received at site.					
		(iv)15% of rate payment shall be made on acceptance of fabricated components at site.					
		(v) 20% of rate payment shall be made after erection& launching.					
		(vi) (a) 10% of rate payment shall be made after metalizing/Painting (b) 15% of rate payment shall be made after final approval of DFCCIL and successful completion of all works (ROB wise) included in this item including metalizing and finishing complete.					
		(vii) No deduction for holes and no addition for rivets /bolts/welds etc shall be made.					

SN	NS Item	Description	unit		Qty	Rate	Amount
		(viii) The contractor shall submit the detailed erection drawing and launching scheme along with necessary design calculation for approval to DFCCIL before erection and launching of girder.					
		(ix) 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.					
		(x) The contractor shall take all safety precautions with Engineer as per extant rules/ guidelines Nothing extra shall be payable on this account					
		(xi) Not with standing above, the contractor shall be fully responsible for any mishap that may occur as a result of negligent working. Contractor has to take every precautionary measure for safety of running train during and after launching of girder.					
		(xii) The rate includes launching under traffic blocks wherever required. However, the rate does not include the cost of possession of traffic/ OHE block.					
		(xiii) The Block required shall be arranged by DFCCIL at the request of contractor. 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					
		(xiv) 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/ OHE block, shall be payable by the contractor					
		(xv) The cost of all tests as per prevailing code for acceptance shall be borne by contractor					
		(xvi) The Rate also include fixing of 25 mm dia 200 long stud shear connectors as per Specification and drawing,					
2	NS-2	Providing and fixing hand rail over the crash barrier consisting of 16 mm MS base plate, embedded with 16 mm dia welded lugs, 16 mm MS vertical plates etc. as per specifications and drawing enclosed with the tender document. All the railing components as mentioned above shall be painted with approved colour shade as per direction of Engineer-in-Charge including all primers and paints as per specifications. The thickness of plates are shown in the drawing. Pipe to be 65mm diameter (NB) (class B) G I pipe with a weight not less than 6.5 kg/m and conforming to IS: 1161-1979. Item to include all incidental works required to complete the work as per drawings and as directed by the Engineer-in-Charge. Measurement shall be made for all the material in term of length of Pipe.	1	Meter	2,680.00	1,608.00	4,309,440.00
3	NS-3	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. per test 120	1	per test	132.00	811.00	107,052.00
		Sub-Total					261,058,702.00

Name Of Work:- Construction of Two-Lane Road Over Bridge (ROB) & 5.5mtr wide FOB in lieu of level crossing no. 72B at IR Chainage 649/5-7 between Chandauli Majhwar (CDMR) – Saidraja (SYZ) including Obligatory Spans, Viaduct Spans, approaches roads etc. complete and Superstructure of obligatory spans of LC no. 41/C/E at IR Chainage 569/19-17 between SSM-KWD (clear span 1x60 M + 1x18 M), LC no. 46C/T IR Chainage 581/1-3 KMGE station limit (clear span 1x18 M 1x60 M + 1x18M), LC no. 49C/T IR Chainage 586/21-23 SSG Station limit (clear span 1x18 M 1x60 M + 1x18M) & LC no. 50 C/E IR Chainage 588/25-27 KVD-SSG (clear span 1x18 M 1x60 M + 1x18M) in all respect in DDU Division of East Central Railway.

Execution of all works as per Schedule "A-I" (NS Item)

SN	NS Item	Description	unit	Qty	Rate	Amount	
1	NS-1	<p>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 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 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 & plants material (excluding cost of cement reinforcement and suturing) Fuel consumables machinery, loading unloading, lead and lift complete in all respect as a complete jobs per speculations & as directed by engineer.</p> <p>Notes-</p> <p>(i) Payment for cement, reinforcement and shuttering shell be paid extra as per relevant USSOR item included in the relevant schedule.</p> <p>(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.</p> <p>(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</p> <p>(iv) The contractor shall make adequate arrangement below the girder to avoid falling of anything over the track during concreting of the slab. The rate includes design and provision of all temporary works and to ensure safety of running traffic at all times.</p>	1	CUM	1,327.00	9,618.00	12,763,086.00
2	NS-2	Reinforced Earth Structures					

SN	NS Item	Description	unit	Qty	Rate	Amount	
		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.					
		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 fascia panels is also included in the rates of this item	1	Sqm	4,870.00	5,954.00	28,995,980.00
		NOTES					
	(A)	The scope of work in the above item includes:					
	a)	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					
	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.					

SN	NS Item	Description	unit		Qty	Rate	Amount
	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 fascia 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.					
3	NS-3	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	13,752.00	2,130.00	29,291,760.00
	A)	With Sand					
	Notes:	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					

SN	NS Item	Description	unit		Qty	Rate	Amount
4	NS-4	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 & 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 & as directed by engineer.	1	Cum	1,501.00	4,300.00	6,454,300.00
5	NS-5	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	3,566.00	78.00	278,148.00
6	NS-6	Supply of Admixture for use in production of cement concrete as per design mix and in required proportion.	1	Litre	6,164.00	62.00	382,168.00
		Sub-Total					78,165,442.00

COST ESTIMATE

Name Of Work:- Construction of Two-Lane Road Over Bridge (ROB) & 5.5mtr wide FOB in lieu of level crossing no. 72B at IR Chainage 649/5-7 between Chandauli Majhawar (CDMR) – Saidraja (SYZ) including Obligatory Spans, Viaduct Spans, approaches roads etc. complete and Superstructure of obligatory spans of LC no. 41/C/E at IR Chainage 569/19-17 between SSM-KVD (clear span 1x60 M + 1x18 M), LC no. 46C/T IR Chainage 581/1-3 KMGE station limit (clear span 1x18 M 1x60 M + 1x18M), LC no. 49C/T IR Chainage 586/21-23 SSG Station limit (clear span 1x18 M 1x60 M + 1x18M) & LC no. 50 C/E IR Chainage 588/25-27 KVD-SSG (clear span 1x18 M 1x60 M + 1x18M) in all respect in DDU Division of East Central Railway.

SL. No.	Ref. ECR SOR/2012 Item No.	Description of Item	Unit	Quantity		Rate (Rs.)	Cement Qty.(qtl.)	Total
				LC 72B + LC41,46,49, 50	Total			
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	All kinds of soils	cum	1580.80	1,581.00	292.93		463,122.33
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	150.12	150.00	2,234.33	2.20	335,149.50
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.	cum	1110.00	1,110.00	2,745.77	4.22	3,047,804.70
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	cum	766.14	766.00	2,883.06	4.22	2,208,423.96
(l)	192062	Wing wall and return wall	cum	0.00	-	3,020.34	4.22	-
(b)	192063	Abutment cap, Pier Cap, Inspection Platform & Pedestal over Pier cap, Fender wall, Diaphragm wall etc.	cum	600.15	600.00	3,157.63	4.22	1,894,578.00
(c)	192064	Approach slab at formation level, Dirt wall/ ballast wall at formation level	cum	28.11	28.00	3,294.92	4.22	92,257.76
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	1000mm diameter	metre	3990.00	3,990.00	8,244.28	4.22	32,894,677.20
6	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 required, complete as per technical specifications as directed by Engineer in charge. This will include the weight of plate only and no cognizance will be given for the fittings, i.e. rivets and welding etc.	MT	0.00	-	66,812.05		-

SL. No.	Ref. ECR SOR/2012 Item No.	Description of Item	Unit	Quantity		Rate (Rs.)	Cement Qty.(qtl.)	Total
				LC 72B + LC41,46,49, 50	Total			
7	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	1	1.00	94,429.95		94,429.95
(b)	192104	Extra for every increase of 50 T in pile capacity or part thereof over 250 T	Each	32	32.00	12,282.86		393,051.52
(c)	192107	Routine Load Test above 100 ton capacity upto 250 ton capacity pile	Each	3	3.00	76,386.05		229,158.15
8	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	Each	1	1.00	56,648.87		56,648.87
10	195030	Centring and shuttering including strutting, propping etc. and removal of form for :			-			-
(a)	195031	RCC Raft Foundation & Pile cap	Sqm	795.2	795.00	138.30		109,948.50
(b)	195032	Abutment, pier, wing walls and return walls	Sqm	1529.69	1,530.00	227.40		347,922.00
(c)	195033	Abutment cap, Pier Cap, Inspection Platform & Pedestal over Pier cap, Fender wall, Diaphragm wall etc.	Sqm	1656.70	1,657.00	230.28		381,573.96
(d)	195034	Approach slab at formation level, Dirt wall / ballast wall at formation level	Sqm	66.34	66.00	138.30		9,127.80
(e)	195038	In Bottom/ top slab, side walls, toe wall and sumps haunch filling head walls or any other component.	Sqm	5774.38	5,774.00	227.40		1,313,007.60
11	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	cum	930.32	930.00	3,199.36	4.30	2,975,404.80
(b)	201014	Extra for increase in span by every 1m or part thereof for spans above 18.3m & upto 30.5m	metre	58.98	59.00	36.93	4.30	2,178.87
(c)	201015	Deduct for casting of Slab instead of Girders (for any heights)	cum	-930.32	-930.00	147.72		-137,379.60
12	201020	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.	cum	830.79	831.00	2,977.78	4.30	2,474,535.18
13	42010	Centering and shuttering including strutting, propping etc. and removal of form for:			-			-
(a)	42011	Foundations, footings, bases of columns, raft foundation of washable aprons, Pile caps, Footings of FOB etc.	Sqm	23.04	23.00	138.30		3,180.90
(b)	42013	Suspended floor, roofs, landings, balconies, FOB slabs, walkway slabs and access platform	Sqm	6942.99	6,943.00	230.28		1,598,834.04
(c)	42014	Lintels, beams, plinth beam, bed blocks, girders, bressumers and cantilevers	Sqm	5197.35	5,197.00	201.54		1,047,403.38
(d)	42015	Columns, pillars, posts and struts	Sqm	144.00	144.00	282.30		40,651.20
(e)	42030	Extra for additional height in centering, shuttering wherever required with adequate bracing, propping etc. including cost of de- shuttering and de-centering at all levels, over a height of 3.5 m for every additional height of 1 meter part thereof in suspended floors, landing, beams and balconies (plan area to be measured)	Sqm	6942.99	6,943.00	90.40		627,647.20

SL. No.	Ref. ECR SOR/2012 Item No.	Description of Item	Unit	Quantity		Rate (Rs.)	Cement Qty.(qtl.)	Total
				LC 72B + LC41,46,49, 50	Total			
14	211010	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 45.7m span on sub-structure including provision of trolley refuges, if required complete as per approved drawing including one coat of Zinc chrome primer to 1S:104 & 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 & launching methodology will be prepared and got approved by the contractor from Railway). Rate includes fabrication of all the types of battens, bracings, ties, stiffeners, packing, diaphragms, shop rivets / welding, T&F bolts, drifts, shop welds, templates, jigs, fixtures, back up supports, accessories, transporting various components from fabrication shop to site, 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	MT	542.08	542.00	78,585.50		42,593,341.00
(b)	211013	Extra for metalising including preparation of surface and applying one coat etch primer to 1S:5666	Sqm	5570.00	5,570.00	16.27		90,623.90
(c)	211014	Extra for using steel conforming to Fe 490 of IS:8500 instead of Fe 410	MT	542.08	542.00	1,161.50		629,533.00
15	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.)	Cu.Cm	1263600	1,263,600.00	1.37		1,731,132.00
16	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			-			-
	201051	For 80mm expansion	metre	316.80	317.00	28,789.51		9,126,274.67
17	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	2	2.00	64,285.56		128,571.12
(b)	201062	Extra for every increase of 100 MT or part thereof in the span load capacity upto 800 MT	Each	2	2.00	63,125.55		126,251.10
18	201070	Providing, fabricating & fixing in position to exact design profiles, prestressing H.T.S. cables of all classification made from Low Relaxation strands conforming to IS:14268-1995 in Prestressed Concrete girders/slabs etc. including supplying, cutting, making into cables with necessary spacers, colour coding, protecting with water soluble oil at all time, anchoring of cables, supplying and placing spiral corrugated type galvanized metal steel ducts sheathing made up of Cold Rolled Cold Annealed (CRCA) mild steel conforming to IS:513 of required diameter/ thickness, vent pipe, placing, bending, routing, fixing, stressing & grouting of cable ducts with cement grout, Anchorage sets in required number with provision for future prestressing, if any including all lead and lift with contractor's own materials, labour, equipments etc. complete as per drawings & specifications. Rate also includes covering anchorage pads with epoxy mortar of approved quality to avoid corrosion. Cement for grouting to be paid separately.	MT	81	81.00	135,257.06		10,955,821.86

SL. No.	Ref. ECR SOR/2012 Item No.	Description of Item	Unit	Quantity		Rate (Rs.)	Cement Qty.(qtl.)	Total
				LC 72B + LC41,46,49, 50	Total			
19	211140	Supplying, fitting and fixing in position true to line and level POT-PTFE bearing consisting of a metal piston supported by a disc or un reinforced elastomer confined within a metal cylinder, sealing rings, dust seals, PTFE surface sliding against stainless steel mating surface, complete assembly to be of cast steel / fabricated structural steel, metal and elastomer elements complete as per IS:2062, IS:1030, AISI:304, AISI:316, IS:6911, BS:3784, IS:3400, IS:226, BS-5400, Bridge Code and as per drawing and approved Technical Specifications. The design of the bearings shall be submitted by the manufacturers/contractor and got approved from Railway before fixing. Test report of the bearings should be got approved before the materials are lifted from the manufacturer premises. Payment is based on 250 MT capacity of Bearing.			-			-
(a)	211141	POT-PTFE Bearing]	17452.8	17,453.00	412.94		7,207,041.82
20	222170	Providing and fixing of Drainage Spouts of 100mm UPVC complete as per drawing and Technical specification	metre	4912.31	4,912.00	359.48		1,765,765.76
21	13120	Earthwork in filling in embankment, guide bunds, around buried type abutments, bridge gaps, trolley refuges, rain bunds, if provided, platforms etc. with earth excavated from outside railway boundary entirely arranged by the contractor at his own cost as per RDSO's latest guidelines and specifications and special condition of contract including all leads, royalty, lifts, ascents, descents, crossing of nallahs or any other obstructions. The rates shall include all dressing of bank to final profile, demarcation and setting out of profile, site clearance, removing of shrubs, roots of vegetations growth, heavy grass, benching of existing slope of old bank, all handling/re-handling, taxes, octroi and royalty etc. as a complete job. Cut trees shall be property of railways and to be deposited in the railway godown unless specified otherwise in the Special Conditions of Contract. (Corrigendum-1) dated 19.12.12	cum	920.00	920.00	139.23		128,091.60
22	13130	Extra for mechanical compaction of earth/blanketing material filled in embankment with contractor's rollers of suitable capacity, type and size to achieve specified density as per specification, testing as per IS codes including cost of water, T&P, consumable material and all labour as a complete job. The work is to be executed as per Latest edition of "Guidelines for Earthwork in Railway Projects" issued by RDSO, Lucknow.	cum	920.00	920.00	14.80		13,616.00
23	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	cum	1266.19	1,266.00	1,925.10		2,437,176.60
(b)	231042	Base course with 63mm to 45mm size including stone screening 13.2mm size	cum	506.48	506.00	1,691.15		855,721.90
(c)	231043	Base course with 53mm to 22.4mm size including stone screening 11.2mm size	cum	506.48	506.00	1,955.22		989,341.32
24	231070	Providing and laying 4cm thick moorum surfacing (Consolidated Thickness) on platforms, pathways, etc including spreading watering and consolidation with 3T Roller or light power roller complete	Sq.M	800.00	800.00	21.88		17,504.00
25	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	Sqm	5064.75	5,065.00	22.20		112,443.00
(b)	233012	On bituminous surface @ 0.25kg/sqm	Sqm	11311.95	11,312.00	15.47		174,996.64
26	234010	2.5 cm thick bitumastic sheet with hot bitumen of approved quality using stone chippings (60% 12.5 mm nominal size and 40% 10 mm nominal size) @ 1.65 cum per 100 sqm and coarse sand at 1.65 cum per 100 sqm of road surface and with bitumen @ 56 kg/cum of stone chippings and @ 128 kg/cum, of sand over a tack coat with hot straight run bitumen including consolidation with road roller of 8 to 10 tonne etc. complete, (tack coat to be paid separately) :			-			-
	234011	With paving bitumen 80/100 heated and then mixed with solvent at the rate of 70 gram per kg of asphalt	Sqm	3332.70	3,333.00	195.41		651,301.53
27	237050	Supplying and laying precast Kerb Stone of concrete M-25 Grade 30cmx20cm (in section / including chamfering as per design if any) including fixing in 1:6 cement sand mortar and pointing with 1:2 cement mortar (1 cement :2 sand ordinary) including all excavation/refilling, ramming and other incidental works as required.	metre	1400	1,400.00	324.19		453,866.00

SL. No.	Ref. ECR SOR/2012 Item No.	Description of Item	Unit	Quantity		Rate (Rs.)	Cement Qty.(qtl.)	Total
				LC 72B + LC41,46,49, 50	Total			
28	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	Sqm	5064.75	5,065.00	356.81		1,807,242.65
29	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	cum	452.48	452.00	9,261.19		4,186,057.88
30	238040	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 & fixing M.S. message plate of required size steel work to be painted with two or more coats of synthetic enamel paint of required shade and of approved brand & manufacture over priming coat of zinc chromate yellow primer (vertical MS- Tee support to be painted in black and white colours). Backside of aluminium sheet to be painted with two or more coats of epoxy paint over and including appropriate priming coat including all leads and lifts etc. complete as per drawing, specification and direction of Engineer-in- charge. (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	Each	80	80.00	3,766.42		301,313.60
31	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	Sq.M	1500	1,500.00	3,769.00		5,653,500.00
32	238060	Providing and fixing of raised pavement markers made of polycarbonate moulded body and reflective panels with micro prismatic lens made of polycarbonate with abrasion resistant coating. The length, weight and width of body shall not exceed 95mm, 18mm and 105mm respectively. The lower surface of the RPM shall be supported with two nylon shanks, each of length not less than 25mm. Fixed to the road by using twin nylon shanks using bituminous adhesive on bitumen roads or thout nylon shanks with epoxy resin adhesive on concrete roads as per tions of Engineer Incharge. The RPM should conform to the quality standards as laid down in IR Standard Specifications	Each	80	80.00	767.05		61,364.00
33	241010	Supplying at site			-			-
	241018	MS angle posts/struts of required size including bottom to be split and bent at right angle in opposite direction for 10cm length and drilling holes upto 10mm dia. etc. complete	Kg	1732.11	1,732.00	64.34		111,436.88
34	242060	Providing 1.8m high fencing with 2.4m angle iron 50mmx50mmx6mm posts placed every 3m centre to centre embedded in cement concrete blocks every 15th posts (or nearer if there is abrupt change of ground slope) last but one end post and corner post shall be strutted on both sides and end posts on one side only, and struts embedded in cement concrete blocks and provided with 7 horizontal lines and two diagonals interwoven with horizontal GI barbed wires of barbed wire 9.38 kg/100m (min) between the two posts fitted and fixed with G.I. staples, turn buckles etc. complete (cost of posts, struts and concrete to be paid for separately)	Mtr	400	400.00	61.81		24,724.00

SL. No.	Ref. ECR SOR/2012 Item No.	Description of Item	Unit	Quantity		Rate (Rs.)	Cement Qty.(qtl.)	Total
				LC 72B + LC41,46,49, 50	Total			
35	45010	Supplying reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete -			-			-
	45016	Thermo-Mechanically Treated bars	Kg	1213615	1,213,615.00	64.46		78,229,622.90
36	33060	Supply and using cement at worksite :			-			-
	33061	OPC 43 Grade	Tonne	4879.2337	4,879.00	6,631.36		32,354,405.44
37	14110	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.	Meter	1100.00	1,100.00	256.95		282,645.00
38	41010	Providing and laying in position M-20 Grade concrete for reinforced concrete structural elements, but excluding cost of centering, shuttering, reinforcement and Admixtures in recommended proportion (as per IS:9103) to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer in charge			-			-
(a)	41011	All work upto plinth level including raft foundation of washable aprons, HS tank, pile cap, footings of FOB and Platform shelter etc.	cum	14.32	14.00	3,341.60	3.44	46,782.40
(b)	41012	All works in buildings above plinth level upto floor two level	cum	58.59	59.00	3,619.33	3.44	213,540.47
39	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	Kg	46008	46,008.00	87.45		4,023,399.60
(b)	81421	M.S. tube (medium) 40mm nominal bore	Kg	565.488	565.00	106.20		60,003.00
40	11010	Earth work in excavation as per approved drawings and dumping at embankment site or spoil heap, within railway land, including 50m lead and 1.5m lift, the lead to be measured from the centre of gravity of excavation to centre of gravity of spoil heap; the lift to be measured from natural ground level and paid for in layers of 1.5m each including incidental work, as per specifications			-			-
(a)	11011	All kinds of soils	cum	42.43	42.00	93.54		3,928.68
41	31010	Providing and laying in position cement concrete of specified proportion excluding cost of cement, centering and shuttering - All works upto plinth level :			-			-
(a)	31011	1:3:6 (1 cement : 3 sand : 6 graded stone aggregate 20mm nominal size)	cum	2.65	3.00	2,813.60	2.20	8,440.80
42	98020	Supplying and laying interlocking pre-cast CC block pavers of approved design factory manufactured of specified grade cement concrete on passenger platform, foot paths, circulating area etc. including setting in position over 25mm thick bedding layer of fine sand, filling the joints with fine sand, leveling including compaction as per IS:15658			-			-
(a)	98022	80mm thick blocks of M-35 grade for medium traffic	Sqm	2000	2,000.00	726.57		1,453,140.00
43	96060	Kota stone slab flooring of size up to 30cmx30cm over 20mm (average) thick base of 1:4 cement mortar (1 cement: 4 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slab including rubbing and polishing complete			-			-
(a)	96061	20mm thick	Sqm	132.30	132.00	1,082.51		142,891.32
44	NS-1	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, Pedestals and Seismic Stopper on pier caps 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 & 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 & as directed by engineer.	Cum	1501.4064	1,501.00	4,300.00	4.30	6,454,300.00
45	NS-2	Reinforced Earth Structures			-			-

SL. No.	Ref. ECR SOR/2012 Item No.	Description of Item	Unit	Quantity		Rate (Rs.)	Cement Qty.(qtl.)	Total
				LC 72B + LC41,46,49, 50	Total			
	Notes:	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 for reinforced soil wall system, excavation, providing its "levelling pad" using M-20 grade concrete , TMT reinforcing steel fascia panels with form 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, geotextile 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 for 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. (The item is inclusive of cost of form work, steel and cement)			-			-
		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 fascia panels is also included in the rates of this item	Sq.M	4869.95	4,870.00	5,954.00		28,995,980.00
		NOTES			-			-
	(A)	The scope of work in the above item includes:			-			-
	a)	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.			-			-
	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 embankement 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 fascia 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.			-			-
46	NS-3	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.			-			-
	A)	With fine Sand	Cum	13751.77	13,752.00	2,130.00		29,291,760.00
	Notes:	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.			-			-

SL. No.	Ref. ECR SOR/2012 Item No.	Description of Item	Unit	Quantity		Rate (Rs.)	Cement Qty.(qtl.)	Total
				LC 72B + LC41,46,49, 50	Total			
		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, alkalis, mineral oil, fungus and microbes and shall be of specified PH value.			-			-
47	NS-4	Providing and fixing hand rail over the crash barrier consisting of 16 mm MS base plate, embedded with 16 mm dia welded lugs,16 mm MS vertical plates etc. as per specifications and drawing enclosed with the tender document. All the railing components as mentioned above shall be painted with approved colour shade as per direction of Engineer-in-Charge including all primers and paints as per specifications. The thickness of plates are shown in the drawing. Pipe to be 65mm diameter (NB) (class B) G I pipe with a weight not less than 6.5 kg/m and conforming to IS: 1161-1979. Item to include all incidental works required to complete the work as per drawings and as directed by the Engineer-in-Charge. Measurement shall be made for all the material in term of length of Pipe.	Mtr.	2679.88	2,680.00	1,608.00		4,309,440.00
48	NS-5	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. per test 120	per test	132.00	132.00	811.00	-	107,052.00
49	NS-6	Erection of Prestressed Girder on bearings 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.	Cum	830.79	831.00	2,006.00		1,666,986.00
50	NS-7	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.	Sq. m	3565.856	3,566.00	78.00		278,148.00
51	NS-8	Supply of Admixture for use in production of cement concrete as per design mix and in required proportion.	Litre	6163.89	6,164.00	62.00		382,168.00
52	NS-9	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 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 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 & plants material (excluding cost of cement reinforcement and suturing) Fuel consumables machinery, loading unloading, lead and lift complete in all respect as a complete jobs per speculations & as directed by engineer.	Cum	1326.95	1,327.00	9,618.00		12,763,086.00
		Notes-			-			-
		(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 girder to avoid falling of anything over the track during concreting of the slab. The rate includes design and provision of all temporary works and to ensure safety of running traffic at all times.			-			-

SL. No.	Ref. ECR SOR/2012 Item No.	Description of Item	Unit	Quantity		Rate (Rs.)	Cement Qty.(qtl.)	Total
				LC 72B + LC41,46,49, 50	Total			
52	NS-10	Supply, fabrication and erection of Welded type BOW STRING girders of required span BOW STRING girder of span more than 45.7 m as per RDSO standard drg / approved drawings, East Central Railway Unified Standard Specifications – 2012(amended up to date) and Indian Railways Standard specification for fabrication and erection of steel girder bridges and locomotive turntables (Fabrication Specification) 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, STUD SHEAR CONNECTOR 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 members with all contractor's labour, fuel, consumables, machinery, loading, unloading, tools & plants, material, lead and lift complete job as per specifications and as dwith all materials,	MT	1877.3	1,877.00	136,730.00		256,642,210.00
		Notes				-		-
		(i) Steel (Plates and Rolled section) should conform to IS: 2062-2011. It shall have Sub quality 'BO' & Grade E250 (Fe 410) for rolled sections and E350 (Fe 490) for plates shall be fully killed and fully 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)40% of rate payment shall be made after steel material required for fabrication (as per drawing) is received at site.				-		-
		(iv)15% of rate payment shall be made on acceptance of fabricated components at site.				-		-
		(v) 20% of rate payment shall be made after erection& launching.				-		-
		(vi) (a) 10% of rate payment shall be made after metalizing/Painting (b) 15% of rate payment shall be made after final approval of DFCCIL and successful completion of all works (ROB wise) included in this item including metalizing and finishing complete.				-		-
		(vii) No deduction for holes and no addition for rivets /bolts/welds etc shall be made.				-		-
		(viii) The contractor shall submit the detailed erection drawing and launching scheme along with necessary design calculation for approval to DFCCIL before erection and launching of girder.				-		-
		(ix) 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.				-		-
		(x) The contractor shall take all safety precautions with Engineer as per extant rules/ guidelines Nothing extra shall be payable on this account				-		-
		(xi) Not with standing above, the contractor shall be fully responsible for any mishap that may occur as a result of negligent working,Contractor has to take every precautionary measure for safety of running train during and after launching of girder.				-		-
		(xii) The rate includes launching under traffic blocks wherever required. However, the rate does not include the cost of possession of traffic/ OHE block.				-		-
		(xiii) The Block required shall be arranged by DFCCIL at the request of contractor. 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				-		-
		(xiv) 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/ OHE block, shall be payable by the contractor				-		-
		(xv) The cost of all tests as per prevailing code for acceptance shall be borne by contractor				-		-
		(xvi) The Rate also include fixing of 25 mm dia 200 long stud shear connectors as per Specification and drawing,				-		-
Total Cost							Total	602,547,321.21

FOB Items

15,391,002.91
617,938,324.12

Escalation till March 2020

S. No	Item	Basic Cost	DFCC updated % rate	% above base Rate as per LAR	Reference of LAR	Escalation as per PVC formula*	Avg Escalated Amount (Rs)		
								Avg Escalation in %age on USSOR rates	Amount (Rs)
5	Execution of all works as per Schedule "B-I " (Items as per SOR 2012 of EC Rly Chapter -1 only)	511,421.80	24.11	20.97	MGS/EN/16/2018-19/LC-35-37-48/Bihar/280 dtd 31.10.2018 (Jhajharia-Galvano (JV))	50.14	50.57	32.62	678,247.59
			22.30	10.00	MGS/EN/13/2018-19/LC-47 & 53/Bihar/277 dtd 26.11.2018 (Woodhill-HMM (JV))	34.53	34.96		
			25.23	11.20	MGS/EN/19/2018-19/LC-64-66-67/Bihar/283 dtd 16.11.2018 (MGCPL)	39.26	39.74		
			21.26	36.97	MGS/EN/10/2018-19/LC-52II & 55/Bihar /275 dated 05.10.2018	66.09	66.66		
			20.74	36.97	MGS/EN/15/2018-19/LC-61-62-63/Bihar/279 dtd 31.10.2018 (Jhajharia-Galvano (JV))	65.38	65.94		
			33.96	-2.96	MGS/EN/21/2019/8 Lane Rob/Bihar/294 dtd 30.05.2019 (Jhajharia-Galvano-Maxwell(JV))	29.99	30.27		
6	Execution of all works as per Schedule "B-II " (Items as per SOR 2012 of EC Rly Chapters - 3,4,9 & 11 only)	9,834,331.83	21.98	5.97	MGS/EN/16/2018-19/LC-35-37-48/Bihar/280 dtd 31.10.2018 (Jhajharia-Galvano (JV))	29.26	29.51	32.95	13,074,744.17
			20.21	74.00	MGS/EN/13/2018-19/LC-47 & 53/Bihar/277 dtd 26.11.2018 (Woodhill-HMM (JV))	109.17	110.52		
			23.19	20.00	MGS/EN/19/2018-19/LC-64-66-67/Bihar/283 dtd 16.11.2018 (MGCPL)	47.83	48.42		
			19.19	12.97	MGS/EN/10/2018-19/LC-52II & 55/Bihar /275 dated 05.10.2018	34.65	34.95		
			18.68	12.97	MGS/EN/15/2018-19/LC-61-62-63/Bihar/279 dtd 31.10.2018 (Jhajharia-Galvano (JV))	34.07	34.37		
			31.02	5.00	MGS/EN/21/2019/8 Lane Rob/Bihar/294 dtd 30.05.2019 (Jhajharia-Galvano-Maxwell(JV))	37.57	37.91		
7	Execution of all works as per Schedule "B-VI " (Items as per SOR 2012 of EC Rly Chapters - 19,20 & 22 only)	73,019,425.14	32.72	-12.97	MGS/EN/16/2018-19/LC-35-37-48/Bihar/280 dtd 31.10.2018 (Jhajharia-Galvano (JV))	15.51	15.64	34.48	98,196,522.93
			30.79	22.00	MGS/EN/13/2018-19/LC-47 & 53/Bihar/277 dtd 26.11.2018 (Woodhill-HMM (JV))	59.56	60.30		
			34.05	0.00	MGS/EN/19/2018-19/LC-64-66-67/Bihar/283 dtd 16.11.2018 (MGCPL)	34.05	34.47		
			29.67	12.97	MGS/EN/10/2018-19/LC-52II & 55/Bihar /275 dated 05.10.2018	46.49	46.89		
			29.12	12.97	MGS/EN/15/2018-19/LC-61-62-63/Bihar/279 dtd 31.10.2018 (Jhajharia-Galvano (JV))	45.87	46.26		
			33.48	-5.00	MGS/EN/21/2019/8 Lane Rob/Bihar/294 dtd 30.05.2019 (Jhajharia-Galvano-Maxwell(JV))	26.81	27.05		
8	Execution of all works as per Schedule "B-VII " (Items as per SOR 2012 of EC Rly Chapters - 21 only)	50,520,539.72	49.91	10.97	MGS/EN/16/2018-19/LC-35-37-48/Bihar/280 dtd 31.10.2018 (Jhajharia-Galvano (JV))	66.36	66.93	56.65	79,140,425.47
			47.73	5.00	MGS/EN/13/2018-19/LC-47 & 53/Bihar/277 dtd 26.11.2018 (Woodhill-HMM (JV))	55.12	55.80		
			45.44	7.40	MGS/EN/19/2018-19/LC-64-66-67/Bihar/283 dtd 16.11.2018 (MGCPL)	56.20	56.90		

S. No	Item	Basic Cost	DFCC updated % rate	% above base Rate as per LAR	Reference of LAR	Escalation as per PVC formula*	Avg Escalated Amount (Rs)		
								Avg Escalation in %age on USSOR rates	Amount (Rs)
			46.48	25.97	MGS/EN/10/2018-19/LC-52II & 55/Bihar /275 dated 05.10.2018	84.52	85.25		
			45.85	25.97	MGS/EN/15/2018-19/LC-61-62-63/Bihar/279 dtd 31.10.2018 (Jhajharia-Galvano (JV))	83.73	84.45		
			54.20	1.80	MGS/EN/21/2019/8 Lane Rob/Bihar/294 dtd 30.05.2019 (Jhajharia-Galvano-Maxwell(JV))	56.98	57.50		
9	Execution of all works as per Schedule "B-VIII " (Items as per SOR 2012 of EC Rly Chapters - 23 & 24 only)	17,837,990.00	25.84	4.97	MGS/EN/16/2018-19/LC-35-37-48/Bihar/280 dtd 31.10.2018 (Jhajharia-Galvano (JV))	32.09	32.37	40.20	25,008,861.98
			24.01	14.00	MGS/EN/13/2018-19/LC-47 & 53/Bihar/277 dtd 26.11.2018 (Woodhill-HMM (JV))	41.37	41.88		
			25.47	14.00	MGS/EN/19/2018-19/LC-64-66-67/Bihar/283 dtd 16.11.2018 (MGCPL)	43.04	43.57		
			22.96	15.97	MGS/EN/10/2018-19/LC-52II & 55/Bihar /275 dated 05.10.2018	42.60	42.96		
			22.43	16.97	MGS/EN/15/2018-19/LC-61-62-63/Bihar/279 dtd 31.10.2018 (Jhajharia-Galvano (JV))	43.21	43.58		
			36.89	11.00	MGS/EN/21/2019/8 Lane Rob/Bihar/294 dtd 30.05.2019 (Jhajharia-Galvano-Maxwell(JV))	51.95	52.42		
10.00	Execution of all works as per Schedule "B-X " (Items as per SOR 2012 of EC Rly Chapters - 8,10& 17 only)	12,990,113.61	13.14	4.97	MGS/EN/16/2018-19/LC-35-37-48/Bihar/280 dtd 31.10.2018 (Jhajharia-Galvano (JV))	18.76	18.92	20.65	15,672,572.07
			10.16	13.00	MGS/EN/13/2018-19/LC-47 & 53/Bihar/277 dtd 26.11.2018 (Woodhill-HMM (JV))	24.48	24.78		
			17.99	0.00	MGS/EN/19/2018-19/LC-64-66-67/Bihar/283 dtd 16.11.2018 (MGCPL)	17.99	18.21		
			9.50	25.97	MGS/EN/10/2018-19/LC-52II & 55/Bihar /275 dated 05.10.2018	37.94	38.26		
			9.17	25.97	MGS/EN/15/2018-19/LC-61-62-63/Bihar/279 dtd 31.10.2018 (Jhajharia-Galvano (JV))	37.52	37.84		
			20.05	5.00	MGS/EN/21/2019/8 Lane Rob/Bihar/294 dtd 30.05.2019 (Jhajharia-Galvano-Maxwell(JV))	26.05	26.29		
11	Execution of all works as per Schedule "B-XII "	1,000,000.00	21.24	4.97	MGS/EN/16/2018-19/LC-35-37-48/Bihar/280 dtd 31.10.2018 (Jhajharia-Galvano (JV))	27.27	27.50	25.24	1,252,400.00
			19.49	90.00	MGS/EN/13/2018-19/LC-47 & 53/Bihar/277 dtd 26.11.2018 (Woodhill-HMM (JV))	127.03	128.60		
			22.68	0.00	MGS/EN/19/2018-19/LC-64-66-67/Bihar/283 dtd 16.11.2018 (MGCPL)	22.68	22.96		
			18.48	19.97	MGS/EN/10/2018-19/LC-52II & 55/Bihar /275 dated 05.10.2018	42.14	42.50		
			17.98	19.97	MGS/EN/15/2018-19/LC-61-62-63/Bihar/279 dtd 31.10.2018 (Jhajharia-Galvano (JV))	41.54	41.90		
			24.51	7.00	MGS/EN/21/2019/8 Lane Rob/Bihar/294 dtd 30.05.2019 (Jhajharia-Galvano-Maxwell(JV))	33.23	33.53		
12	Sch-C-I (Cement) OPC Grade 43	33103749.12	10.84	4.97	MGS/EN/16/2018-19/LC-35-37-48/Bihar/280 dtd 31.10.2018 (Jhajharia-Galvano (JV))	16.35	17.27	23.33	40,826,853.79

SCHEDULE A - NON SCHEDULED ITEMS
UP DATED RATES OF NON SCHEDULED ITEMS TILL March 2020

S. No	Item	Unit	Qty	LARs			Reference of LAR	Escalated Rate as per PVC formula*	Average Escalated Amount rate	Avg Escalated Rate (Rs)
				% above base Rate of LAR	Base Rate	Accepted Rate = Base Rate+% above				
1	Schedule-A-I (NS Item-1) RCC in Deck Slab	cum	1,327.00	7.97	8850.00	9,555.35	MGS/EN/16/2018-19/LC-35-37-48/Bihar/280 dtd 31.10.2018 (Jhaharia-Galvano (JV))	9637.44	9618.00	12,763,086.00
				30.00	8257.14	10,734.28	MGS/EN/13/2018-19/LC-47 & 53/Bihar/277 dtd 26.11.2018 (Woodhill-HMM (JV))	10867.18		
				7.40	8850.00	9,504.90	MGS/EN/19/2018-19/LC-64-66-67/Bihar/283 dtd 16.11.2018 (MGCPCL)	9622.58		
				11.97	8775.68	9,826.13	MGS/EN/10/2018-19/LC-52II & 55/Bihar /275 dated 05.10.2018	9910.55		
				11.70	8257.14	9,223.23	MGS/EN/15/2018-19/LC-61-62-63/Bihar/279 dtd 31.10.2018 (Jhaharia-Galvano (JV))	9302.46		
				-14.00	9618.00	8,271.48	MGS/EN/21/2019/8 Lane Rob/Bihar/294 dtd 30.05.2019 (Jhaharia-Galvano-Maxwell(JV))	8346.99		
2	Schedule A-I (NS-Item-2) RE wall	Sqm	4,870.00	7.97	5373.26	5,801.51	MGS/EN/16/2018-19/LC-35-37-48/Bihar/280 dtd 31.10.2018 (Jhaharia-Galvano (JV))	5851.35	5954.00	28,995,980.00
				30.00	5373.26	6,985.24	MGS/EN/13/2018-19/LC-47 & 53/Bihar/277 dtd 26.11.2018 (Woodhill-HMM (JV))	7071.72		
				7.40	5373.26	5,770.88	MGS/EN/19/2018-19/LC-64-66-67/Bihar/283 dtd 16.11.2018 (MGCPCL)	5842.33		
				11.97	5373.26	6,016.44	MGS/EN/10/2018-19/LC-52II & 55/Bihar /275 dated 05.10.2018	6068.13		
				11.70	5373.26	6,001.93	MGS/EN/15/2018-19/LC-61-62-63/Bihar/279 dtd 31.10.2018 (Jhaharia-Galvano (JV))	6053.50		
				-14.00	5954.00	5,120.44	MGS/EN/21/2019/8 Lane Rob/Bihar/294 dtd 30.05.2019 (Jhaharia-Galvano-Maxwell(JV))	5167.18		
3	Schedule A-I (NS-Item-3) RE wall sand filling	cum	13752	7.97	1922.00	2,075.18	MGS/EN/16/2018-19/LC-35-37-48/Bihar/280 dtd 31.10.2018 (Jhaharia-Galvano (JV))	2093.01	2130.00	29,291,760.00
				30.00	1922.00	2,498.60	MGS/EN/13/2018-19/LC-47 & 53/Bihar/277 dtd 26.11.2018 (Woodhill-HMM (JV))	2529.53		
				7.40	1922.00	2,064.23	MGS/EN/19/2018-19/LC-64-66-67/Bihar/283 dtd 16.11.2018 (MGCPCL)	2089.78		
				11.97	1922.00	2,152.06	MGS/EN/10/2018-19/LC-52II & 55/Bihar /275 dated 05.10.2018	2170.55		
				11.70	1922.00	2,146.87	MGS/EN/15/2018-19/LC-61-62-63/Bihar/279 dtd 31.10.2018 (Jhaharia-Galvano (JV))	2165.32		
				-14.00	2130.00	1,831.80	MGS/EN/21/2019/8 Lane Rob/Bihar/294 dtd 30.05.2019 (Jhaharia-Galvano-Maxwell(JV))	1848.52		
4	Schedule A-I (NS-Item-4) RCC in Crash Barrier and friction	cum	1501	7.97	3845.00	4,151.45	MGS/EN/16/2018-19/LC-35-37-48/Bihar/280 dtd 31.10.2018 (Jhaharia-Galvano (JV))	4187.11	4300.00	6,454,300.00
				30.00	3845.00	4,998.50	MGS/EN/13/2018-19/LC-47 & 53/Bihar/277 dtd 26.11.2018 (Woodhill-HMM (JV))	5060.38		
				7.40	3991.00	4,286.33	MGS/EN/19/2018-19/LC-64-66-67/Bihar/283 dtd 16.11.2018 (MGCPCL)	4339.40		
				11.97	3845.00	4,305.25	MGS/EN/10/2018-19/LC-52II & 55/Bihar /275 dated 05.10.2018	4342.23		
				11.70	3845.00	4,294.87	MGS/EN/15/2018-19/LC-61-62-63/Bihar/279 dtd 31.10.2018 (Jhaharia-Galvano (JV))	4331.76		
				-14.00	4244.22	3,650.03	MGS/EN/21/2019/8 Lane Rob/Bihar/294 dtd 30.05.2019 (Jhaharia-Galvano-Maxwell(JV))	3683.35		
5	Schedule A-I (NS-Item-5) Two coat painting	Sqm	3566	7.97	70.00	75.58	MGS/EN/16/2018-19/LC-35-37-48/Bihar/280 dtd 31.10.2018 (Jhaharia-Galvano (JV))	76.23	78.00	278,148.00
				30.00	70.00	91.00	MGS/EN/13/2018-19/LC-47 & 53/Bihar/277 dtd 26.11.2018 (Woodhill-HMM (JV))	92.13		
				7.40	70.00	75.18	MGS/EN/19/2018-19/LC-64-66-67/Bihar/283 dtd 16.11.2018 (MGCPCL)	76.11		

S. No	Item	Unit	Qty	LARs			Reference of LAR	Escalated Rate as per PVC formula*	Average Escalated Amount rate	Avg Escalated Rate (Rs)
				% above base Rate of LAR	Base Rate	Accepted Rate = Base Rate+% above				
				11.97	70.00	78.38	MGS/EN/10/2018-19/LC-52II & 55/Bihar /275 dated 05.10.2018	79.05		
				11.70	70.00	78.19	MGS/EN/15/2018-19/LC-61-62-63/Bihar/279 dtd 31.10.2018 (Jhaharia-Galvano (JV))	78.86		
				-14.00	78.00	67.08	MGS/EN/21/2019/8 Lane Rob/Bihar/294 dtd 30.05.2019 (Jhaharia-Galvano-Maxwell(JV))	67.69		
6	Schedule A-I (NS-Item-6) Admixtures	ltr	6,164.00	7.97	55.66	60.10	MGS/EN/16/2018-19/LC-35-37-48/Bihar/280 dtd 31.10.2018 (Jhaharia-Galvano (JV))	60.61	62.00	382,168.00
				30.00	55.66	72.36	MGS/EN/13/2018-19/LC-47 & 53/Bihar/277 dtd 26.11.2018 (Woodhill-HMM (JV))	73.25		
				7.40	55.66	59.78	MGS/EN/19/2018-19/LC-64-66-67/Bihar/283 dtd 16.11.2018 (MGCPCL)	60.52		
				11.97	55.66	62.32	MGS/EN/10/2018-19/LC-52II & 55/Bihar /275 dated 05.10.2018	62.86		
				11.70	55.56	62.06	MGS/EN/15/2018-19/LC-61-62-63/Bihar/279 dtd 31.10.2018 (Jhaharia-Galvano (JV))	62.59		
				-14.00	62.00	53.32	MGS/EN/21/2019/8 Lane Rob/Bihar/294 dtd 30.05.2019 (Jhaharia-Galvano-Maxwell(JV))	53.81		
Total										78,165,442.00
Schedule A-II										
1	Schedule-A-II (NS Item-1) Supply, fabrication & erection of steel girder UNDER traffic block	MT	1877		136,692.19	136,692.19	MGS/EN/16/2018-19/LC-35-37-48/Bihar/280 dtd 31.10.2018 (Jhaharia-Galvano (JV))	137866.55	136730.00	256,642,210.00
					134,952.66	134,952.66	MGS/EN/13/2018-19/LC-47 & 53/Bihar/277 dtd 26.11.2018 (Woodhill-HMM (JV))	136623.47		
					134,573.29	134,573.29	MGS/EN/19/2018-19/LC-64-66-67/Bihar/283 dtd 16.11.2018 (MGCPCL)	136239.40		
					135,535.59	135,535.59	MGS/EN/10/2018-19/LC-52II & 55/Bihar /275 dated 05.10.2018	136700.01		
					134,952.66	134,952.66	MGS/EN/15/2018-19/LC-61-62-63/Bihar/279 dtd 31.10.2018 (Jhaharia-Galvano (JV))	136112.08		
					144,370.15	144,370.15	MGS/EN/21/2019/8 Lane Rob/Bihar/294 dtd 30.05.2019 (Jhaharia-Galvano-Maxwell(JV))	145688.10		
2	Schedule-A-II (NS Item-2) Providing and fixing hand rail	MT	2,680.00		1,593.09	1,593.09	MGS/EN/16/2018-19/LC-35-37-48/Bihar/280 dtd 31.10.2018 (Jhaharia-Galvano (JV))	1606.78	1608.00	4,309,440.00
					1,593.09	1,593.09	MGS/EN/13/2018-19/LC-47 & 53/Bihar/277 dtd 26.11.2018 (Woodhill-HMM (JV))	1612.81		
					1,593.09	1,593.09	MGS/EN/19/2018-19/LC-64-66-67/Bihar/283 dtd 16.11.2018 (MGCPCL)	1612.81		
					1,593.09	1,593.09	MGS/EN/10/2018-19/LC-52II & 55/Bihar /275 dated 05.10.2018	1606.78		
					1,593.09	1,593.09	MGS/EN/15/2018-19/LC-61-62-63/Bihar/279 dtd 31.10.2018 (Jhaharia-Galvano (JV))	1606.78		
					1,690.48	1,690.48	MGS/EN/21/2019/8 Lane Rob/Bihar/294 dtd 30.05.2019 (Jhaharia-Galvano-Maxwell(JV))	1705.91		
3	Schedule-A-II (NS Item-2) Integrity testing of Pile using Low Strain	KG	132.00	4	780.20	811.41	MTC/EN/KRJ-DER-LXING/EDFC/5 ROB/LOA dated 24.10.2019	811.41	811.00	107,052.00
Total										261,058,702.00
Schedule A-III										
1	Schedule-A-III (NS Item-1)	cum	831.00		1,979.00	1,979.00	MGS/EN/16/2018-19/LC-35-37-48/Bihar/280 dtd 31.10.2018 (Jhaharia-Galvano (JV))	1996.00	2006.00	1,666,986.00

S. No	Item	Unit	Qty	LARs			Reference of LAR	Escalated Rate as per PVC formula*	Average Escalated Amount rate	Avg Escalated Rate (Rs)
				% above base Rate of LAR	Base Rate	Accepted Rate = Base Rate+% above				
	Erection of Prestressed Girder on bearing				1,976.00	1,976.00	MGS/EN/13/2018-19/LC-47 & 53/Bihar/277 dtd 26.11.2018 (Woodhill-HMM (JV))	2000.46		
					2,020.00	2,020.00	MGS/EN/19/2018-19/LC-64-66-67/Bihar/283 dtd 16.11.2018 (MGCP)	2045.01		
					1,979.00	1,979.00	MGS/EN/10/2018-19/LC-52II & 55/Bihar /275 dated 05.10.2018	1996.00		
					1,976.00	1,976.00	MGS/EN/15/2018-19/LC-61-62-63/Bihar/279 dtd 31.10.2018 (Jhaharia-Galvano (JV))	1992.98		
					-	-	MGS/EN/21/2019/8 Lane Rob/Bihar/294 dtd 30.05.2019 (Jhaharia-Galvano-Maxwell(JV))			
				Total						1,666,986.00

IMPACT OF PRICE ESCALATION ON LARs AS PER PRICE VARIATION CLAUSE FORMULA

LAR-1

Zonal Railway :- DFCCIL, Mughalsarai

Name of Work :- Construction of Two-Lane Road Over Bridge (ROB) in lieu of 03 (three) level crossing No.35/C/E at IR Ch 556/25-27 between Dehri-on-Sone - Pahleza, No.37/C/E at IR Ch 562/11-13 between Pahleza-Karwandia and No.48/C/T at IR Ch 585/1-3 between Kumhau-Shivsagar including Obligatory Span, Composite Girder Span, Viaduct Spans, Approach Roads and service roads etc. complete in all respect in Mughalsarai division of East Central Railway

Acceptance letter No :- MGS/EN/16/2018-19/LC-35-37-48/Bihar/280 dtd 31.10.2018

INDEX NUMBERS	Oct' 18	March' 20	% INCREASE
MS Bright bar Index price Steel	110.40	102.90	-6.79
WPI - All commodities	122.00	121.10	-0.74
CPI Number for industrial workers*	302.00	328.00	8.61
WPI - Cement and Lime	113.00	119.40	5.66
WPI - Fuel & Power	111.30	100.70	-9.52

INFLATION / DEFLATION

COMPONENT	WEIGHTAGE	INFLATION FACTOR	NET
1. Labour	30.00	8.61	32.58
2. Material	40.00	-0.74	39.70
3. Fuel	15.00	-9.52	13.57
4. Fixed	15.00	0.00	15.00
% Change for overall item			0.86
% Change for Cement			5.66
% Change for Steel			-6.79

LAR-2

Zonal Railway :- DFCCIL, Mughalsarai

Name of Work :- Construction of Two-Lane Road Over Bridge (ROB) in lieu of 02 (two) level crossing No.47 at IR CH 583/5-7 between Kumhau-Shivsagar and No.53 at IR Ch 601/7-9 between Kudra-Pusauli including Obligatory Span, Composite Girder Span, Viaduct Spans, Approach Roads and service roads etc. complete in all respect in Mughalsarai division of East Central Railway

Acceptance letter No :- MGS/EN/13/2018-19/LC-47 & 53/Bihar/277 dtd 26.11.2018

INDEX NUMBERS	Nov'18	March' 20	% INCREASE
MS Bright bar Index price Steel	110.70	102.90	-7.05
WPI - All commodities	121.60	121.10	-0.41
CPI Number for industrial workers	302.00	328.00	8.61
WPI - Cement and Lime	112.70	119.40	5.94
WPI - Fuel & Power	109.30	100.70	-7.87

INFLATION / DEFLATION

COMPONENT	WEIGHTAGE	INFLATION FACTOR	NET
1. Labour	30.00	8.61	32.58
2. Material	40.00	-0.41	39.84
3. Fuel	15.00	-7.87	13.82
4. Fixed	15.00	0.00	15.00
% Change for overall item			1.24
% Change for Cement			5.94
% Change for Steel			-7.05

LAR-3

Zonal Railway :- DFCCIL, Mughalsarai

Name of Work :- Construction of Two-Lane Road Over Bridge (ROB) in lieu of 02 (two) level crossings No. 52-II at IR Chainage 600/5-7 between Kudra-Pusauli and No. 55 at IR Chainage 605/25-27 between Kudra-Pusauli including Obligatory Spans, Viaduct Spans, approaches roads etc. complete in all respect in Mughalsarai division of East Central Railway

Acceptance letter No :- MGS/EN/10/2018-19/LC/52-II & 55/Bihar/275 dated 05.10.2018

INDEX NUMBERS	Oct' 18	March' 20	% INCREASE
MS Bright bar Index price Steel	110.40	102.90	-6.79
WPI - All commodities	122.00	121.10	-0.74
CPI Number for industrial workers*	302.00	328.00	8.61
WPI - Cement and Lime	113.00	119.40	5.66
WPI - Fuel & Power	111.30	100.70	-9.52

INFLATION / DEFLATION

COMPONENT	WEIGHTAGE	INFLATION FACTOR	NET
1. Labour	30.00	8.61	32.58
2. Material	40.00	-0.74	39.70
3. Fuel	15.00	-9.52	13.57
4. Fixed	15.00	0.00	15.00
% Change for overall item			0.86
% Change for Cement			5.66
% Change for Steel			-6.79

LAR-4

Zonal Railway :- DFCCIL, Mughalsarai

Name of Work :- Construction of Two-Lane Road Over Bridge (ROB) in lieu of 03 (three) level crossing No.64/C/E at IR CH 630/9-11 between Durgauti-Dhanichcha, No.66/C/E at IR Ch 637/5-7 between Dhanichcha-Karmnasha and No.67/C/E at IR Ch 638/7-9 between Dhanichcha-Karmnasha including Obligatory Span, Composite Girder Span, Viaduct Spans, Approach Roads and service roads etc. complete in all respect in Mughalsarai division of East Central Railway

Acceptance letter No :- MGS/EN/19/2018-19/LC-64-66-67/Bihar/283 dtd 16.11.2018

INDEX NUMBERS	Nov'18	March' 20	% INCREASE
MS Bright bar Index price Steel	110.70	102.90	-7.05
WPI - All commodities	121.60	121.10	-0.41
CPI Number for industrial workers	302.00	328.00	8.61
WPI - Cement and Lime	112.70	119.40	5.94
WPI - Fuel & Power	109.30	100.70	-7.87

INFLATION / DEFLATION

COMPONENT	WEIGHTAGE	INFLATION FACTOR	NET
1. Labour	30.00	8.61	32.58
2. Material	40.00	-0.41	39.84
3. Fuel	15.00	-7.87	13.82
4. Fixed	15.00	0.00	15.00
% Change for overall item			1.24
% Change for Cement			5.94
% Change for Steel			-7.05

LAR-5

Zonal Railway :- DFCCIL, Mughalsarai

Name of Work :- Construction of Two-Lane Road Over Bridge (ROB) in lieu of level crossing No.61/C/E at IR CH 624/11-13 and in lieu of level crossing No.62 & 63 at IR Ch 627/9-11 including Obligatory Span, Composite Girder Span, Viaduct Spans, both side approaches and diversion of road from LC-63 to LC-62 complete in all respect in Mughalsarai division of East Central Railway

Acceptance letter No :- MGS/EN/15/2018-19/LC-61-62-63/Bihar/279 dtd 31.10.2018

INDEX NUMBERS	Oct'18	March' 20	% INCREASE
MS Bright bar Index price Steel	110.4	102.90	-6.79
WPI - All commodities	122.00	121.10	-0.74
CPI Number for industrial workers	302.00	328.00	8.61
WPI - Cement and Lime	113.00	119.40	5.66
WPI - Fuel & Power	111.30	100.70	-9.52

INFLATION / DEFLATION

COMPONENT	WEIGHTAGE	INFLATION FACTOR	NET
1. Labour	30.00	8.61	32.58
2. Material	40.00	-0.74	39.70
3. Fuel	15.00	-9.52	13.57
4. Fixed	15.00	0.00	15.00
% Change for overall item			0.86
% Change for Cement			5.66
% Change for Steel			-6.79

LAR-6

Zonal Railway :- DFCCIL, Mughalsarai

Name of Work :- Construction of 8 Lane ROB including approach portion over NH-2 and dismantling of existing Road Over Bridge at Railway Km 407/29-408/1 as per NHAI standards between Sone Nagar- Baghabishunpur Railway stations in Sonenagar - Garhwa section of ECR in connection with construction of EDFC and 6 Laning of NH-2

Acceptance letter No :-MGS/EN/21/2019/8 Lane Rob/Bihar/294 dtd 30.05.2019 (Jhajharia-Galvano-Maxwell(JV))

INDEX NUMBERS	May'19	March' 20	% INCREASE
MS Bright bar Index price Steel	107.00	102.90	-3.83
WPI - All commodities	121.20	121.10	-0.08
CPI Number for industrial workers	314.00	328.00	4.46
WPI - Cement and Lime	122.00	119.40	-2.13
WPI - Fuel & Power	103.40	100.70	-2.61

INFLATION / DEFLATION

COMPONENT	WEIGHTAGE	INFLATION FACTOR	NET
1. Labour	30.00	4.46	31.34
2. Material	40.00	-0.08	39.97
3. Fuel	15.00	-2.61	14.61
4. Fixed	15.00	0.00	15.00
% Change for overall item			0.91
% Change for Cement			-2.13
% Change for Steel			-3.83

Details of Quantities

Name Of Work:- Construction of Two-Lane Road Over Bridge (ROB) & 5.5mtr wide FOB in lieu of level crossing no. 72B at IR Chainage 649/5-7 between Chandauli Majhwar (CDMR) – Saidraja (SYZ) including Obligatory Spans, Viaduct Spans, approaches roads etc. complete and Superstructure of obligatory spans of LC no. 41/C/E at IR Chainage 569/19-17 between SSM-KVD (clear span 1x60 M + 1x18 M), LC no. 46C/T IR Chainage 581/1-3 KMG station limit (clear span 1x18 M 1x60 M + 1x18M), LC no. 49C/T IR Chainage 586/21-23 SSG Station limit (clear span 1x18 M 1x60 M + 1x18M) & LC no. 50 C/E IR Chainage 588/25-27 KVD-SSG (clear span 1x18 M 1x60 M + 1x18M) in all respect in DDU Division of East Central Railway.

Important Data used in Quantities Calculation:

1	Nos of Pile Group with 12 Piles	2
2	Nos of Pile Group with 6 Piles	18
3	Nos. of Span in PSC Girder	18
4	Nos. of Span in Arch Steel Girder (Obligatory Span)	5
5	Nos. of Span in Composite Steel Girder length 19.080	7
6	Nos. of Span in Composite Steel Girder length 25.080	1
7	Span of PSC Girder in Viaduct Portion (c/c of pier)	21.20
8	Span of Steel Arch Girder in Obligatory Portion (c/c of pier)	63.48
9	Span of Composite Steel gridere (c/c of pier)	19.080
10	Span of Composite Steel gridere (c/c of pier)	25.080
11	PSC Girder Span (c/c of bearing)	20.00
12	Steel Arch Girder Span (c/c of bearing)	62.00
13	Steel Girder Span 19.080(c/c of bearing)	18.00
14	Steel Girder Span 25.080(c/c of bearing)	24.00
15	Length of Filledup ramp North side	238.550
16	Length of Filledup ramp South side	236.750

1 Earth work in Excavation for Pile Cap

Particulars	NO.	L	W	H	Vol.	Unit
12 Piles Group	2	10.60	7.60	2.00	322.24	
6 Piles Group	18	7.60	4.60	2.00	1258.56	
Total					1580.80	Cum

2 CC 1:3:6 for Leveling course for pile cap etc...

Particulars	NO.	L	W	H	Vol.	Unit
12 Piles Group	2	10.60	7.60	0.10	16.11	
6 Piles Group	18	7.60	4.60	0.10	62.93	
PCC in Approach Slab	2	7.50	3.50	0.10	5.25	
CC Block for Fencing	160	0.40	0.40	0.50	12.83	
PCC between RE wall and Curb stone gap	1	100.00	0.30	0.10	3.00	
PCC for Misc. Purposes such as island near staircase/ladder under tiles	LS				50.00	
Total					150.12	Cum

3 Cement Concrete in Pile Cap

Particulars	NO.	L	W	H	Vol.	Unit
12 Piles Group	2	10.40	7.40	1.50	230.88	
6 Piles Group on Pier	18	7.40	4.40	1.50	879.12	
Total					1110.00	Cum

4 R.C.C. in Substructure

(a) Abutment and Pier

Particulars	Nos.	Height	Length	Th/B	Vol.	Unit
Abutment Near RE Wall	2	3.15	4.00	1.00	25.20	
Piers Viaduct Spans	16	6.69	4.00	1.2	514.03	
Piers in Obligatory Span	2	8.40	9.00	1.5	226.91	
Total					766.14	Cum

(b) Wing Wall And Return wall

Particulars	Nos.	Height	Length	Th/B	Vol.	Unit
Filledup ramp Return Wall North side Wall	0	1.50	0.00	0.40	0.00	
Filledup ramp Return Wall South side Wall	0	1.50	0.00	0.40	0.00	
total					0.00	Cum

(c) **Abutment Cap, Pier Cap, Inspection Platform & Pedestal over Pier cap**

Particulars	Nos.	Height	Length	Th/B	Vol.	Unit
Abutment Near RE Wall						
Cap Top Portion	2	0.50	8.50	1.570	13.35	
		Height	Top Area	Bottom Area		
Cap bottom Portion	2	0.50	13.35	6.615	9.98	
All Piers						
Cap Top Portion	16	0.50	8.50	2.4	163.20	
		Height	Top Area	Bottom Area		
Cap Bottom Portion	16	0.50	20.40	10.08	121.92	
Piers in Obligatory Span						
Cap Top Portion	2	0.75	15.00	3	67.50	
		Height	Top Area	Bottom Area		
Cap Bottom Portion	2	1.25	45.00	27.60	90.75	
Difference of Cap level	2	0.733	15.00	1.50	12.09	
Inspection platform						
Inspection platform Obligatory Span	2	0.2	44.00	1.00	17.60	
Inspection platform all Viaduct Span Piers	16	0.2	29.80	1.00	95.36	
Inspection platform Abutment Near Re Wall	2	0.2	21.00	1.00	8.40	
Total					600.15	Cum

(d) **Approach slab at formation level, Dirt wall/ ballast wall at formation level**

Particulars	Nos.	Height	Length	Th/B	Vol.	Unit
Dirt Wall	2	1.825	8.50	0.30	9.31	
Dirt Wall Bracket Top	2	0.20	8.50	0.10	0.34	
Dirt Wall Bracket Bottom	2	0.20	8.50	0.18	0.61	
Approach slab	2	8.50	3.50	0.30	17.85	
Total					28.11	Cum

5 **Bored Cast in situ piles of 1000 mm dia**

No.	L	Total Length	Unit	Total Vol. of Concrete	Unit
133	30.00	3990.00	Meter	3132.15	Cum

6 **Steel Liner for Pile of dia 1.2 mtr.**

No. of Pile	Length	Wt in Kg	Total Wt.in T
133	0.00	147.894	0.000

7 **Pile load test**

(a) Initial load test above 100 ton capacity upto 250 ton capacity pile	1	No
(b) Extra for every increase of 50T in pile capacity or part thereof over 250 T	32	Nos
(c) Routine Load Test above 100 ton capacity upto 250 ton capacity pile	3	Nos

8 **Lateral Load Testing of Pile**

(a) Piles with lateral load capacity of above 20 ton	1	No.
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9 **Pulse Echo Test (PET) for integrity testing of piles**

LS	132	No.
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10 **Centring and shuttering including strutting, propping etc. and removal of form**(a) **RCC Raft Foundation & Pile cap**

Particulars	NO.	H	P	Area	Unit
12 Piles Group, PCC	2	0.10	36.40	7.28	
6 Piles Group, PCC	18	0.10	24.40	43.92	
12 Piles Group, Pile Cap	2	1.50	35.60	106.80	
6 Piles Group, Pile Cap	18	1.50	23.60	637.20	
Total				795.2	Sq.M

(b) Abutment, pier, wing walls and return walls

Particulars	Nos.	H	P	Area	Unit
Abutment Near RE Wall	2	3.15	10.00	63.00	
Piers Viaduct Spans	16	6.69	10.40	1113.73	
Piers in Railway Span	2	8.40	21.00	352.97	
			Total	1529.69	Sq.M

(c) Abutment cap, Pier Cap, Inspection Platform & Pedestal over Pier cap, Diaphragm wall etc.

Particulars	Nos of Abut./Pier	Nos. of Sides	L	B/H	Area	Unit
Abutment Near RE Wall						
Bottom	2	1	4.00	0.60	4.80	
Bottom	2	2	1.00	0.10	0.40	
Inclined Sides	2	2	2.21	1.58	13.92	
Inclined Sides	2	2	6.35	2.21	56.13	
Vertical Periphery	2	1	20.15	0.50	20.15	
Piers Viaduct Spans						
Bottom	16	2	4.20	0.60	80.64	
Bottom	16	2	1.20	0.10	3.84	
Inclined Sides	16	2	2.40	2.21	169.73	
Vertical Sides Front	16	2	4.20	0.50	67.20	
Triangular Sides Front	16	4	2.15	0.50	34.40	
Vertical Periphery	16	1	21.80	0.50	174.40	
Piers Obligatory Spans						
Bottom	2	2	9.20	0.45	16.56	
Bottom	2	2	1.50	0.10	0.60	
Inclined Sides	2	2	2.40	3.10	29.76	
Vertical Sides Front	2	2	9.20	1.00	36.80	
Triangular Sides Front	2	4	2.90	1.00	11.60	
Vertical Periphery	2	1	34.80	0.50	34.80	
Split in Pier Cap	2	1	32.40	0.50	32.40	
Inspection platform						
Inspection platform Obligatory Span	2	1	44.00	1.00	88.00	
Inspection platform all Viaduct Span Piers	16	1	29.80	1.00	476.80	
Inspection platform Abutment Near Re Wall	2	1	21.00	1.00	42.00	
Pedestals						
Below PSC Grider Periphery	96	1	2.40	0.3	69.12	
Below Arch Steel Grider periphery	20	1	3.20	0.3	19.20	
Seismic Stoppers Periphery						
Viaduct Piers Tranverse	36	1	5.80	0.60	125.28	
Viaduct Piers Longitudnal	18	1	2.62	0.60	28.30	
Abutments Transverse	4	1	3.20	0.60	7.68	
Abutments Longitudinal	2	1	2.00	0.60	2.40	
Railway Span Steel Girders	4	1	3.40	0.60	9.792	
			Total		1656.70	Sq.m

(d) Approach slab at formation level, Dirt wall / ballast wall at formation level

Particulars	Nos.	Height/Periphery	Length/Ht.	Area	Unit
Dirt Wall Ininner Face	2	1.825	8.50	31.03	
Dirt Wall outer Face	2	1.525	8.50	25.93	
Thickness Face/Stopper	4	1.825	0.30	2.19	
Approach slab	1	24.00	0.30	7.20	
			Total	66.34	Sq.m

- (e) In Bottom/ top slab, side walls, toe wall and sumps haunch filling head walls or any other component.
(Crash Barrier)

Particulars	Nos.	Length/Ht.	Height/Periphery	Area	Unit
Crash Barrier on Obligatory Span, Viaduct Portion, Approach Slab	2	864.64	1.80	3112.70	
Friction Slab (Cast-in-situ portion on filled up ramp)	2	475.30	0.30	285.18	
Crash Barrier on RE Wall	2	475.30	2.5	2376.50	
Total				5774.38	Sq.m

11 R.C.C. in Superstructure

- (a) Providing and laying in position Design Mix Cement Concrete M-40 grade...
for the Cast in-situ Prestressed

Particulars	No.	No. of Span	L	B	D	Qty	Unit
Deck Slab Via Duct Spans	1	18	21.20	8.50	0.25	810.90	
Extra thickness slab	2	18	1.24	0.78	0.15	5.21	
X-Girder(i/mediate)	6	18	2.35	0.90	0.30	68.53	
X-Beams(supports)	4	18	2.35	0.90	0.30	45.68	
Total						930.32	Cum

- (b) Extra for increase in span by every 1m or part thereof for spans above 18.3m & upto 30.5m

Particulars	No.	No. of Span	L	Extra Length	Unit
Deck Slab Via Duct Spans	1	18	21.20	52.20	
Deck Slab Composite Girder Span 25.08	1	1	25.08	6.78	
Total				58.98	Meter

- (c) Deduct for casting of Slab instead of Girders (for any heights)

Qty. Same as (a) above	-930.32	Cum
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12 PSC in Superstructure

- Providing and laying in position...Cement Concrete M-40...for the
Precast Prestressed (Post tensioned) concrete girder

Details of volume of concrete for superstructure of one span

PSC Girder	No. of Span	Nos of Beams	L	X-Sec area	Qty.	Unit
Beams	18	3	18.60	0.67	677.77	
Transition/ Beam	18	3	2.00	0.81	87.13	
Beam Face	18	3	1.30	0.94	65.89	
Total					830.79	Cum

13 Super Structure Centering and shuttering including strutting, propping etc.
and removal of form for

- (a) Foundations, footings, bases of columns, raft foundation

Particulars	NO.	H	P	Area	Unit
Stair Case PCC	8	0.10	7.80	6.24	
Stair Case Footing	8	0.30	7.00	16.80	
Total				23.04	Sq.M

- (b) slabs

Particulars	Nos of Span	Nos. of Sides	L	B/H	Area	Unit
Viaduct Span Between Girder	18	2	18.56	1.78	1185.86	
Viaduct Span Girder Both End	18	2	21.20	1.10	839.52	
Below Expansion Joint	18	2	6.30	0.33	73.71	
X-Girder(i/mediate) Side	18	12	2.35	0.90	456.84	
X-Girder(i/mediate) Bottom	18	6	2.35	0.30	76.14	
X-Beams(supports) Side	18	8	2.35	0.90	304.56	
X-Girder(i/mediate) Bottom	18	4	2.35	0.30	50.76	
Obligatory Span	5	1	63.20	11.70	3697.20	
Below Approach Slab	2	1	8.50	2.50	42.50	
total					6727.09	Sq. m

FOB slabs, walkway slabs and access platform

Particulars	Nos.	L	B/H	Area	Unit
Stair Case Step	184	1.70	0.50	156.40	
Stair Case Landing	10	3.50	1.70	59.50	
total				215.90	Sq.M
Total				6942.99	Sq.M

(c) Girders

Particulars	Nos of Span	Nos. of Sides	L	B	Area	Unit
Girder sides	18	6	20.80	1.81	4065.98	
Girder Bottom	18	3	20.80	0.73	814.32	
Girder Stopper	18	6	0.73	0.33	25.45	
					total	4905.75
						Sq. m

Lintels, beams, plinth beams

Particulars	Nos.	L	B/H	Area	Unit
Stair Case Below Step	10	7.30	0.90	65.7	
Stair Case Below Landing	10	3.30	0.90	29.7	
Tie Beam All Around Column	10	21.80	0.90	196.2	
				total	291.60
					Sq.M
				Total	5197.35
					Sq.M

(d) Columns, pillars, posts and struts

Particulars	Nos.	H	P	Area	Unit
Stair Case	8	10.00	1.80	144.00	
				Total	144.00
					Sq.M

(e) Extra for additional height 3.5 m for every additional height of 1 meter part

Qty. Same as (a) above 6942.99 Sqm

14 Supplying of all types of structural steel fabrication, assembling, erection / slewing / end launching of steel girders

Particulars	No. of Span	Weight for 1 span	Weight	Unit
Composite Steel Grider 19.08	7	63.35	443.45	
Composite Steel Grider 25.08	1	98.63	98.63	
		Total	542.08	Tonne

(b) Extra for metalising including preparation of surface and applying one coat etch primer to 1S:5666

Particulars	No. of Span	For One Span	Area	Unit
Composite Steel Grider 19.08	7	650.00	4550.00	
Composite Steel Grider 25.08	1	1020.00	1020.00	
		Total	5570.00	Sq.M

(c) Extra for using steel conforming to Fe 490 of IS:8500 instead of Fe 410

Particulars	No. of Span	Weight for 1 span	Weight	Unit
Composite Steel Grider 19.08	7	63.35	443.45	
Composite Steel Grider 25.08	1	98.63	98.63	
		Total	542.08	Tonne

15 Elastomeric Bearing

Particulars	No. of Span	No. of Bearing	L	B	Th.	Qty	Unit
Elastomeric Bearing	18	6	45	40	6.5	1263600	Cu Cm

16 Expansion joint

Particulars	Nos.	Length	Qty.	Units
Viaduct Span	18	8.5	153.00	
Obligatory Span	6	11.7	70.20	
LC41,LC46,LC49&LC50	8	11.7	93.60	
		Total	316.80	Meter

17 Load testing of one or more spans of bridge**(a) For Span design load upto 100 MT**

LS 2 Nos.

(b) Extra for every increase of 100 MT or part thereof

LS 2 Nos.

18 Providing, fabricating & fixing in position to exact design profiles, prestressing H.T.S. cables

Particulars	Nos.	Beams	Qty./ Beam in T	Total	Unit
Viaduct Span	18	3	1.50	81	Tonne

19 **Supplying, fitting and fixing in position true to line and level POT-PTFE bearing**

(a) POT-PTFE Bearing

Particulars	Nos.	Vertical Load on One Bearing	Total	Unit
All Bearings in Obligatory Span of Bow String Girder	20	363.6	7272	
LC41,LC46,LC49&LC50	28	363.6	10180.8	
Total			17452.8	Tonne

20 **Providing and fixing of Drainage Spouts of 100mm UPVC**

Particulars	Nos.	Nos of Spout in each span	Average L	Total	Unit
Obligatory Span	6	2	15.23	182.748	
Viaduct Span	18	2	111.07	3998.52	
LS Provision (LC41,LC46,LC49 & LC50)	24	2	15.23	731.04	
Total				4912.31	Meter

21 **Earthwork in filling in embankment**

Particulars	Length of Road	Height of Fill	Average Width/Area	Volume	Unit
Approach Road North Side	100	0.20	10.50	210.00	
Approach Road South Side	100	0.20	10.50	210.00	
Service Road Widening	0	0.50	3.00	0.00	
LS for Miscellaneous				500.00	
Total				920.00	CuM

22 **Extra for mechanical compaction of earth/blanketing material filled in embankment**

Qty same as item of earthwork in embankment 920.00 CuM

23 **Providing and laying water bound macadam**

Particulars	Length of Road	Th	Average Width	Volume	Unit
(a) 90mm to 45mm					
Approach Road North Side	100	0.25	7.50	187.50	
Approach Road South Side	100	0.25	7.50	187.50	
Service Road	0	0.25	3.00	0.00	
Filledup ramp North side	238.55	0.25	7.50	447.28	
Filledup ramp South side	236.75	0.25	7.50	443.91	
Total				1266.19	CuM
(b) 63mm to 45mm					
Approach Road North Side	100	0.10	7.50	75.00	
Approach Road South Side	100	0.10	7.50	75.00	
Service Road	0	0.10	3.00	0.00	
Filledup ramp North side	238.55	0.10	7.50	178.91	
Filledup ramp South side	236.75	0.10	7.50	177.56	
Total				506.48	CuM
(c) 53mm to 22.4mm					
Approach Road North Side	100	0.10	7.50	75.00	
Approach Road South Side	100	0.10	7.50	75.00	
Service Road	0	0.10	3.00	0.00	
Filledup ramp North side	238.55	0.10	7.50	178.91	
Filledup ramp South side	236.75	0.10	7.50	177.56	
Total				506.48	CuM

24 **Providing and laying 4cm thick moorum surfacing**

Particulars	Length of Road	Average Width/Area	Area	Unit
Approach Road North Side	200	1.5	300	
Approach Road South Side	200	1.5	300	
Service Road	0	1.5	0	
LS			200.00	
Total			800.00	Sq.m

25 **Providing and applying tack coat**

Particulars	Length of Road	Average Width/Area	Area	Unit
(a) On W.B.M. @ 0.4kg/sqm				
Approach Road North Side	100	7.50	750.00	
Approach Road South Side	100	7.50	750.00	
Service Road	0	3.00	0.00	
Service Road strengthening	0	7.00	0.00	
Filledup ramp North side	238.55	7.50	1789.125	
Filledup ramp South side	236.75	7.50	1775.625	
		Total	5064.75	Sq.M
(b) On bituminous surface @ 0.25 Kg./sq.m				
Approach Road North Side	100	7.50	750.00	
Approach Road South Side	100	7.50	750.00	
Service Road	0	3.00	0.00	
Service Road strengthening	0	7.00	0.00	
Filledup ramp North side	238.55	7.50	1789.13	
Filledup ramp South side	236.75	7.50	1775.63	
Viaduct Span (on cc deck slab)	381.60	7.50	2862.00	
Obligatory Span	317.40	10.50	3332.70	
Approach Slab	7.00	7.50	52.50	
		Total	11311.95	Sq.M

26 **2.5 cm thick bitumastic sheet with hot bitumen**

Paving bitumen 80/100 heated and then mixed

Particulars	Nos.	L	W	Area	Unit
Obligatory Span	5	63.48	10.50	3332.7	
			Total	3332.70	Sq.M

27 **Curb Stone Near Re Wall**

Particulars	Nos	Length	Total	Unit
LS	1	1000.00	1000	
Rotery	1	400.00	400	
		Total	1400	Mtr.

28 **Providing and laying Dense Bituminous Macadam**

Area Same as tack coat on WBM

5064.75 Sq.M

29 **Providing and laying Dense Bituminous Concrete**

Particulars	Length of Road	Th	Average Width/Area	Volume	Unit
Approach Road North Side	100	0.04	7.50	30.00	
Approach Road South Side	100	0.04	7.50	30.00	
Service Road	0	0.04	3.00	0.00	
Service Road strengthening	0	0.04	7.00	0.00	
Filledup ramp North side	238.55	0.04	7.50	71.57	
Filledup ramp South side	236.75	0.04	7.50	71.03	
Viaduct Span (on cc deck slab)	381.60	0.04	7.50	114.48	
Obligatory Span	317.40	0.04	10.50	133.31	
Approach Slab	7.00	0.04	7.50	2.10	
		Total		452.48	CuM

30 **Manufacturing supplying and fixing retro reflective sign boards**

Cautionary/warning sign boards of equilateral triangular shape

LS Provision

80 Nos.

31 **Providing and Applying 2.5mm thick road marking strips**

Cautionary/warning sign boards of equilateral triangular shape

LS Provision

1500 Sq.M

32 **Providing and fixing of raised pavement markers made of polycarbonate**

Cautionary/warning sign boards of equilateral triangular shape

LS Provision

80 Nos.

33 Supplying at site

MS angle posts/struts 50mmx50mmx6mm Length 2.4 meter placed every 3m centre to centre

Particulars	Length Of Road	Length of Angle	Nos Posts /struts 3m C/C	MS Angle 50mmx50mmx 6mm per Meter Weight KG	Weight	Unit
North Side Along Track	200	2.4	80	4.5	866.06	
South Side Along Track	200	2.4	80	4.5	866.06	
Total					1732.11	kg

34 Providing 1.8m high fencing with 2.4m angle, GI barbed wires of barbed wire 9.38 kg/100m (min)

Particulars	Length Of Fencing	Units
North Side Along Track	200	
South Side Along Track	200	
Total	400	Meter

35 Supplying reinforcement for R.C.C. work including straightening, cutting, bending, placing Thermo-Mechanically Treated bars

Particulars	Total Vol Concrete	%age of Steel	Total Steel (kg)	Units
Piles	3132.15	1.00	245874	
Pile Cap	1110.00	1.50	130703	
Reinforcement in Substructure	1394.39	2.00	218920	
Reinforcement in Superstructure	1761.11	2.00	276495	
Cast in situ & Pre Cast crash barrier, friction slab, Pedestals	1501.41	1.50	176791	
Stair Case	72.91	1.50	8585	
Deck Slab on Obligatory Span	1326.95	1.50	156248	
Total			1213615	Kg

36 Supply and using cement at worksite

OPC 43 Grade

Particulars	Total Vol Concrete	Cement Required in per Cum in Qtl.	Total Cement Tonne	Units
PCC 1:3:6	150.12	2.2	33.027	
Piles	3132.15	3.80	1190.217	
Pile Cap	1110.00	4.22	468.420	
In Substructure	1394.39	4.22	588.434	
In Superstructure	1761.11	4.30	757.278	
Cast in situ & Pre Cast crash barrier, friction slab	1501.41	4.30	645.605	
Stair Case	72.91	3.44	25.081	
Stair Case Pcc	2.65	2.20	0.583	
Deck Slab on Obligatory Span	1326.95	4.30	570.588	
LS for Misc +LC41,LC46,LC49			600.000	
Total			4879.234	Tonne

37 Providing and removing barricading with the help of portable fencing

LS Provision (72B+

LC41,LC46,LC49 & LC50)

1100

Meter

38 Providing and laying in position M-20 Grade concrete for

(a) Footings of FOB and Platform shelter etc.

Particulars	Nos.	Height	Length	Th/B	Vol.	Unit
Stair Case						
Footing Bottom Portion	8	0.30	1.75	1.75	7.35	
		Height	Bottom Area	Top Area		
Footing Top Portion	8	0.50	3.06	0.42	6.97	
Total					14.32	Cu.m

(b) All works in buildings above plinth level upto floor two level

Particulars	Nos.	Height	Length	Th/B	Vol.	Unit
Column						
Stair Case	8	10.00	0.45	0.45	16.20	
Beam						
Stair Case Below Step	10	0.3	7.30	0.3	6.57	
Stair Case Below Landing	10	0.3	3.30	0.3	2.97	
Tie Beam All Around Column	10	0.3	21.80	0.3	19.62	
Slab						
Stair Case Step	184	0.1	1.50	0.3	8.28	
Stair Case Landing	10	0.1	3.30	1.5	4.95	
				Total	58.59	Cu.m

39 Steel work welded in built-up sections / framed work including cutting, hoisting, fixing in position

(a) In gratings, frames, guard bar, ladders, railings

Particulars	L	Qty. Per Rmt.	Total Steel (kg)	Units
Stair case	158.400	50	7920	
Obligatory span	317.400	60	38088	
		Total	46008	Kg

(b) M.S. tube (medium) 40mm nominal bore

Particulars	L	Wt. Per Rmt.	Total Steel (kg)	Units
Stair case	158.4	3.57	565.488	
		Total	565.488	Kg

40 Earth work in excavation as per approved drawings

Particulars	Nos.	Height	Length	Th/B	Vol.	Unit
Stair Case	8	1.60	1.95	1.70	42.43	
				Total	42.43	Cu.m

41 Providing and laying in position cement concrete of specified proportion

Particulars	Nos.	Height	Length	Th/B	Vol.	Unit
Stair Case	8	0.10	1.95	1.70	2.65	
				Total	2.65	Cu.m

42 Supplying and laying interlocking pre-cast CC block pavers

Particulars	Ls	Area	Unit
Island near staircase/ladder		2000	Sqm

43 Kota stone slab flooring of size up to 30cmx30cm over 20mm

Particulars	Nos.	L	B/H	Area	Unit
Stair Case Step	184	1.50	0.30	82.80	
Stair Case Landing	10	3.30	1.50	49.50	
			Total	132.30	Sq.M

44 M-40 grade (cast in situ) for RCC crash barrier, Friction slab, RCC railing etc.

Particulars	Nos	Length	Qty./RM	Volume	Unit
Crash Barrier on Obligatory Span, Composite span, Viaduct Portion, Approach Slab	2	864.64	0.40	691.712	
Friction Slab (Cast-in-situ portion on filled up ramp)	2	475.30	0.20	190.12	
			total	881.832	Cum

sch.A-1
NS-4

M-40 grade Precast including hoisting and fixing in place RCC crash barrier, Friction Slab etc.

Particulars	Nos	Length	Req. Con. Rmt. qty.	Volume	Unit
Crash Barriere on RE Wall	2	475.30	0.60	570.36	
			total	570.36	Cum

Pedestal and Seismic Stoppers

Particulars	Nos.	Length	Th/B	Height	Vol.	Unit
Pedestals						
Below PSC Grider	108	0.6	0.60	0.3	11.66	
Below Arch Steel Grider	20	0.8	0.80	0.3	3.84	
Seismic Stoppers						
Viaduct Piers Tranverse	36	2.4	0.50	0.60	25.92	
Viaduct Piers Longitudnal	18	0.51	0.80	0.60	4.41	
Abutments Tranverse	4	1.50	0.50	0.60	1.80	
Abutments Longitudinal	2	0.60	0.20	0.60	0.14	
Railway Span Steel Girders	4	1.20	0.50	0.60	1.440	
total					49.214	Cum

Total 1501.406 Cum

45 sch.A-I NS-2 Reinforced Earth Structures

Particulars	Nos	Length	Average Ht.	Sq.M	Unit
RE wall on North Side Filledup ramp	2	238.55	3.15	1502.87	
Below Ground Portion	2	238.55	1.50	715.65	
RE wall on South Side Filledup ramp	2	236.75	3.83	1811.14	
Below Ground Portion	2	236.75	1.50	710.25	
Lateral Portion	2	8.50	7.65	130.05	
Total				4869.95	Sq.m

46 sch.A-I NS-3 Providing, placing and compacting Fine Sand approaches between the Reinforced Soil (RS) Wall panels

Particulars	Nos	Length	Width	Average Ht.	Vol.	Unit
RE wall on North Side Filledup ramp	1	238.55	6.5	2.61	4047.00	
Below Ground Portion	1	238.55	6.5	1.50	2325.86	
RE wall on South Side Filledup ramp	1	236.75	6.5	3.30	5070.59	
Below Ground Portion	1	236.75	6.5	1.50	2308.31	
Total					13751.77	Cu.m

47 sch.A-II NS-2 Railing of MS Pipe on Crash Barrier

Particulars	Nos	Length	Total	Unit
Crash Barrier on Obligatory Span, Viaduct Portion, Approach Slab	2	864.64	1729.28	
Crash Barrier on filled up ramp	2	475.30	950.60	
Total			2679.88	Mtr.

48 sch.A-III NS-1 Launching of PSC girders in position including lifting

Qty. of PSC Beams	Unit
830.79	Cum

49 **Painting Concrete Surface**

Particulars	Nos	Length	Area /RM	Area	Unit
Crash Barrier on Obligatory Span, Viaduct Portion, Approach Slab	2	864.64	1.20	2075.136	
Crash Barrier on filled up ramp	2	475.30	1.20	1140.72	
Curb Stone For Approach Road	1	1400.00	0.25	350	
Total				3565.856	Sq. m

50 **Supply of Admixture for Super Structure Design Mix Cement Concrete M-40**

Particulars	Total Con. qty. Super Structure	Admixture /Cum. Ltr.	Volume	Unit
Admixture	1761.11	3.5	6163.89	
Total			6163.89	Ltr.

51 **Providing and laying in position machine batched, machine mixed and machine vibrated design Mix Cement concrete M-40**

Particulars	Nos.	L	B	D	Vol.	Unit
Deck Slab on Obligatory Span+ LC41,LC46,LC49 & LC50)	1	63.48	11.77	0.25	186.79	
	4	63.48	11.77	0.25	747.16	
Composite Girder	7	19.08	11.77	0.25	393.00	
Total	5	63.48	11.77	0.25	1326.95	Cum

52 **Supply, fabrication and erection of Welded type BOW STRING girders for Obligatory Span**

Particulars	Nos	Weight of One Span	Weight	Unit
Open web Girder	5	375.46	1877.3	
		375.46	0	
Total			1877.3	Tonne