भारत सरकार

GOVERNMENT OF INDIA

रेल मंत्रालय

MINISTRY OF RAILWAYS

दक्षिण रेलवे

SOUTHERN RAILWAY

भारतीय रेल एकीकृत मानक दर अनुसूची

(फॉर्मेशन कार्य, ब्रिज कार्य और पी. वे कार्य)

Indian Railways
Unified Standard Schedule of Rates

(Formation Works, Bridge Works and P.Way Works)

2021

इंजीनियरिंग विभाग

Engineering Department

(MAS, SA, TPJ & MDU Divisions)

PREFACE

1. Railway Board vide their letter No. 2020/CE-I/USSOR/W&M/I dated 05.07.2022 have advised all Zonal Railways, Production Units and PSUs for adoption of Unified Standard Schedule of Rates - 2021 (IRUSSOR - 2021), approved by Board in place of existing IR USSOR - 2019 for execution of Bridge Works, Formation Works and P. Way Works.

2. For Formation Works, Bridge Works and P. Way works, all Zonal Railways, Production Units and PSUs to prepare their own "Schedule of Rates", based on a common methodology of software based "Analysis of Rates of items in Unified Standard Schedule of Items" IRUSSOR-2021, by collecting rates of input materials and labour prevalent in that particular zone. Accordingly, Southern Railway has incorporated prevalent Basic Input Cost of Labour, Material etc., in consultation with associate finance in "Basic Rates" in software file for "IRUSSOR -2021" supplied by Railway Board and prepared SR USSOR -2021. The Schedule of Rates is calculated accordingly automatically as per methodology finalized by Railway Board and provided in locked and protected EXCEL file.

3. All Bridge Works, Formation Works and P. Way Works should be executed only as per this Standard Schedule of Rates (SR USSOR - 2021), prepared based on IRUSSOR-2021. All concerned are advised to study the "General and Operating Instructions", description of items etc., carefully before operating the items of this schedule and to enable them in proper appreciation and operation of the correct items.

4. This "SR USSOR-2021" will come into force with effect from 1st October 2022. All new estimates and tenders for works shall be as per SR USSOR-2021. This will facilitate reduction in non-schedule items.

5. SR-USSOR-2021 is available in the Civil Engineering Web Page of Southern Railway intranet Web-Portal (10.5.2.32)

6. All Engineering Officers, staff and the JE/SSE in-charge of works, as well as Contractors executing works, are advised to acquaint themselves fully and to be conversant with the "SR USSOR-2021" and the latest applicable specifications. The instructions, conditions and specifications contained therein for respective works are binding on the contractors, unless specifically modified in writing.

7. Any error / omission / misprint and suggestions for improving/ augmenting the "SR USSOR -2021" should be brought to the notice of the Principal Chief Engineer, through proper channel.

8. The items which are not available in this Schedule but are inescapable for completion of a work, may be operated as a Non-Scheduled item following approved procedure under intimation to the Principal Chief Engineer, along with the relevant details and Rate Analyses etc., so that they may be considered for inclusion in the Unified Standard Schedule of rates, in subsequent revisions.

Chennai 600003
Date: 30.09.2022

(DESH RATAN GUPTA)
PRINCIPAL CHIEF ENGINEER
Southern Railway

SR Unified Standard Schedule of Rates 2021

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General and Operating Instructions

1. General Instructions:

These instructions & guidelines are applicable for all items included in all Chapters for Railway Formation Works, Bridge Works and P. Way Works.

Cost of cement and reinforcement steels is not included in any item except where specifically mentioned otherwise in the item.

Design Mix Cement Concrete of all grades will be paid at same rate irrespective of grade mentioned in the item. Grade mentioned is for guidance purpose. However, grade of RCC to be used at site shall be mentioned in the BOQ.

Automatic digital weigh Batching, mixing and placing, preferably mobile RMC plant shall be used for design mix concrete. Concrete mixer shall be used for small quantity for nominal mix only with the permission of Engineer-in charge. Placement of concrete shall be done by concrete pump in general.

Cost of Admixture (plasticizer / super-plasticizer) is included in the item of design mix concrete.

Payment for cement shall be made extra wherever mentioned in the item for the quantity as per approved design mix subjected to minimum and maximum limit as prescribed in IS 456. For nominal mix and other misc items, it shall be as per standard consumption enclosed separately with this USSOR.

Cost of shuttering, wherever required, shall be paid separately and is not included in the rate of item except where specifically mentioned otherwise. Shuttering shall be paid only for the shuttering area coming in contact with the concrete surface.

For steel fabrication work, the cost of welding/riveting has been incorporated in the item rate and no addition on nominal weight of the sections as specified in the drawings shall be applicable on account of welding/riveting. HSFG bolts, where used, shall be payable.

The rate of an item includes:

(i) Cost of all labor, materials, tools & plants, machinery, transportation to the site of work, all lead & lift, handling, re-handling, erection, testing, supervision & maintenance for executing the work at site in all respect, unless mentioned specifically otherwise in the description of an item, required for design, fabrication, execution and testing the work, conforming to all applicable codes, specifications, manuals and guidelines.

(ii) GST & other taxes, royalties, duties, cess, levies or any other fees that may be payable under any Central Government, State Government or other Local Bodies Acts or Rules, mandatory insurance, profit etc.

Uniform rate of GST applicable for works contract @12%, Water Charges@ 1% (except supply items), Contractor's Profit & Overheads (CPOH) @ 15% and Cess @ 1% have been adopted for all items while arriving at the Rate.

Procedure for Deletion of Item from "Standard Schedule of Rates": PCE shall be the authority to ban execution of any particular item on the Zonal Railway, if they find that the particular item is not suitable to their Railway system due to any reason.

For this purpose, the item may not be deleted from SOR; but only a letter under the signature of PCE shall be circulated to all concerned on his Railway, informing the list of items which shall not be operated by field units, in case, PCE is of the opinion that any particular item included in 'Unified Standard SOR' is having adverse effect and needs to be deleted from it. The matter shall be referred to Railway Board, which will take necessary decision.

2. Operating Instructions

Numbering System Of SOR Items –

The system of numbering SOR items has been adopted for easy identification of item and linkage between item number & description of item. Each Item number of SOR consists of 6 numeric digits, as detailed below:

First 2 digits (left side) indicate Chapter no. e.g. from 01 to 21.

Next one digit indicates Sub-Group within the Chapter.

Next 2 digits are Main Item nos. within one Sub-group.

Next one digit, i.e. right-most digit indicates Sub-item within the main item.

3. Units used in IRUSSOR

Wherever "Each" has been used as Unit in any item, it should be read in comjunction with the Description of the item. Short forms of "Unit" are used as under at different places:

TRM	Track Metre
RM	Running Metre
CuCm	Cubic Centimetre
Cudm	Cubic Decimetre
Cum	Cubic Metre
Sq Cm	Square Centimetre
Sqm	Square Metre
KM	Kilometre
MT	Metric Tonne
MT KM	Metric Tonne Kilometre
Kg	Kilogram

CHAPTER - 1 : Earth Work

Item No.	Description of Item	Unit	Rate (₹)
011000	Earthwork in New Lines, Doubling Projects Etc. - Embankments		
011010	Preparation of foundation for Embankment by clearing, grubbing, stripping top soil (average 150 mm) and stacking beyond foundation area, thereafter ploughing and pulverizing 150 - 200 mm of top of soil with tractor trolley, mixing water to achieve OMC with water sprinkler or left for natural drying, as required, and compaction with vibratory roller of suitable capacity to achieve 98% MDD for laying first layer of soil for embankment construction.	100 Sqm	569.75
011020	Benching of existing embankment manually in steps of 30 cm height for doubling/tripling works in running line to provide proper amalgamation between the old and new embankments as per RDSO latest Specifications and guidelines RDSO/2020//GE: IRS-0004 to the entire satisfaction of Engineer in-charge. The item includes uprooting and disposing of all the vegetation, all lift, descends, ascends and additional earthwork required for filling due to removal of earth in benching in existing bank. Note: (1) The benching Work shall be done for a maximum height of 0.90 m at any time based on the progress of earthwork starting from toe of the embankment. (2) Benching work shall be certified and recorded before starting the earth work. (3) Unit for payment shall be km per metre height of the Bank. Height here means representative average height of the bank in the specified km taken from cross sectional measurements for earthwork. (4) Since the rate includes earthwork in steps, payment under this item shall be made after completion of earthwork to that level. (5) Cut soil from bank shall not be used in embankment construction and disposed off away from bank as per the direction of Engineer-in-charge.	Km	276440.22
011030	Earthwork in filling in embankment, guide bunds, around buried type abutments, bridge gaps, trolley refuges, platforms etc. with contractor's own earth conforming to Soil Quality Class SQ1/SQ2/SQ3, after preparation of foundations as applicable, benching in existing banks wherever required, spreading in layers with motor grader, bringing the moisture content to OMC, mechanical compaction to specified density and dressing of bank to final profile as per RDSO Specifications: RDSO/2020/GE: IRS-0004 with latest correction slips. Note: 1) Foundation preparation, Benching including additional earthwork on account of this, wherever required, shall be paid extra under relevant schedule item for benching. 2) Payment for Earthwork under this item shall be made based on the cross section measurements calculated (i) with original ground profile of existing bank based on initial ground levels before doing benching and (ii) final profile of the bank worked out with final levels as per prevailing guidelines.		
011031	Using Soil Class SQ1	Cum	796.41
011032	Using Soil Class SQ2	Cum	786.07
011033	Using Soil Class SQ3	Cum	803.81
012000	Earthwork in New Lines, Doubling Projects Etc. - Cuttings		

Item No.	Description of Item	Unit	Rate (₹)
012010	Earthwork in cutting in formation, trolley refuges, side drains, level crossing approaches, platforms, catch water drains, diversion of nallah & finishing to required dimension and slopes to obtain a neat appearance to standard profile inclusive of all labour, materials, plant & machinery, leading all cut spoils either to make spoil dumps or for filling in embankment with leads within 2 km on either side of edge of the cutting(s) including all lifts, ascent, descent, loading, unloading, bailing & pumping out water, if required, clearance of site and all other works incidental thereto for completing the work as per RDSO Specification No. RDSO/2020/GE: IRS-0004 with latest updated correction slips and to the satisfaction of the Engineer-in-Charge. Note: (i) All usable earth arising from cut spoils shall be led into bank formation and Unusable spoils shall be dumped / stacked away from toe of embankment. (ii) All hard rock /and boulders not fit for filling will be stacked by the contractor and will be property of the Railways. (iii)Cut trees shall be property of Railways and to be deposited in the railway godown unless specified otherwise in the Conditions of		
012011	In all conditions and classifications of soil except rock	Cum	106.09
012012	Soft rock not requiring blasting	Cum	252.12
012013	In hard rock requiring blasting	Cum	379.62
012014	In hard rock with hammer / chisel / pavement breaker etc. where blasting is not permitted due to special circumstances and if specifically ordered in writing including drilling and all incidental works thereto.	Cum	1006.19
012015	Extra for leading of Cut spoil every one km beyond original lead of 2 km over item nos. 012011 to 012014	Cum	5.39
012020	Foundation preparation in cutting - ploughing and pulverizing 15 cm of top of soil with tractor trolley, mixing water to achieve OMC with water sprinkler or allowing for natural drying, as required, and compaction with vibratory roller of suitable capacity to achieve 98% MDD for laying blanketing layer.	100 Sqm	278.95
012030	Mechanical manufacturing of blanketing material by using only hard and durable stone crushed in mechanical crusher to different gradations, wet mixing of the same in designed proportion in Pug mill or wet mix plant to have uniform gradation including all incidental transportation, laying over finished formation in uniform layer(s) with motor grader, compaction with suitable vibratory roller to specified density and finishing to correct profile, complete as per RDSO Specification No. RDSO/2020/GE: IRS-0004 with latest correction slips. Note: This item shall be used only when entire constituent of blanketing material is mechanically manufactured by crushing of hard and durable stone into desired gradation of designed proportion.	Cum	2494.37
012040	Manufacturing of blanketing material by wet mixing of naturally available suitable soil including additional blending with naturally available or manufactured material as required to achieve specified gradation, in designed proportion in Pug mill or wet mix plant to have uniform gradation including all incidental transportation, laying over finished formation in uniform layer(s) with motor grader, compaction with suitable vibratory roller to specified density and finishing to correct profile, complete as per RDSO Specification No. RDSO/2020/GE: IRS-0004 with latest correction slips.	Cum	1474.76

Item No.	Description of Item	Unit	Rate (₹)
012050	Mechanical manufacturing and supply of blanketing material by using only hard and durable stone crushed in mechanical crusher to different gradations, wet mixing of the same in designed proportion in Pug mill or wet mix plant to have uniform gradation as per RDSO Specification No. RDSO/2020/GE: IRS-0004 with latest correction slips including transportation to nominated place and stacking. Note: 1.This item shall be used only when entire constituent of blanketing material is mechanically manufactured by crushing of hard and durable stone into desired gradation(s) in designed proportion to meet prescribed Specification. 2. Measurement shall be done as per Stack measurement.	Cum	1856.63
012060	Manufacturing and supply of blanketing material by wet mixing of different types of naturally available suitable soil including additional blending with naturally available or manufactured material as required to achieve specified gradation, in designed proportion in Pug mill or wet mix plant to have uniform gradation as per RDSO Specification No. RDSO/2020/GE: IRS-0004 with latest correction slips including all incidental transportation and stacking at site in Stacks. Note: Measurement shall be done in as per Stack measurement.	Cum	1082.51
013000	Miscellaneous		
013010	Felling trees of girth (measured at a height of 1.0 m above ground level) including leading and stacking of material within 100m. Note : 1. When stumps are grubbed up in addition, the rates shall be doubled for trees cut and grubbed 2. Payment for grubbing shall only be made where specially ordered. 3. Grubbing shall be ordered only where it is essential to remove the stumps, including the roots, as per specification. 4. Grubbing shall include removal of roots of trees and saplings to a depth of 60cm below ground level or 30 cm below formation level or 15 cm below sub grade level, whichever is lower.		
013011	Girth over 30 cm and up to 60 cm	Each	391.35
013012	Girth over 60 cm and up to 1.5m	Each	1083.73
013013	Girth over 1.5m up to 3 m	Each	2160.77
013014	Girth over 3 m	Each	3622.47
013020	Turfing / planting, including all lead & lift and watering as required until properly rooted with. Note: Initially payment of only 40% will be made. Balance 60% will be paid after 3 months of maintenance period, only if the turfing is properly rooted on entire turfed area.		
013021	Turfing with sods, 10cm thick and 20cm square closely laid.	100 Sqm	18456.18
013022	Turfing with planted doob grass.	100 Sqm	35349.78
013023	Planting Sarkanda / sarpat or any other suitable species approved by the engineer.	100 Sqm	24511.82
013030	Cleaning out silt from bed of reservoir/canals including 50m lead and lift up to 1.5m.	Cum	232.13

Item No.	Description of Item	Unit	Rate (₹)
013040	Providing portable fencing along running track where work is to be done in close vicinity of track, maintaining during execution of work and removing after completion of the work as per direction of the Engineer. Fencing shall consist of self supporting steel angles of size 50mm x 50mm x 6mm, 1.5m long provided with hooks etc. and embedded in CC 1:2:4 block of size 0.23m x 0.23m x 0.23m placed at c/c distance of 2m along track. 12mm dia rods in three horizontal layers shall be tack welded with angle posts. Note : Released material will be property of the contractor after completion of work. Cost of cement required for CC blocks shall be paid separately.		
013041	With provision of one 50mm wide retro-reflective tape in horizontal direction, duly secured/tight with vertical posts.	Metre	246.43
013042	With provision of painting verticals & horizontals with red luminous paints / strips of 30cm each with a gap of 30 cm.	Metre	140.46
013050	Provision of barricading with contractor's bamboos / ballies vertical post of 100mm dia. planted at every 2m interval, projecting at least 1.5m above ground level and driven firmly (minimum 0.5m) inside ground and including painting verticals & horizontals with red luminous paints / strips at alternative bay on barricade. Barricades shall be maintained through out the execution of the work and shall be removed in workman like manner on completion of the work only after instruction of Engineer in-Charge. Note: (1) 60% payment shall be made on provision of barricading at work-site and balance 40% payment after removal of barricades. (2) The released bamboos / ballies shall be the property of the Contractor.		
013051	With 3 horizontal bamboo / balli members of minimum 50mm dia. spaced equally	RM	179.41
013052	Joining with strong nylon rope in one cross and one horizontal pattern of minimum 5mm dia.	RM	91.58
013060	Supplying, driving and erecting in all types of soils, hard wood pile 5m to 7m long without joint, 125mm average dia. for protection of bank slope including two coats of coal tar paint complete, as directed. Note: Payment will be made as per actual driven length of pile.	Metre	302.55
013070	Driving rails 90R/52 Kg section below average ground level within the slope/toe of embankment including making of nose with contractor's own arrangement complete in all respect Note: Payment will be made as per actual driven length of rail which will be supplied free by Railways at the site of work.	Metre	119.59
013080	Shoring with 'Z' section MS sheet piles side by side in all kinds of soil mechanically or manually as per approved drawing with contractor's own arrangement complete in all respects and removal of sheet piles after completion of the work as directed by engineer in-charge Note: Payment will be made as per actual driven length of pile.	Sqm	1008.72

Item No.	Description of Item	Unit	Rate (₹)
013090	Supplying, laying Non-woven Needle Punched and Mechanically or Thermally bonded type Geotextile for use as Separator/Filtration for Railway formation as per RDSO Specification No. RDSO/2018/GE:IRS-0004 - Part I made of Polypropylene / Polyethylene / Polyamide or combination there of having apparent opening size of less than or equal to 85 microns and elongation at failure more than 50% in both directions including transportation labour, lead & lift complete as directed by Engineer in-charge.		
013091	On top of subgrade or prepared subgrade before laying blanketing layer with minimum strengths in Grab test, Trapezoidal Tear test and Puncture test of 700N, 250 N and 1800 N respectively.	Sqm	264.75
013092	Below the ballast and above blanket layer with minimum strengths in Grab test, Trapezoidal Tear test and Puncture test of 1750N, 800 N and 5800 N respectively.	Sqm	431.79
013100	Supplying & laying of drainage composite for use behind abutments, wing walls, return walls and Retaining walls Geocomposite drain (Vertical) as per RDSO Specification No. RDSO/2018/GE:IRS-0006 latest version with all material, labour, equipment, tools and plants, lead, lift etc. complete in all respects as per the direction of Engineer-in-Charge.	Sqm	859.33

Item No.	Description of Item	Unit	Rate (₹)

CHAPTER - 2 : Bridge Works - Substructure

Item No.	Description of Item	Unit	Rate (₹)
021000	Soil Exploration and Testing		
021010	Exploratory drilling of boreholes down to required depth, drilling of 150mm dia. boreholes in all type of soils except hard rock & large boulders (boulder core more than 30cm) including refilling, reinstating surface and disposing off surplus material including use of mechanical rigs with power operated winches as well as percussion/chiselling tool for advancing through occasional seams of hard strata to be employed, where necessary in Dry area.		
021011	0m to 10m	Metre	2675.88
021012	10m to 20m	Metre	2943.46
021013	20m to 30m	Metre	3612.43
021014	30m to 40m	Metre	4298.12
021015	40m to 50m	Metre	5769.86
021016	50m to 60m	Metre	5351.75
021017	60 m to 70 m	Metre	5017.27
021020	Exploratory drilling of Boreholes down to required depth, drilling of 150mm diameter boreholes in all type of soils except hard rock and large boulders (boulder core more than 30cm), including refilling, reinstating surface and disposing off surplus material including use of mechanical rigs with power operated winches as well as percussion / chiselling tool for advancing through occasional seams of hard strata to be employed where necessary in River bed area including standing/flowing water with all necessary arrangements except making of platform under water which shall be paid under relevant item of SOR.		
021021	0m to 10m	Metre	3211.05
021022	10m to 20m	Metre	3532.16
021023	20m to 30m	Metre	4334.92
021024	30m to 40m	Metre	5157.75
021025	40m to 50m	Metre	6923.83
021026	50m to 60m	Metre	6422.10
021027	60m to 70m	Metre	6020.72
021030	Extra for 150mm dia. bore in hard Rock/large Boulder at all levels	Metre	6154.51
021040	Erection of temporary working platform to drill bore hole through flowing/standing water through river bed up to water depth of 1.5m, and dismantling after completing work and removing from the site to clear the water way.	Cum	6919.01
021050	Drilling of NX size borehole (75mm dia.) in all types of hard rock and collection of rock core samples from boreholes and preserving in boxes.		
021051	0m to 10m	Metre	8027.63
021052	10m to 20m	Metre	8785.79
021053	20m to 30m	Metre	9588.55
021054	30m to 40m	Metre	10926.49
021055	40m to 50m	Metre	10502.81
021056	50m to 60m	Metre	11305.57
021057	60m to 70m	Metre	11472.82
021060	Conducting in-situ full size Plate Load Test (PLT) at selected location as per IS:1888 including making loading arrangements & casting of RCC/cast in-situ concrete footing as per codal provisions including excavation and refilling of trial pit.		
021061	Plate size 30cm x 30cm	Each	86965.95
021062	Plate size 45cm x 45cm	Each	103690.17

Item No.	Description of Item	Unit	Rate (₹)
021063	Plate size 60cm x 60cm	Each	120414.39
021070	Conducting in situ Vane shear test for soil as per IS:4434	Each	25420.82
021080	Conducting SCPT for soil as per IS:4968	Each	36570.30
021090	Conducting DCPT for soil as per IS:4968	Each	43705.96
021100	Conducting determination of California Bearing Ratio as per IS:2720	Each	5686.24
021110	Taking out 100mm dia. & 450mm long undisturbed samples of soil from bore holes, including provision of air tight containers for packing and, labeling incl. transporting the samples to laboratory. Piston sampler shall be used for extracting undisturbed samples where necessary. Samples shall be collected as per IS:2720.	Each	1569.85
021120	Taking out 100mm dia. & 450mm long disturbed samples of soil from bore holes, including provision of air tight containers for packing, labeling and transporting the samples to laboratory. Samples shall be collected as per IS:2720.	Each	2006.91
021130	Conducting standard penetration test as per IS:2131 at approximate1.5m intervals in bore holes, as directed by the Engineer in charge	Each	735.87
021140	Collection of water samples at required intervals	Each	802.76
021150	Conducting laboratory Tests on collected soil samples as per relevant IS code		
021151	Moisture Content/Dry Density	Each	602.07
021152	Atterberg Limits	Each	468.28
021153	Specific Gravity	Each	423.68
021154	Grain size analysis including Hydrometer analysis	Each	1360.24
021155	Direct Shear Test	Each	1739.32
021156	Natural Density	Each	579.77
021157	Consolidation Test	Each	4013.81
021158	Unconfined Compression Test	Each	1906.56
021159	Tri-axial Test	Each	3344.84
021160	Conducting Laboratory tests on collected ROCK SAMPLES as per relevant IS code		
021161	Density Test	Each	802.76
021162	Water Absorption & Porosity	Each	887.49
021163	Hardness	Each	1694.73
021164	Unconfined Compression Test	Each	1739.32
021165	Point Load Test	Each	1917.71
021166	Modulus of Elasticity	Each	3344.84
021167	Abrasion Testing	Each	1612.21
021170	Conducting chemical analysis of ground water samples to determine suitability for concreting and aggressiveness in relation to attack on concrete / reinforcement including determination of pH value.	Each	2180.84
021180	Conducting chemical analysis of soil samples to determine aggressiveness in relation to attack on concrete / reinforcement including determination of pH value	Each	6020.72
022000	Open Foundation and Pile Foundation		

Item No.	Description of Item	Unit	Rate (₹)
022010	Earthwork in excavation by mechanical means (Hydraulic Excavator)/Manual Means for foundations and floors of the bridges, retaining walls etc. including setting out, dressing of sides, ramming of bottom, getting out the excavated material, back filling in layers with approved material and consolidation of the layers by ramming and watering etc. including all lift, disposal of surplus soil up to 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. Note: This item will be used for excavation work in connection with other miscellaneous works also like side drains, foundation for OHE masts and other miscellaneous structures in connection with Gauge Conversion, Doubling, New lines.		
022011	All kinds of soils	Cum	211.33
022012	Soft rock (not requiring blasting)	Cum	444.28
022013	Hard rock (requiring blasting)	Cum	791.73
022014	Hard rock (blasting prohibited)	Cum	1240.71
022020	Extra over item nos. 022011 to 022014 for executing the work under water and/or liquid mud to compensate all additional arrangements including pumping out water as required. Note: The extra percentage rate is applicable only for the quantity of work executed under water.	Cum	0.20
022030	Providing and laying in position Plain cement concrete of specified Nominal Mix for miscellaneous works like side drains, foundation for OHE masts and other miscellaneous structures excluding the cost of Cement, centering and shuttering - All work up to plinth level :		
022031	1:1½:3 (1 Cement: 1½ coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size)	Cum	4370.99
022032	1:2:4 (1 cement : 2 coarse sand (zone-III) : 4 graded stone aggregate 20 mm nominal size)	Cum	4523.80
022033	1:2:4 (1 Cement : 2 coarse sand (zone-III) : 4 graded stone aggregate 40 mm nominal size)	Cum	4497.44
022034	1:3:6 (1 Cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size)	Cum	4675.43
022035	1:3:6 (1 Cement : 3 coarse sand (zone-III): 6 graded stone aggregate 40 mm nominal size).	Cum	4526.97
022036	1:4:8 (1 Cement : 4coarse sand (zone-III): 8 graded stone aggregate 40 mm nominal size).	Cum	4564.22

Item No.	Description of Item	Unit	Rate (₹)
022040	Providing and laying in position machine batched, machine mixed and machine vibrated Cement Concrete of specified grade as per approved Design Mix (mixed in Mobile Concrete Batching/Mixing Plant at site or RMC from approved plants) using 20mm graded crushed stone aggregate and coarse sand of approved quality in RCC raft foundation & Pile cap including finishing, using Plasticiser in approved proportions (as per IS:9103), to modify workability without impairing strength and durability complete as per specifications and direction of the Engineer in charge. Note: 1. Payment for cement, reinforcement and shuttering shall be made extra under relevant item. 2. Plasticiser shall invariably be used in approved proportion to increase workability with minimum possible quantity of cement for all grade of Design Mix Concrete unless it is specifically approved citing reasons for not using plasticiser at the stage of Mix Design and in that case deduction shall be made as per relevant item.	Cum	4561.69
022050	Providing and laying in position machine batched, machine mixed and machine vibrated Cement Concrete of specified grade as per approved Design Mix (mixed in Mobile Concrete Batching/Mixing Plant at site or RMC from approved plants) using 20mm graded crushed stone aggregate and coarse sand of approved quality for the following Reinforced cement concrete structural elements up to height of 9.0 m from foundation top level, including finishing, using Plasticiser in approved proportions (as per IS:9103), to modify workability without impairing strength and durability complete as per specifications and direction of the Engineer in charge. Note: 1. Payment for cement, reinforcement and shuttering shall be made extra under relevant item. 2. Plasticiser shall invariably be used in approved proportion to increase workability with minimum possible quantity of cement for all grade of Design Mix Concrete unless it is specifically approved citing reasons for not using plasticiser at the stage of Mix Design and in that case deduction shall be made as per relevant item.		
022051	Abutment & Pier	Cum	4664.60
022052	Wing wall and Return wall	Cum	4664.60
022053	Abutment cap, Pier Cap, Inspection Platform & Pedestal over Pier cap, Fender wall, Diaphragm wall etc.	Cum	4716.06
022054	Approach slab at formation level, Dirt wall/ ballast wall at formation level	Cum	4613.14
022055	Extra for every increase of 1m or part thereof in the height above 9.0 m	Cum	102.91
022060	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	4630.33

Item No.	Description of Item	Unit	Rate (₹)
022070	Providing and fixing Weep Holes in Abutments, Wing walls and Return walls etc., of new bridges with 110mm dia UPVC pipe Type A ISI marked with all contractor's men, material, transportation, all taxes as per specifications and as directed by Engineer-in-Charge.	Metre	313.33
022080	Boring, providing and installation of bored cast in-situ Reinforced Cement Concrete piles of specified diameter and length below pile cap of specified grade with 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, concreting by machine batching, machine mixing, scaffolding, using Admixture in approved proportion (as per IS:9103), placing with tremie pipe, chipping off of pile top to remove laitance concrete above cut off level etc., pumping and bailing out water, by percussion drilling using Direct Mud Circulation (DMC) or Bailor and Chisel technique by tripod and mechanical Winch machine, complete in all respect as per approved drawing, specification and direction of the Engineer in charge. Note: 1. Payment for only cement, reinforcement and permanent casing pipe (if any) shall be made extra. 2. Length of the pile for payment shall be measured up to the bottom of RCC pile cap. 3. Plasticiser shall invariably be used in approved proportion to increase workability with minimum possible quantity of cement for all grade of Design Mix Concrete unless it is specifically approved citing reasons for not using plasticiser at the stage of Mix Design and in that case deduction shall be made as per relevant item.		
022081	1500 mm diameter	Metre	12348.41
022082	1200mm diameter	Metre	8339.78
022083	1000mm diameter	Metre	6218.85
022084	800mm diameter	Metre	3884.62
022085	600mm diameter	Metre	2249.73
022090	Boring, providing and installation of bored cast in-situ Reinforced Cement Concrete piles using Hydraulic piling Rig of specified diameter and length below pile cap of specified grade with 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, concreting by machine batching, machine mixing, scaffolding, using Admixture in approved proportion (as per IS:9103), placing with tremie pipe, chipping off of pile top to remove laitance concrete above cut off level etc., pumping and bailing out water complete in all respect as per approved drawing, specification and direction of the Engineer in charge. Note: 1. Payment for only cement, reinforcement shall be made extra. 2. Length of the pile for payment shall be measured up to the bottom of RCC pile Cap. 3. Plasticiser shall invariably be used in approved proportion to increase workability with minimum possible quantity of cement for all grade of Design Mix Concrete unless it is specifically approved citing reasons for not using plasticiser at the stage of Mix Design and in that case deduction shall be made as per relevant item.		
022091	1500 mm diameter	Metre	17969.65
022092	1200mm diameter	Metre	13230.99
022093	1000mm diameter	Metre	10752.34
022094	800mm diameter	Metre	6950.75
022095	600mm diameter	Metre	4489.60

Item No.	Description of Item	Unit	Rate (₹)
022100	Providing, fabricating and installing permanent casing pipe for bored piles for all diameters with specified thickness of steel plate including all labour, materials, tools & complete as per approved drawing & specifications complete in all respect as per the direction of Engineer in charge. Note: Payment shall be made as per the weight of circular plate of casing pipe only.	MT	123864.05
022110	Extra for chiselling in addition to boring of piles, if chiselling is required to be resorted to in hard rock or big stone boulders larger than 30cm, manually or by any other means.		
022111	1200mm diameter pile	Metre	5374.21
022112	1000mm diameter pile	Metre	4111.99
022113	800mm diameter pile	Metre	3109.91
022114	600mm diameter pile	Metre	2018.90
022120	Conducting load test of a single pile up to specified 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.		
022121	Initial load test up to 50 ton capacity pile	Each	67014.84
022122	Initial load test above 50 ton and up to 100 T capacity pile	Each	81360.92
022123	Initial load test above 100 ton and up to 250 T capacity pile	Each	108092.38
022124	Extra for every increase of 50 ton in pile capacity or part thereof over 250 ton	Each	5756.40
022125	Routine Load Test up to 50 ton capacity pile	Each	33507.42
022126	Routine Load Test above 50 ton capacity up to 100 ton capacity pile	Each	40680.46
022127	Routine Load Test above 100 ton capacity up to 250 ton capacity pile	Each	54046.19
022130	Lateral load testing of single pile in accordance with "IS Code of practice IS:2911 (Part-IV) for determining safe allowable lateral load of pile" with all labour, material, tool & plants, equipment, machinery, etc complete as per drawing and specification as directed by the Engineer.		
022131	Piles with lateral load capacity of up to 50 ton	Each	19329.45
022132	Piles with lateral load capacity of above 50 ton and up to 100 ton	Each	20506.84
022140	Pulse Echo Test (PET) for integrity testing of piles with contractor's men, materials and machines. The rate includes cost of Inspection of site, preparation of pile head and any other unforeseen cost required for the test, submission of reports in triplicate as per satisfaction of the Engineer in Charge.	Each	1471.73
023000	Well Foundation		
023010	Earth work in OPEN excavation in foundation of bridges, for placing of well curbs of all shapes and designs in all kinds of soil including taking out the excavated soil, levelling, ramming of bottom of excavation and trimming of sides, returning the soil in layers, consolidation, disposal of surplus soil within a lead of 300m, including all lift, dewatering, shoring and strutting complete as per technical specification and as directed by Engineer in charge.		
023011	In all types of soils	Cum	317.00
023012	In Ordinary rock	Cum	488.70
023013	Hard rock (blasting prohibited)	Cum	1364.79

Item No.	Description of Item	Unit	Rate (₹)
023020	Providing and constructing Temporary Earthen Island / coffer dam for construction of well foundations of dia. up to 10m (longest dimension) , including bailing and pumping out of water, provision of sand bags, wooden ballies, sheet piling, earth, sand or any other suitable material, as required with all labour and material complete job.		
023021	For water depth up to 1.00m	Each	286741.52
023022	Extra for every 1.00m additional depth and part thereof over item 023021 up to water depth of 4.00m.	Each	420041.26
023023	Providing and constructing 10m wide service road to reach island location from one pier location to another pier location.	RM	13258.34
023030	Supplying, Fabrication, assembly, erection & placing in position the cutting edge of well curb with structural steel including MS sheet/Plates of specified thickness for pier/abutment complete as per approved plans and as per direction of Engineering In charge including all operations like cutting, bending, straightening, drilling holes, bolting, riveting, welding, threading, jointing of steel sections including outer and inner places liners and skin plates, stiffeners, hooks, bottle nuts, bond rods etc. as per design including all ascent, descents, leads, lifts, handing, re-handling, all other obstructions whatsoever, diverting channels, pumping / bailing out of water wherever required including cost of steel such as flats, sheets, angles, steel bars etc. with all labour and material as a complete job.	MT	142997.71
023040	Dry/Wet Sinking of Circular Wells (Other than pneumatic method) in all types of strata except hard rock requiring blasting, including bailing and pumping out water, removal of excavated soil with all labour and material required for sinking as per drawing and direction of the Engineer in charge, disposal of surplus soil in the adjoining bank/embankment..		
023041	From initial level of cutting edge & up to 3m depth	Cum	228.00
023042	Above 3m to 10m depth	Cum	351.98
023043	Above 10m to 15m depth	Cum	408.43
023044	Above 15m to 20m depth	Cum	521.27
023045	Above 20m to 25m depth	Cum	859.17
023046	Above 25m to 30m depth	Cum	1233.45
023047	Above 30m to 35m depth	Cum	1904.52
023048	Above 35m to 40m depth	Cum	3067.26
023049	Above 40m to 45m depth	Cum	4939.85
023050	Above 45 m depth	Cum	5924.03
023060	Dry/Wet Sinking of Twin D type Wells (Other than pneumatic method) in all types of strata except hard rock requiring blasting, including bailing and pumping out water, removal of excavated soil, with all labour and material required for sinking as per drawing and direction of the Engineer in charge including disposal of surplus soil in the adjoining bank/embankment (compaction to be paid separately under the relevant item).		
023061	From initial level of cutting edge & up to 3m depth	Cum	330.37
023062	Above 3m to 10m depth	Cum	434.13
023063	Above 10m to 15m depth	Cum	503.76
023064	Above 15m to 20m depth	Cum	642.94
023065	Above 20m to 25m depth	Cum	1059.71
023066	Above 25m to 30m depth	Cum	1521.35
023067	Above 30m to 35m depth	Cum	2349.06
023068	Above 35m to 40m depth	Cum	3783.18
023069	Above 40m to 45m depth	Cum	6092.85
023070	Above 45 m depth	Cum	7305.82

Item No.	Description of Item	Unit	Rate (₹)
023080	Extra for sinking of wells in hard rock requiring controlled blasting including cost of explosive, detonators, chiselling including all other ancillary works	Cum	964.27
023090	Providing and laying in position machine batched, machine mixed and machine vibrated Cement Concrete of specified grade as per approved Design Mix (Cast in-Situ) using 20mm graded crushed stone aggregate and coarse sand of approved quality in the following elements of well including finishing, using Plasticiser in approved proportions (as per IS:9103), to modify workability without impairing strength and durability complete as per drawings and technical specifications as directed by Engineer. Note: 1. Payment for cement, reinforcement and shuttering shall be made extra under relevant item. 2. Plasticiser shall invariably be used in approved proportion to increase workability with minimum possible quantity of cement for all grade of Design Mix Concrete unless it is specifically approved citing reasons at the stage of Mix Design and in that case deduction shall be made as per relevant item.		
023091	In well Curb	Cum	5017.86
023092	In Steining of wells	Cum	5017.86
023093	In Bottom plug for wells including arrangements for placing concrete under water with tremie or bottom opening skips.	Cum	5017.86
023094	In Intermediate/top plug without shuttering	Cum	4789.77
023095	In Intermediate/Top plug with internal shuttering	Cum	4789.77
023096	In Well cap and corbel, if provided	Cum	4789.77
023100	Supplying and filling ordinary sand in between bottom plug and top plug in wells including all lead lift handling, re-handling, as a complete job as per specification and guidelines.		
023101	Using Sand from River Bed if suitable for filling	Cum	317.00
023102	Using sand from other than River bed (This item is to be operated if suitable sand is not available in River Bed for filling	Cum	5591.20
024000	RCC Box		
024010	Providing and casting machine batched, machine mixed and machine vibrated Cement Concrete of specified grade as per approved Design Mix, mixed in Mobile Concrete Batching/Mixing Plant at site or RMC from approved plants, (Cast in-Situ/Pre-cast) in bottom/top slab, side walls, toe wall and sumps haunch filling head walls, thrust bed or any other component using 20mm graded crushed stone aggregate and coarse sand of approved quality of RCC box of any size including finishing, Plasticiser in approved proportions (as per IS:9103), to modify workability without impairing strength and durability, complete as per drawings and technical specifications as directed by Engineer in charge. Note: 1. Payment for cement, reinforcement and shuttering shall be made extra under relevant item. 2. Plasticiser shall invariably be used in approved proportion to increase workability with minimum possible quantity of cement for all grade of Design Mix Concrete unless it is specifically approved citing reasons at the stage of Mix Design and in that case deduction shall be made as per relevant item.	Cum	5017.86

Item No.	Description of Item	Unit	Rate (₹)
024020	Providing and laying in position machine batched, machine mixed and machine vibrated Design Mix Cement Concrete, mixed in Mobile Concrete Batching/Mixing Plant at site or RMC from approved plants, of specified grade (cast in-situ) using 20mm graded crushed stone aggregate and coarse sand of approved quality in Drop and curtain wall and alike structures below bed level, complete in all respect as per drawings and technical specifications to the satisfaction of Engineer-in-Charge. Note: Payment for cement, reinforcement and shuttering shall be made extra.	Cum	4561.69
024030	Launching of precast RCC box segments of any size and barrel length for single/double line as per approved drawings to the correct alignment and position in electrified / non-electrified sections safeguarding all utilities (S&T cable, power cable, OHE, pipelines etc.) including transportation of box segments from casting yard to site of launching, dismantling of the existing track, removing & stacking of ballast, removing surcharge, dismantling of existing bridge built with stone masonry / cement concrete including cutting of formation, placing of Box segments in position either on base slab or prepared foundation, backfilling after launching of precast box segment and compaction of earth in surcharge, ballasting & re-laying of track to correct alignment and geometry, packing and further maintenance till allowing non-stop 20 KMPH over the re-laid track, complete in all respect as per approved drawing to the satisfaction of Engineer-in-charge. The rate is all inclusive except the cost of RCC Box Segments, Base Slabs (if required) and backfill material which shall either be supplied by railway or paid extra under relevant item. Note: Unit of 'Each' here means bridge of span(s) with a total linear waterway up to 3m.		
024031	Single Line Note: Minimum equipment required shall be (i) Crawler mounted Hydraulic excavator of min 200 HP and bucket capacity 2.5 cum - 3 numbers (ii) Cranes minimum 150 T capacity - 3 nos., (iii) Stone Breaker - 1 no., (iv) Road Trailer of 20 MT capacity - 1 no., (v)Tippers - 2 nos. and (vi) Tractors - 2 nos. (vii) Slope Vibratory compactor - 1 no. and other required machineries etc. in good working condition at site of work.	Each	1058969.33
024032	Double Line Note: Minimum equipment required shall be (i) Crawler mounted Hydraulic excavator of min 200 HP and bucket capacity 2.5 cum - 3 numbers (ii) Cranes minimum 200 T capacity - 3 nos., (iii) Stone Breaker - 1 no., (iv) Road Trailer of 20 MT capacity - 1 no., (v)Tippers - 2 nos. and (vi) Tractors - 2 nos. (vii) Slope Vibratory compactor - 2 nos. and other required machineries etc. in good working condition at site of work.	Each	1350558.10
025000	Miscellaneous		
025010	Deduct if Plasticiser has not been used in Design Mix Concrete of any grade as per approved mix design or use of 40mm graded stone aggregate in place of 20mm graded stone aggregate in any grade of concrete. Note: Deduction to be made for quantity of concrete.		
025011	Deduction for not using Plasticiser in approved proportions (as per IS:9103) for any grade of Design Mix Concrete.	Cum	-242.78

Item No.	Description of Item	Unit	Rate (₹)
025012	Deduction for using 40mm graded stone aggregate in place of 20mm graded stone aggregate in any grade of concrete.	Cum	-78.05
025020	Providing and applying two coats of coal tar or bitumen confirming to IS:3117– latest version on the top and sides of RCC box/slabs @ 1.70 kg/sqm after cleaning the surface with all labour and materials complete job as directed by the Engineer.	Sqm	167.01
025030	Centering and shuttering including strutting, propping etc. and removal of form for :		
025031	All types of bridge sub-structures, e.g. pier, abutment, wing wall, retaining wall, RCC box type foundations, Abutment cap, Pier Cap, Inspection Platform & Pedestal over Pier cap, Fender wall, Diaphragm wall etc. up to 5m above ground level	Sqm	765.08
025032	All types of bridge super-structures, e.g. slabs, I-girders, T-girders, Box girders etc. up to 5m above ground level.	Sqm	989.92
025033	Extra for additional height over item no. 025031 & 025032 wherever required with adequate bracing, propping etc. over initial height of 5 metres for every additional height of 1 metre or part thereof.	Sqm	121.09
025040	Providing and laying in position machine batched, machine mixed and machine vibrated Cement Concrete of specified grade as per approved Design Mix (mixed in Mobile Concrete Batching/Mixing Plant at site using 20mm graded crushed stone aggregate and coarse sand of approved quality in jacketing of piers and abutments from bottom of foundation up to a height of 10m for designed thickness of jacketing including finishing, using Plasticiser in approved proportions (as per IS:9103), to modify workability without impairing strength and durability complete as per specifications and direction of the Engineer in charge. Note: 1. Payment for cement, reinforcement and shuttering shall be paid extra under relevant item. 2. Plasticizer shall invariably be used in approved proportion to increase workability with minimum possible quantity of cement for all grade of Design Mix Concrete unless it is specifically approved citing reasons for not using plasticisers at the stage of Mix Design and in that case deduction shall be made as per relevant item.	Cum	7413.51
025050	Extra over 025040 for drilling of holes and insertion of dowel bars in case of Jacketing		
025051	Extra for drilling 32mm dia. holes for jacketing / anchoring	Metre	182.47
025052	Extra for inserting of dowel bars of specified dia. (cost of rods to be paid extra)	Metre	16.48
025060	Supplying, spreading and compacting well graded hard stone of 63mm average size (maximum up to 80mm size) in the bottom of foundation of box culverts, bridges etc. including all lead, lift, ascent, descent etc. complete job as per directions of Engineer In-charge.	Cum	1538.59
025070	Supply and using Cement at Worksite		
025071	Ordinary Portland Cement 43 grade approved brands/makes	MT	9089.61
025072	Ordinary Portland Cement 53 grade of approved brands/makes	MT	9725.47
025073	Pozzolana Portland Cement approved brands/makes	MT	8732.05
025074	Sulphate Resisting Cement approved brands/makes	MT	10971.09

Item No.	Description of Item	Unit	Rate (₹)
025080	Supply of steel reinforcement of approved brands/makes for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete.		
025081	Mild steel bars	Kg	100.99
025082	Thermo-Mechanically Treated bars of grade Fe-500D or more of approved brands/makes.	Kg	102.59

Item No.	Description of Item	Unit	Rate (₹)

CHAPTER - 3 : Bridge Works - Super Structure (RCC)

Item No.	Description of Item	Unit	Rate (₹)
031010	Providing and laying in position machine batched, machine mixed and machine vibrated Cement Concrete of specified grade as per approved Design Mix (mixed in Mobile Concrete Batching/Mixing Plant at site or RMC from approved plants) using 20mm graded crushed stone aggregate and coarse sand of approved quality for cast in-situ Prestressed (Post-tensioned) concrete girder / Box girders/Slabs for different spans including finishing, using Plasticiser in approved proportions (as per IS:9103), to modify workability without impairing strength and durability complete as per drawings, specifications and direction of the Engineer in-charge. Note: 1. Payment for Staging, Shuttering, Cement, reinforcement, HTS cables, sheathing, anchorage cones, stressing of cables and grouting of the ducts shall be made extra under relevant items. 2. Plasticiser shall invariably be used in approved proportion to increase workability with minimum possible quantity of cement for all grade of Design Mix Concrete unless it is specifically approved citing reasons at the stage of Mix Design and in that case deduction shall be made as per relevant item.		
031011	With Soffit level up to 9m above Bed level	Cum	4716.06
031012	With Soffit level From 9m above Bed Level to12m above Bed Level	Cum	4870.43
031013	With Soffit level From 12m above Bed Level to 15m above Bed Level	Cum	5179.17
031014	Extra over USSOR Item no. 031013 for Soffit level beyond 15m above Bed Level for every 1m or part thereof	Cum	102.91
031020	Providing and launching in position machine batched, machine mixed and machine vibrated Cement Concrete of specified grade as per approved Design Mix (mixed in Mobile Concrete Batching/Mixing Plant at site or RMC from approved plants) using 20mm graded crushed stone aggregate and coarse sand of approved quality for the Precast Prestressed (Post-tensioned) Concrete Girder/Box Girders/Slabs in contactor's casting yard in the vicinity of worksite, including finishing, using Plasticiser in approved proportions (as per IS:9103), to modify workability without impairing strength and durability, complete as per drawings, specifications and direction of the Engineer. Note: 1. Payment for Shuttering, Cement, Reinforcement, HTS cables, Sheathing, Anchorage Cones, stressing of cables, grouting of the ducts and launching of girder/slab in position shall be made extra under relevant items. However, deduction shall be made in case of slab as per relevant item. 2. For pre-cast item, loading in transport vehicle in casting yard is included and shall not be paid extra. 3. Plasticiser shall invariably be used in approved proportion to increase workability with minimum possible quantity of cement for all grade of Design Mix Concrete unless it is specifically approved citing	Cum	4561.69

Item No.	Description of Item	Unit	Rate (₹)
031030	Providing and launching in position machine batched, machine mixed and machine vibrated Cement Concrete of specified grade as per approved Design Mix (mixed in Mobile Concrete Batching/Mixing Plant at site or RMC from approved plants) using 20mm graded crushed stone aggregate and coarse sand of approved quality for the Precast Prestressed (Pre-tensioned) concrete girder/slab in contractor's casting yard, including finishing, using Plasticiser in approved proportions (as per IS:9103), to modify workability without impairing strength and durability, complete as per specifications and direction of the Engineer. Note: 1. Payment for Shuttering, Cement, Reinforcement, HTS cables including stressing and launching of girder/slab in position shall be made extra under relevant items. However, deduction shall be made in case of slab as per relevant item. 2. For pre-cast item, loading in transport vehicle in casting yard is included and shall not be paid extra. 3. Plasticiser shall invariably be used in approved proportion to increase workability with minimum possible quantity of cement for all grade of Design Mix Concrete unless it is specifically approved citing	Cum	4561.69
031040	Providing, fabricating & fixing in position to exact design profiles, H.T.S. cables of all classification made from Low Relaxation strands conforming to IS:14268– latest version in Prestressed (Post-tensioned) Concrete girders/slabs etc. including supplying, cutting, making into cables with necessary spacers, colour coding, protecting with water soluble oil at all time, anchoring of cables, supplying and placing spiral corrugated type galvanized metal steel ducts sheathing made up of Cold Rolled Cold Annealed (CRCA) mild steel conforming to IS:513 of required diameter/ thickness, vent pipe, placing, bending, routing, fixing, stressing & grouting of cable ducts with cement grout, Anchorage sets in required number with provision for future prestressing if any including all lead and lift with contractor's own materials, labour, equipments etc. complete as per drawings & specifications. Rate also includes covering anchorage pads with epoxy mortar of approved quality to avoid corrosion. Cement for grouting to be paid separately. Payment shall be made in terms of weight of HTS cables as per drawing.	MT	253011.92
031050	Providing, fabricating & fixing in position to exact design profiles, H.T.S. cables of all classification made from Low Relaxation strands conforming to IS:14268– latest version in Pretensioned Prestressed Concrete girders/slabs etc. including supplying, cutting, making into cables with necessary spacers, colour coding, protecting with water soluble oil at all time, placing, bending, routing, fixing, stressing including all lead and lift with contractor's own materials, labour, equipments etc. complete as per drawings & specifications. Payment shall be made in terms of weight of HTS cables as per drawing.	MT	164500.85
031060	Extra for using HDPE sheathing in place of CRCA sheathing	Metre	187.31
031070	Making suitable designed staging for cast in-situ PSC girders/slabs up to 10.5m height from bed level up to soffit of girder/slab with all contractors materials, machinery, tools and plants, transportation complete in all respects required for casting and removal of the same after completing the work and restoring the site to original. Note: The payment for staging shall be made on the cubical quantity of concrete of main Girders/slabs.	Cum	2995.97

Item No.	Description of Item	Unit	Rate (₹)
031080	Supplying and laying in position specified grade precast prestressed cement concrete ballast retainers of size, as directed by Engineer In-charge. Payment for Shuttering, Cement, reinforcement, HTS cables, anchorage cones, stressing of cables and grouting of the ducts will be done extra.	Cum	4561.69
031090	Design, manufacturing, supplying and fixing in position elastomeric bearing true to line and level conforming to IS:3400, IS:226, BS-5400 under prestressed concrete girders/ Steel Girders, for 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 as given in the drawing and no deduction shall be made for inserted steel plates etc.	Cu Cm	1.75
031100	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 MORTH/IRC specifications complete in all respect as directed by Engineer in-charge.		
031101	For 40mm expansion	Metre	6288.99
031102	For 80mm expansion	Metre	6851.63
031103	For 120mm expansion	Metre	10436.65
031104	For 160mm expansion	Metre	12971.69
031110	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, recording 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.		
031111	For Span design load up to 100 MT	Each	97844.45
031112	Extra for every increase of 1 MT or part thereof over 100 MT in the span design load capacity up to 800 MT	MT	341.92

Item No.	Description of Item	Unit	Rate (₹)
031120	Casting and installation of single/twin RCC box of all sizes with or without common web section including design of pushing scheme, thrust bed, casting of all RCC components, with specified grade of controlled concrete, pushing it in correct position and alignment below Railway track/Road following all measures of track safety by “Box pushing technique" as per approved drawings/scheme, with or without surcharge in all types of soils with disposal of surplus earth away from vent up to 1 Km, fixing arrangement for all services & utilities including parapet walls on both sides, wearing course, foot paths, plaques, drainage arrangements etc. and all other incidental works to complete the ROB/RUB/Canal crossing in all respect as per specifications to the satisfaction of Engineer-in-Charge. Note: 1. The rate includes all items of work/supplies for complete job in all respects except "cost of Reinforced cement concrete, cement, reinforcement & shuttering" of (i) main RCC Box; (ii) Thrust Bed; (iii) Footpath (iv) Parapet wall and (v) wearing Course only, which shall be paid extra under relevant items of USSOR. 2. In case Drag Sheet and/or Rail Cluster are to be used as per approved scheme and design, the same shall be paid extra under relevant item. 3. The payment for this item shall be made for the clear inner cross	Cum	7232.75
031121	Extra for using GI Drag Sheet, 1.50 mm thick, for protection of track from subsidence while pushing the box as per design over item no. 031120. Note: The payment for this item shall be made for the clear inner cross section area of the parent RCC Box/Boxes and barrel length i.e. clear inner volume of parent RCC Box/Boxes.	Cum	1119.44
031130	Casting and installation of single/twin RCC box of all sizes with or without common web section after supporting the track on temporary girders including design of pushing scheme, thrust bed, casting of all RCC components, with specified grade of controlled concrete, pushing it in correct position and alignment below Railway track/Road following all measures of track safety by “Air pushing technique" as per approved drawings/scheme, in all types of soils with disposal of surplus earth away from vent up to 1 Km, fixing arrangement for all services & utilities including parapet walls on both sides, wearing course, foot paths, plaques, drainage arrangements etc. and all other incidental works to complete the ROB/RUB/Canal crossing in all respect as per specifications to the satisfaction of Engineer-in-Charge. Note: (1) The rate includes all items of work/supplies for complete job in all respects except "cost of Reinforced cement concrete, cement, reinforcement & shuttering" of (i) main RCC Box; (ii) Thrust Bed; (iii) Footpath (iv) Parapet wall and (v) wearing Course only, which shall be paid extra under relevant items of USSOR. (2) The CC Cribs as required and Temporary Girder shall be supplied by Railways at available location. (3) Transportation of Temporary Girder to site shall be paid separately under relevant item..	Cum	4591.74

Item No.	Description of Item	Unit	Rate (₹)
031140	Fabrication, insertion and removal of rail cluster below the running track to ensure safety of track during box pushing in correct position and alignment with Railway rails and contractors MS flats, wooden blocks, and 12 mm dia bolts etc., as per approved drawing including removing and filling back of ballast below track under traffic conditions of Electrified/Non-Electrified section with all contractors, labour, tools, tackles, consumables plants, and 50MT capacity crane and any other material required for execution of work in all respect with all lead and lift, transportation and as directed by Engineer in-charge. Payment quantity shall be as per the weight of rail in rail cluster used at site or as per approved drawing, whichever is minimum.	MT	11905.00
031150	Launching of precast RCC box segments for RUBs/Limited Height Subways (LHS) of any size and barrel length for single/double line as per approved drawings to the correct alignment and position in electrified / non-electrified sections safeguarding all utilities (S&T cable, power cable, OHE, pipelines etc.) including transportation of box segments from casting yard to site of launching, dismantling of the existing track, removing & stacking of ballast, cutting of formation and approach road below or above bed level, placing of base slabs & Box segments in position, backfilling after launching of precast box segment, ballasting & re-laying of track to correct alignment and geometry, packing and further maintenance till allowing non-stop 20 KMPH over the re-laid track, complete in all respect to the satisfaction of Engineer-in-charge. The rate is all inclusive except the cost of RCC Box Segments, Base Slabs and backfill material which shall either be supplied by railway or paid extra under relevant item. Note: Minimum equipment required during block shall be (i) Crawler mounted Hydraulic excavator of min 200 HP and bucket capacity 2.5 cum - 3 numbers and (ii) 3 cranes of adequate boom length suitable for launching box segments in position (min capacity of each crane - 200 MT for Single Line and 300 MT for Double Line) apart from other		
031151	For Single Line	Each	1258912.12
031152	For Double Line	Each	1851775.49
031160	Loading, transportation of Precast RCC Girders / Slabs / Ballast retainers / Steel Girders etc. from Casting Yard to Site of Work, unloading and stacking at site of work at prescribed location as directed by Engineer-in-Charge up to 60 kms.		
031161	Up to 5.00 Km	MT	216.20
031162	Above 5 km up to 10 km	MT	248.52
031163	Above 10 km up to 15 km	MT	277.97
031164	Above 15 km up to 20 km	MT	305.41
031165	Above 20 km up to 25 km	MT	331.40
031166	Above 25 km up to 30 km	MT	356.29
031167	Above 30 km up to 35 km	MT	380.34
031168	Above 35 km up to 40 km	MT	403.73
031169	Above 40 km up to 60 km	MT	457.89
031170	Loading, transportation of Precast RCC Girders / Slabs / Ballast retainers / Steel Girders etc. from Casting Yard to Site of Work, unloading and stacking at site of work at prescribed location as directed by Engineer-in-Charge above 60 kms.		
031171	Above 60 km up to 80 km	MT	544.20
031172	Above 80 km up to 100 km	MT	629.07

Item No.	Description of Item	Unit	Rate (₹)
031173	Above 100 km up to 150 km	MT	795.99
031174	Above 150 km up to 200 km	MT	1036.44
031175	Above 200 km	MT KM	5.17
031180	Providing Flood Level Gauges on abutments and piers, made by 20mm thick 1:4 cement plaster for a width of not less than 300mm, duly engraving markings & figures in metres, divided into 10 parts commencing from under-side of girders towards bed, painting markings & figures with black enamel paint in three coats on white background including painting HFL Mark in white by side of gauge with year of occurrence with all Contractor's materials, labour, tools, scaffolding and supports, lead & lifts, curing etc. complete as per approved drawing and as directed by the Engineer in- charge excluding cost of cement which shall be paid extra.	Sqm	663.11
031190	Providing and fixing in position GI Drainage Spouts of required length with Grating in RCC slab and filling bitumen along kerb as shown in drawing with contractor's pipes, bitumen, tools, equipment, lead, lifts etc. complete as per specifications and as directed by Engineer in-charge.		
031191	50mm dia. Drainage Spouts	Metre	611.16
031192	100mm dia. Drainage Spouts	Metre	1244.97
031200	Applying Epoxy Poly-sulphate Paint three coats on existing bottom surface of deck slab including cleaning surface of dirt, dust & other foreign matter, sand papering, wire brushing as required with all contractor's materials tools, machinery, scaffolding, lead, lifts etc. complete as per specifications and as directed by Engineer in-charge	Sqm	305.67
031210	Supplying and laying 160mm dia. PVC Pipes Class-I, capable for a pressure of 2.5 kg/sqm in footpath of ROB for laying cable with all contractor's materials labour, tools, plant, machinery, vehicles, consumables, lead, lift etc. complete as per specifications and as directed by Engineer in-charge.	Metre	740.49
031220	Deduction in rate of 031010, 031020 and 031030 for casting of slab in place of Girder for any height	Cum	-51.46

Item No.	Description of Item	Unit	Rate (₹)

CHAPTER - 4 : Bridge Works - Super Structure (Steel)

Item No.	Description of Item	Unit	Rate (₹)
041010	Supplying, fabrication, assembling of all types of steel girders of specified spans with structural steel conforming to Quality "B0" Grade Designation E250 conforming to IS:2062, erection / slewing / end launching of steel girders with cranes or any other approved launching methods as per site conditions (not requiring traffic block) on sub-structure including provision of trolley refuges etc., complete as per approved QAP and drawings conforming to IRS-B1-2001 and other relevant codes and specifications. Note: 1. Detailed fabrication and erection drawings & launching methodology will be prepared by the contractor and got approved from Railway. 2. The rate is all inclusive including launching in position, complete in all respect except cost of (i) Painting / Metalising; (ii) Bearings & (iii) HSFG bolts which shall be paid extra under relevant item. 3. The payment shall be made on the theoretical weight of main components and gusset plates only. 4. Payment Schedule: (i) Receipt of material at site: 40% (ii) Fabrication of girders: 20% (iii) Erection/Launching: 20% (iv) Completion in all respects: 20%		
041011	Plate Girder/Semi Through Girder/Composite Girder (Steel Work)	MT	167057.54
041012	Open web Girder	MT	189433.85
041013	Extra for using steel conforming to Grade Designation E350 instead of Grade Designation E250 of Quality "B0" as per IS: 2062	MT	2475.16
041014	Deduct for using steel conforming to Quality "BR" instead of Quality "B0" of Grade designation E250 as per IS:2062.	MT	-5626.81
041015	Extra for using steel conforming to Quality "C" Grade Designation E250 instead of Quality "B0" Grade Designation E250 as per IS: 2062	MT	-2698.20
041020	Supplying and fixing HSFG bolts of any dia and any length with suitable nuts including DTI washers conforming to IRS-B1-2001 for bridges and steel structures with contractors labour, tools and plants and lead and lift etc., complete.	Kg	241.14
041030	Assembling and erection of fabricated Steel girders on bearings at site with crane/derrick / any other approved means at site on sub structure with labour, equipment, T&P including site bolting with all temporary arrangements, scaffolding etc. with contractors design and scheme for longitudinal launching/side slewing (not requiring traffic block) approved by Railway. Rate includes drifts, service bolts, Holding down bolts etc. as per drawings. Note: Payment for HSFG bolts used if any will be made separately under relevant item.		
041031	Plate Girder/Semi Through Girder /Composite Girder more than 12.2 m span	MT	18680.05
041032	Open web Girder	MT	28530.05

Item No.	Description of Item	Unit	Rate (₹)
041040	Metallizing of steel work of girders with sprayed aluminium after surface preparation by Sand/grit blasting, followed by one coat of etch primer (IS:5666) & one coat of Zinc Chrome primer (IS:104) and two coats of aluminium paint (IS:2339) with all labour, T&P and material as a complete job duly conforming to all relevant specifications and process given under Clause 39 of IRS-B1-2001. Note: Nominal Thickness of sprayed Aluminium coating shall be 150 microns. DFT of Zinc chrome primer shall be 25-30 microns and DFT of each coat of Aluminium paint shall be 12-14 microns.		
041041	On new girder during fabrication	Sqm	878.00
041042	For maintenance work under running traffic	Sqm	1097.50
041050	Providing and fixing railing used in rows for footpath or anti-crash barrier railing with B class G.I. pipe 65/50 mm nominal dia including cost of M.S. angle and channels in vertical posts, welding / bolting, priming painting with one coat ready mix Zinc Chromate conforming to IS:104 with DFT of 25-30Microns, followed by one coat of Zinc Chrome red oxide conforming to IS:2074 with DFT of 25 Microns with all material, labour, T&P as a complete job. Note: Cost of painting shall be paid extra under relevant item.	Kg	104.24
041060	Supplying and fixing M.S. Angles 65mmx 65mmx 8mm or any other size conforming to IS:2062 in the nosing of steps of stair cases of Foot Over Bridges including provision of 10mm dia, anchor bar 600mm c/c and fixing with main girder with M.S. flat, making anti-slip arrangements over the top of nosing as per approved scheme given by Engineer in charge with all material, labour, T&P as a complete job.	Kg	107.19
041070	Providing and fixing various size HTS holding down bolts conforming to relevant Codes/Specification in concrete column or in other structures with proper nuts, bolts, washers/plates, grouting of holes with cement or epoxy concrete with all material, labour, T&P as a complete job.		
041071	With Cement Grout. Cost of cement shall be paid extra.	Kg	139.59
041072	With epoxy concrete grouting.	Kg	148.33
041080	Supplying, Fabricating and fixing access ladders, inspection platforms, Trolley refuges etc., on bridges with structural steel conforming to IS:2062 including welding / bolting, priming painting with one coat of ready mixed paint of Zinc Chromate (IS:104) with DFT of 25-30 microns followed by one coat of Zinc Chrome Red Oxide (IS:2074) with DFT of 25 microns with all material, labour, T&P as a complete job. Note: Painting shall be paid separately under relevant item.	MT	103373.13
041090	Supplying, fitting and fixing in position true to line and level cast steel rocker/roller bearing of different load bearing capacity conforming to IS :7666, IS:9565, IS:1030, IS:919, IS:3073 and IRS Bridge Code including all accessories as per drawing and Technical Specifications with all material, labour, T&P as a complete job. The payment shall be made for the load bearing capacity in Metric Tonne as per approved drawing.	MT	1498.80

Item No.	Description of Item	Unit	Rate (₹)
041100	Supplying, fitting and fixing in position true to line and level forged steel roller bearing of different load bearing capacity conforming to IS :7666, IS:9565, IS:1030, IS:919, IS:3073 and IRS Bridge Code including all accessories as per drawing and Technical Specifications with all material, labour, T&P as a complete job. The payment shall be made for the load bearing capacity in Metric Tonne as per approved drawing.	MT	1586.10
041110	Deleted	0	0.00
041120	Design, supply, fitting and fixing in position true to line and level POT-PTFE bearing of 300MT Capacity, 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 approved drawing and Technical Specifications. The design of the bearings shall be submitted by the manufacturers / contractor and got approved from Railway before fixing. Test report after inspection of the bearings shall be submitted and got approved before the materials are lifted from the manufacturer premises.		
041121	POT-cum -PTFE Bearing (Free end)	Each	193412.97
041122	POT Bearing-Fixed Type	Each	193412.97
041123	POT-cum -PTFE Guided (L)Bearing	Each	201601.15
041124	POT-cum -PTFE Guided (T)Bearing	Each	189660.05
041130	Design, supply, fitting and fixing in position true to line and level POT-PTFE bearing of 250 MT Capacity, 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 approved drawing and Technical Specifications. The design of the bearings shall be submitted by the manufacturers / contractor and got approved from Railway before fixing. Test report after inspection of the bearings shall be submitted and got approved before the materials are lifted from the manufacturer premises.		
041131	POT-cum -PTFE Bearing (Free end)	Each	167113.46
041132	POT Bearing-Fixed Type	Each	167113.46
041133	POT-cum -PTFE Guided (L)Bearing	Each	179907.49
041134	POT-cum -PTFE Guided (T)Bearing	Each	163565.25

Item No.	Description of Item	Unit	Rate (₹)
041140	Design, supply, fitting and fixing in position true to line and level POT-PTFE bearing of 200 MT Capacity, 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 approved drawing and Technical Specifications. The design of the bearings shall be submitted by the manufacturers / contractor and got approved from Railway before fixing. Test report after inspection of the bearings shall be submitted and got approved before the materials are lifted from the manufacturer premises.		
041141	POT-cum -PTFE Bearing (Free end)	Each	136901.82
041142	POT Bearing-Fixed Type	Each	141450.80
041143	POT-cum -PTFE Guided (L)Bearing	Each	141450.80
041144	POT-cum -PTFE Guided (T)Bearing	Each	136901.82
041150	Design, supply, fitting and fixing in position true to line and level POT-PTFE bearing of 150 MT Capacity, 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 approved drawing and Technical Specifications. The design of the bearings shall be submitted by the manufacturers / contractor and got approved from Railway before fixing. Test report after inspection of the bearings shall be submitted and got approved before the materials are lifted from the manufacturer premises.		
041151	POT-cum -PTFE Bearing (Free end)	Each	105916.85
041152	POT Bearing-Fixed Type	Each	119086.17
041153	POT-cum -PTFE Guided (L)Bearing	Each	119973.22
041154	POT-cum -PTFE Guided (T)Bearing	Each	90461.66
041160	Design, supply, fitting and fixing in position true to line and level POT-PTFE bearing of 100 MT Capacity, 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 approved drawing and Technical Specifications. The design of the bearings shall be submitted by the manufacturers / contractor and got approved from Railway before fixing. Test report after inspection of the bearings shall be submitted and got approved before the materials are lifted from the manufacturer premises.		
041161	POT-cum -PTFE Bearing (Free end)	Each	63513.92

Item No.	Description of Item	Unit	Rate (₹)
041162	POT Bearing-Fixed Type	Each	63513.92
041163	POT-cum -PTFE Guided (L)Bearing	Each	67130.36
041164	POT-cum -PTFE Guided (T)Bearing	Each	82210.26
041170	Design, supply and fixing 300MT capacity Spherical Bearing in position true to line and level consisting of set of concave and convex mating steel backing plate with a low friction sliding interface, flat sliding elements ,guides and restraining rings; with all components conforming to approved drawing and technical specifications & Bridge Code including grouting of holes for anchor bolts and underside of base plate with approved non-shrink epoxy grout with all material, labour, T&P as a complete job. Note: Sliding surface with PTFE or UHMWPE low friction thermoplastic material and steel for backing plate of Mild steel in accordance to IS:2062 grade-B. Cast steel in accordance with IS 1030 Grade 280-520W. Stain less steel in accordance with AISI 304/316.Low friction thermo -plastic sliding PTFE material either pure polytetrafluroethalyne (PTFE) Or Ultra High Molecular weight Polyethylene (UHMWPE). Austanitic steel is of stainless steel for the sliding interface shall be in accordance with AISI 316L or O2 Cr17 NI12 of IS-6911. The thickness of the stain less steel sheet shall be 3mm minimum. The stainless steel sheet shall be attached to its backing plate either by screwing/riveting or by continuous fillet weld.		
041171	Spherical Fixed Bearing	Each	289931.12
041172	Spherical Free Float Bearing	Each	287884.08
041173	Spherical Slide Guide (L) Bearing	Each	281023.45
041174	Spherical Slide Guide (T) Bearing	Each	242649.55
041180	Extra over items 041090 to 041170 for fixing bearings under running traffic /traffic block including removing of existing bearings and handing over at location as directed.	Each	0.10
041190	Supply & applying two coats of bitumen emulsion of Grade RS-1, conforming to IS:8887 on the top surface of concrete deck slab (New bridges) @ 1.70 kg/sqm after cleaning surface with all materials, labour, tools and plants, equipment etc. complete.	Sqm	141.93
041200	Providing road crane of specified lifting capacity with specified jib length revolving type for material handling, assembly & erection of girders/slab/RCC Box etc.		
041201	12 MT capacity	Day	18776.28
041202	20 MT capacity	Day	22049.21
041203	50 MT capacity	Day	60175.98
041204	80 MT capacity	Day	75449.65
041205	100 MT capacity	Day	103355.68
041206	150 MT capacity	Day	187762.83
041207	200 MT capacity	Day	245297.49
041208	250 MT capacity	Day	305473.47
041209	300 MT capacity	Day	370702.39
041210	Extra for increase in road crane capacity over Item 041209 for every additional 1 MT capacity or part there of	Day	1150.63
041220	Surface preparation of steel work of bridge plate/composite girders by cleaning with scrappers and/or wire brushes to remove all rust and loose or perished paint to prepare perfectly clean & dry bare metal surface free from all dirt/foreign material & ready for initial coat of paint for new or existing steel girders. Rate includes cost of labour, consumables, brushes, tools & plants, ladders, scaffoldings, jhoola, hanging scaffolding staging etc.		
041221	Existing girders with old paints	Sqm	55.80
041222	New girders during fabrication	Sqm	44.64

Item No.	Description of Item	Unit	Rate (₹)
041230	Surface preparation of steel work of bridge triangulated girders by cleaning with scrappers and/or wire brushes to remove all rust and loose or perished paint to prepare perfectly clean & dry bare metal surface free from all dirt/foreign material & ready for initial coat of paint. Rate includes cost of labour, consumables, brushes, misc. tools and plants, ladders, scaffoldings, jhoola, hanging scaffolding, staging etc.		
041231	Existing girders with old paints	Sqm	83.70
041232	New girders during fabrication	Sqm	66.96
041240	Surface preparation for painting of bridge plate/composite girders and other steel structures where the finishing coat shows signs of deterioration; but primer coat of paint is sufficiently in good condition and there are no signs of rusting etc. Surface shall be cleaned free from oil grease, scaling and other foreign matters without disturbing the primer coat {Rate includes cost of labour, consumables, tools & plants, scaffolding, jhoola, ladder etc.}	Sqm	35.47
041250	Surface preparation for painting of bridge Triangulated girders where the finishing coat shows signs of deterioration; but primer coat of paint is sufficiently in good condition and there are no signs of rusting etc. Surface shall be cleaned free from oil grease, scaling and other foreign matters without disturbing the primer coat.	Sqm	53.20
041260	Painting of cleaned plate/composite bridge girders including all scaffolding along with provision of Jhoola / hanging scaffolding ladders etc. where required.		
041261	With one coat ready mix Zinc Chromate conforming to IS:104 with DFT of 25-30 Microns followed by one coat of Zinc Chromate red oxide conforming to IS:2074 DFT of 25 Microns	Sqm	101.32
041262	With two cover coats of ready-mixed paint conforming to IS:13607 with colour/shades, as decided by Engineer-in charge Note: DFT of each coat shall be 20-25 microns	Sqm	85.24
041263	With two coats of Aluminium paint in dual containers conforming to IS:2339 with DFT of 15 - 20 Microns for each coat.	Sqm	104.17
041264	With two coats of epoxy paint conforming to RDSO spec M&C/PCN/123-11 Note: DFT of each coat shall be 60 microns.	Sqm	149.72
041265	With one coat Aluminium paint in dual containers conforming to IS:2339 with DFT of 15 - 20 Microns .	Sqm	59.72
041270	Painting cleaned triangulated bridge girders including all scaffolding, along with provision of Jhoola / hanging scaffolding ladder where required.		
041271	With one coat ready mix Zinc Chromate conforming to IS:104 with DFT of 25-30 Microns followed by one coat of Zinc Chrome red oxide conforming to IS:2074 with DFT of 25 Microns.	Sqm	121.38
041272	With two cover coats of ready-mixed paint conforming to IS:13607 with colour/shades, as decided by Engineer-in charge. Note: DFT of each coat shall be 20-25 microns.	Sqm	105.30
041273	With two coats Aluminium paint in dual containers conforming to IS:2339 with DFT of 15 - 20 Microns for each coat.	Sqm	124.23
041274	With two coats of epoxy paint conforming to RDSO spec M&C/PCN/123-11 Note: DFT of each coat shall be 60 microns.	Sqm	169.79
041280	Extra for working under traffic conditions over items 041220 to 041274	Sqm	0.10

Item No.	Description of Item	Unit	Rate (₹)
041290	Removing of existing bed plate from existing bed block, supply, fabrication and erection of new bed plate of approved sizes in exact position over bed block of pier/abutments by giving full and even bearing, setting them on the layer of free flow non-shrinkable grouting compound, scrapping or chipping of bed block, if required, fabrication and fixing of holding down HTS bolts of suitable sizes along with nuts, washers etc., drilling holes of required size, grouting of holes by epoxy mortar after fixing holding down bolts. Total work to be done during traffic block. Cost of holding down HTS bolts shall be paid extra under relevant item for supply of HTS holding down bolts.		
041291	Up to 12.2m clear span	Kg	294.65
041292	More than 12.2m and up to 18.3m clear span	Kg	309.38
041293	More than 18.3m and up to 30.5m clear span	Kg	324.12
041294	Supply of HTS holding down bolts with nuts, washer etc.	Kg	121.22
041300	Assembling and erecting pre-fabricated structures, such as columns, beams, girders, other members of FOBs and sheds; including leading all structural elements within 1 Km lead, bolting, riveting or welding as per approved drawing or as directed by Engineer In-charge. Rate shall include cost of labour, materials, tools & plants and only pre-fabricated structural elements shall be given by Railway. (Work not requiring traffic or power block).	MT	16656.25
041301	Extra over item no 041300, if the work is to be executed under traffic or power block.	MT	289.06
041310	Cleaning and greasing of free end and fixed end of steel girder Bridge bearings with Grease Graphite, Kerosene oil and other materials as per Para 222 of Indian Railway Bridge Manual 1998 with painting of Bearing as per requirement complete as directed by engineer in-charge. Note: One unit shall consists of all bearing of one girder.		
041311	Girder of clear span up to 12.2m	Each	8975.64
041312	Girder of clear span above 12.20m & up to 24.40m	Each	10712.47
041313	Girder of clear span above 24.40m & up to 30.5m	Each	17799.99
041314	Girder of clear span above 30.5m	Each	22305.10
041320	Launching in position, by any approved method, pre-fabricated Steel Girders, precast PSC girders/slabs, casted at casting bed developed at site, to correct alignment and level over the bed block / pedestal with all required arrangements, complete in all respect.		
041321	PSC girders / slabs	MT	1967.04
041322	Structural steel plate girders	MT	2021.53
041330	Delaunching of all types of Steel girders, PSC girders/Slabs and stacking away from river stream or passage as directed by Engineer in charge with all labour, tools and plant, equipment etc., complete.		
041331	PSC girders / slabs	MT	1542.70
041332	Structural steel plate girders.	MT	1634.72
041340	Delaunching of existing and Launching & fixing of new girder/slab in exact location of all type of steel/PSC girders/Slabs available at site, during block, complete job including lifting to any height as per site requirement, provision of approaches, and placing of released material away from bridge stream or roads as the case may be. Note: Payment under this item shall be made for the total weight of girder removed and newly launched girder.		
041341	Delaunching of existing PSC girders / slabs and Launching New PSC girders / slabs	MT	1403.90

Item No.	Description of Item	Unit	Rate (₹)
041342	Delaunching of existing PSC girders / slabs and Launching New Structural steel plate girders.	MT	1425.69
041343	Delaunching of existing Structural steel plate girders / slabs and Launching New Structural steel plate girders	MT	1462.50
041344	Delaunching of existing Structural steel plate girders / slabs and Launching New PSC girders / slabs	MT	1440.70
041350	Longitudinally slewing of steel plate girders of span 12.2m to 24.4m under traffic block at locations where it is found short / excessive expansion gap beyond the bearing to locking strip or the center of the bearing stiffener not in line with the center of the bed plate or where the girders ends are butting each other as directed by the Engineer in charge at site using contractor's own hydraulic jacks of 100 tons capacity for lifting and slewing of girder separately on both ends to suit as per site conditions, consumables and wooden cut blocks including transportation, with all contractors labour, materials, scaffolding/staging arrangements etc complete without damaging the girder and track alignment and cross levels.		
041351	For Span 12.2M to 18.3M	Each	30940.98
041352	For Span above 18.3 M to 24.4 M	Each	34035.08
041360	Arresting leakage of oil from oil bath tank of rocker and roller bearings where in segmental rollers immersed in the oil of nominated OWG bridges of all types of spans under traffic conditions with contractor's labour, materials, tools and plants, Machinery like drilling machines and generators, consumables (Engine oil, SAE oil, K-oil, oxygen and acetylene gas etc), including transportation etc. complete, by draining left over residue oil inside of the tank and opening of oil bath tank sides and top dust cover plates and drain pipes completely by dismantling all its bolted joint connections using chisels and drilling out bolts if any found sheared and strucked off in the base plate, cleaning of bearings, rollers, base plates by applying kerosene oil and scrapping, wire brushing and polishing by zero grade sand paper, examining the rollers and base plates for any micro cracks with magnifying glasses without causing any damage to rollers and its accessories, refixing the oil bath tank side and top dust cover plates, drain pipes and its all joint connections with new bolts using cork sheet and 2mm thick rubber sheet in between joint connections all along its full length as oil sealant duly correct punching of holes as per site conditions, applying of epoxy grout over the joint connections to required thick and allowed to set, test checking for leakages if any by filling the oil bath tank with water	Each	37188.49
041370	Supplying fabricating and erecting welded and/or bolted and/or riveted steel work in built up sections, trusses and framed work, staging, racks, Height Gauge etc. for Steel Structures other than bridge girders, using RSJ, tees, angles and channels/flats, plates, gussets, round or square bars, cleats, bolts etc., with contractors own steel including cutting, bending, straightening, drilling, riveting, hoisting, fixing, erecting, welding, bolting etc., with Providing stiffeners wherever required as per approved drawing including applying a priming coat of a approved steel primer with all contractor's materials, labour, tools & plants, lead & lift including crossing of tracks if required etc., complete as per specification and as directed by Engineer-in-charge. Note: The payment shall be made on the theoretical weight of main components and gusset plates only.	MT	113537.08

Item No.	Description of Item	Unit	Rate (₹)

CHAPTER - 5 : Bridge Works - Misc.

Item No.	Description of Item	Unit	Rate (₹)
051010	Providing and laying boulders apron on river bed for protection against scour with stone boulders weighing not less than 35 kg each with voids filled with spalls complete as per drawing and Technical Specification.	Cum	2549.00
051020	Laying of boulder apron laid in wire crates of approved size including overlaps at joints, laid with stone boulders, all loose ends to be tied with 4mm galvanised steel wire. Payment for boulders & wire crates to be done extra.	Cum	735.09
051030	Supplying of stone boulders weighing not less than 35 kg each at specified bridge locations.	Cum	1623.36
051040	Manufacture and supplying Galvanized Wire Net Trungers made from 4mm galvanised steel wire @ 32 kg/10sqm having minimum tensile strength of 300 Mpa conforming to IS:280 and galvanizing coating conforming to IS:4826, woven into mesh with double twist, mesh size not exceeding 100mm x 100mm.	Sqm	574.97
051050	Providing and laying of Apron with cement concrete blocks cast in-situ and made with nominal mix of 1:2:4 with all material , labour, tools and plants. Note: (1) Payment to be made for concrete only; (2) Cement and shuttering to be paid extra.	Cum	4454.76
051060	Providing and laying Pitching with Stone Boulders, weighing not less than 35kg each with voids filled with spalls on slopes, laid over prepared filter media including boulder apron laid dry in front of toe of embankment complete as per drawing and Technical Specifications (filter media to be paid separately under the relevant item).	Cum	2423.99
051070	Providing and laying Pitching with Stone Boulders, weighing not less than 35kg each with voids filled with cement sand mortar 1:4 on slopes laid over prepared filter media including boulder apron laid dry in front of toe of embankment complete as per drawing and Technical Specifications (filter media to be paid separately under the relevant item). Rate is excluding cost of cement which shall be paid extra under relevant item.	Cum	4623.36
051080	Providing and laying Filter Material as per RDSO Specifications underneath pitching in slopes complete as per drawing and Technical Specification.	Cum	3517.49
051090	Laying Boulder Apron on river bed for protection against scour with stone boulders supplied by Railway with voids filled with spalls complete as per drawings and Technical Specifications.	Cum	480.65
051100	Laying Pitching with Stone Boulders supplied by Railway with voids filled with spalls on slopes, laid over prepared filter media including boulder apron laid dry in front of toe of embankment as per drawings and technical specifications. Note: Filter media to be paid under relevant item.	Cum	508.51
051110	Stenciling of Girders with black / blue lettering over yellow background with ready mix paint w.r.t. details of executed inspection, greasing and painting, other details as directed by Engineer in-charge Note: Payment will be per cm height of each letter	Each	49.42
051120	Cleaning Surface of Abutment and Piers up to bed level under water with brush or any other tools to remove all traces of moss, loose materials, fungus, algae, vegetation growth etc. Cleaning shall be carried out with contractor's trained staff, tools & plants, safety equipments etc. complete job including arranging safe approach.	Sqm	296.49

Item No.	Description of Item	Unit	Rate (₹)
052000	Flooring in Bridges		
052010	Providing and laying flooring with rubble stone, laid over 15cm thick CC 1:2:4 and the voids filled with CC 1:2:4 complete with the joints pointed with 1:2 Cement Sand mortar as per drawing and Technical specifications. Payment for cement to be done separately. Voids in the rubble stone to be taken as 35% of the gross volume of the stone layer. Note: Base concrete shall be paid extra under relevant item.	Cum	3955.03
052020	Providing and laying 300mm thick (average) Dry Stone flooring with boulders of not less than 35kg each in weight, hand packed with surface levelled off to the correct section with hammer dressing as necessary on the ground including filling the gaps with quarry spalls and ordinary sand complete including cost of supply of all materials, labour, lead, lift, tools, plants, crossing of tracks and the like as per drawing and technical specification as directed by Engineer in charge.	Cum	3322.34
052030	Supply and laying of quarry dust including consolidation, supply of all materials, labour, lead, lift, tools, plants, crossing of tracks as per drawing and technical specification as directed by the Engineer in charge in case loose slush is encountered at site of foundation before casting the foundation or laying the filtering media.	Cum	2052.25
052040	Supply and laying of coarse sand including consolidation with all labour, lead, lift, tools, plants, crossing of tracks as per drawing and technical specification as directed by the Engineer in charge in case loose slush is encountered at site of foundation before casting the foundation or laying the filtering media.	Cum	5478.04
052050	Guniting concrete surface with cement mortar of average thickness 25mm along with wire mesh 50x50x3mm, applied with compressor after cleaning surface and spraying complete including curing as per procedure and technical specifications given under Para 209.3 of IRBM. Rate is excluding the cost of cement which shall be paid extra.	Sqm	1088.30
052060	Providing and inserting nipples of size 12 to 20 mm dia. with approved fixing compound after drilling holes for grouting as per Technical Specifications including subsequent cutting/removal and sealing of the hole as necessary after completion of grouting.	Each	101.48
052070	Grouting of masonry/concrete by injection process duly Sealing of cracks, through nipples complete as per Technical Specification and procedure given in IRBM Para No 209 including necessary admixture. Payment shall be as per use of cement by weight in case of neat cement/cement mortar grouting and weight of Epoxy in case of Epoxy Grouting. (Cement will be paid extra).		
052071	Neat Cement Grout with 20% anti shrinkage compound w.r.t. cement.	Kg	430.58
052072	Cement Sand Mortar (1:1) Grout with 20% anti-shrinkage compound w.r.t. cement.	Kg	159.17
052073	Epoxy Grout	Kg	1753.49
052080	Applying epoxy mortar over leached, honey combed and spalled concrete surface and exposed steel reinforcement complete as per Technical Specification with average thickness of 10mm including priming coat, mortar plaster and seal coat of epoxy.	Sqm	13885.17

Item No.	Description of Item	Unit	Rate (₹)
052090	Applying shotcrete mixture of average thickness 40mm over masonry / concrete including removal of defective concrete, raking the mortar in joints, cleaning the surface thoroughly, fixing 50x50x3mm wire mesh over the surface for application of grout mixture comprising cement, sand, coarse aggregate, water, quick setting compound complete as per procedures and specifications given in IRBM Para No 209(3) including curing. Rate is excluding the cost of cement which shall be paid extra.	Sqm	1162.83
052100	Applying pre-packed cement based polymer mortar of strength 45 Mpa (28 days) for replacement of spalled concrete with average thickness of 10mm as per manufacturer's specification and approved procedure.	Sqm	7081.31
052110	Providing & applying epoxy with pot life not less than 60-90 minutes for bonding of new concrete with old concrete @ 0.80 kg/sqm and as per specifications including cleaning the surfaces complete as per approved procedure.	Sqm	1126.31
052120	Providing & fixing 12 mm rabbit wire mesh at the junction of RCC where specifically ordered or as shown in the drawing	Sqm	265.93
052130	Providing weep holes by making suitable opening or drilling in existing Brick Masonry / Plain / Reinforced Concrete abutment, wing wall/return wall with 110 mm dia UPVC pipe (working pressure 4kg/sqcm) extending through the full width of the structure complete and repairing the same with cement mortar 1:2 (1 cement : 2 coarse sand). Rate is excluding the cost of cement which shall be paid extra.	Metre	662.13
052140	Providing and fixing of Drainage Spouts of 110mm UPVC Type A ISI marked (Working pressure 4 kg/sqcm) using suitable clamps and adhesive etc., complete.	Metre	446.02
052150	Providing and laying of filter media consisting of granular materials of GW, GP, SW groups as per IS:1498 (latest) in required profile behind boulder filling of abutments, wing walls / return walls etc. above bed level with all labour and material complete job as per drawing and technical specification of RDSO Guidelines.	Cum	3072.74
052160	Removing all loose concrete, cleaning rust with dusting compound & water jet, drying, replacing worn out reinforcements by welding new reinforcement for making up lost steel section, applying approved anti-corrosive polymer coating over the damaged area to proper profile, providing polymer mortar (up to 20mm thickness) or polymer concrete (more than 20mm thickness) consisting of cement, sand, 6mm down chips where required and polymer as per manufacturers' specification. The rate includes curing for 14 days, all materials, consumables, labours, tools and plants, scaffolding/staging with all lead and lift. Note: Cost of reinforcement, if used, to be paid separately.		
052161	20mm thick polymer mortar	Sqm	16910.26
052162	20mm - 50mm thick polymer concrete	Sqm	3930.60

Item No.	Description of Item	Unit	Rate (₹)
052170	Supply, fabrication and erection of steel members to replace existing corroded members of built up section made up of MS plate, angles, channels of different thickness and sizes including painting with one coat of ready mix paint Zinc Chromate priming to IS:104 followed by one coat of ready mix paint red-oxide Zinc Chrome priming paint to IS:2074. Structural steel should conform to IS:2062 E250- Grade'B0'. Fabrication and erection to be as per existing design initially by bolts and nuts and finally by rivetting during the sanctioned traffic block. Rate includes cutting of new steel work, removal of rivets by drilling, dismantling of any existing members required for inserting fabricated members, fixing of new fabricated built up members with all tools, plants, labour, consumables, machinery and accessories etc. Work will be executed as per IRS:B 1-2001. Note: Painting shall be paid extra under relevant item.	MT	201257.28
052180	Supplying and changing of corroded worn-out and loose rivets of any size at any location of the bridges with or without traffic blocks including all tools, plants, machinery complete in all respects.		
052181	For Rivets of size up to 25mm dia.	Each	329.79
052182	For Rivets of size more than 25mm dia.	Each	534.17
052200	Painting the HFL mark and Danger level mark, year of HFL on bridge abutments and piers with ready mixed paint as per standard in two coats over one coat of primer with all materials, labour, tools, scaffolding, all lead and lift etc. including writing complete.	Each	316.15
052210	Providing cast in situ bridge number plaques as per Railway drawing in cement concrete 1:2:4 mix using 20mm hard stone aggregate embedded in 30mm notch in Bridge parapet coping duly engraving the letter and figures and an arrow indicating the direction of flow and finishing the top exposed surface with cement mortar 1:3, painting letters and figures with two coats of black enamel paint on two coats of white background with all labour, tools, cement, paint etc. with all leads and lifts.	Each	1001.17
052220	Providing cast in-situ plaques for bridge foundations details of size 45cmx45cmx5cm in cement concrete 1:2:4 mix using 20mm hard stone aggregate embedded in 30mm deep notch over abutment & piers, engraving the letters & figures with CM 1:3 and finished smooth including painting letters and figures with 2 coats of black enamel and plaque with white enamel with all labour, tools, cement, paint, curing etc. as a complete job.	Each	1369.34
052230	Providing & laying non pressure NP-4 Class RCC pipe with collars, jointing with 1:2 cement and ordinary sand mortar including testing of joints, but excluding earthwork with all labour and material as a complete job. Cement for mortar will be paid separately.(Pipes of 600mm dia and above will be laid using crane/hydra).		
052231	300mm dia.	Metre	1216.61
052232	450mm dia.	Metre	2002.03
052233	600mm dia.	Metre	2818.95
052234	900mm dia.	Metre	4263.69
052235	1000mm dia.	Metre	5071.69
052236	1200mm dia.	Metre	7778.32
052237	1800mm dia.	Metre	16345.04

Item No.	Description of Item	Unit	Rate (₹)
052240	Supplying, spreading and filling coarse sand (no cohesive materials to be used) of approved quality including watering and ramming in foundation, behind the abutment, wing wall, retaining wall in layers not exceeding 150mm thick including its compaction as per direction of Engineer-in-charge. The rate includes all lead, lift, ascent, descent, crossing of Railway line etc. complete with contractor's labour, materials, tools and plant.	Cum	5628.34
052250	Providing Boulder Backing behind wing wall, return wall, retaining wall with hand packed boulders & cobbles with smaller size boulders toward the back including all lead, lift, labour & other incidental charges as complete work in all respect. Payment for boulder/cobbles will be done extra.	Cum	427.31
052260	Dewatering of natural or accumulated water from any location. Payment to be done for Horse power of pump multiplied by pumping hours.	HP Hour	74.78
052270	Supplying & fixing Galvanised Steel Wire Rope net, made of 9mm dia. steel wire rope having aperture size of 45cm x 60cm with 6m long hangs for top anchoring and 5m wide along with chain-link mesh-netting of 80mm x 80mm mesh size made from 2.4mm dia galvanised wire, joining of chain-link mesh & steel wire rope net and joining of adjacent nets with galvanised spiral lock springs of steel wire dia 2.2mm; inner dia. of springs 18mm; total length 50mm ± 0.5mm; pitch 4mm & open end length 60mm including cutting of tree/shrub etc. in rope-netting location and also, excavation / filling-back of trenches in all types of soil after anchoring rope net with RCC pre-cast beam of size 15cm x 15cm x 2m of M-15 concrete & 30cm thick M-10 PCC. This work also includes supply of 200mm x 200mm x 6mm epoxy coated washer plates with 12.5mm / 18mm dia. hole at centre and supplying & fixing of anchor bolts/fasteners of 10mm dia. including drilling of holes up to a depth of 110mm in rock; cleaning of holes; fixing of fasteners with nut & epoxy coated washer plates; applying torque 65 to 70 N/mm for fixing of rope net for intermediate anchoring on the surface of cutting, bottom anchoring up to 1m depth by using 16mm dia. HYSD steel bolts, threaded up to 200mm on top and fixing	Sqm	1432.97
052280	Supplying & placing of Mechanically Woven Double Twisted Hexagonal Shaped Wire Mesh Gabion Boxes of required sizes, Mesh Type 10cm x 12cm, Zn and PVC coated Mesh Wire dia. 2.7/3.7mm (ID/OD), edges of meshes mechanically edged / selvedged with heavy coating of galvanization as per EN 10223-3/ASTM A 975 with partitions at every 1m interval and properly packed with approx. 150mm size boulders including transportation and placing at indicated places as per direction of engineer-in-charge including contractor's tools, plants, labour, royalty charges etc. complete in all respect and stitching with lacing wire of dia. 2.2/3.2mm (ID/OD) @ 5% by weight of Gabion boxes, carrying the material by head load from nearest approach with all safety precautions and all leads and lifts.	Cum	4067.44
052290	Supplying & placing partly or fully underwater of Polypropylene Tarred Rope Gabion, fabricated from 9mm dia. rope, 100mm x 100mm Mesh with partitions at every 1m interval and properly packed with approximately 150mm size boulders including transportation and placing at indicated places as per direction of engineer-in-charge with contractor's tools, plants, labour etc. including royalty charges complete in all respect and stitching with polypropylene lacing rope of minimum dia. 4mm; carrying the material by head load from nearest approach with all safety precautions and all leads and lifts.	Cum	4368.48
053000	Miscellaneous		

Item No.	Description of Item	Unit	Rate (₹)
053010	Designing and developing Detailed structural and working Drawings for following items for ROB/RUB/Bridge based on Railway's approved GADs, duly collecting necessary data from Railways and R&B authorities, duly designing members and submission of check plot duly getting proof-checked by Railway approved institutes, submitting for Railway's verification and approval, making corrections duly incorporating suggestions in drawings/designs, further submission of original in transparent film paper and soft copy (CD) for Railways approval etc. with contractor's technical expertise and instruments, labour, consumables, repeatedly attending till final approval etc., complete as directed by Engineer in-charge.		
053011	Open / Pile / Well Foundation for piers/abutments	Set	96666.00
053012	RCC Bed Block	Set	36793.29
053013	Foundation and sub-structure for RCC retaining wall, abutment and approach slab	Set	107703.98
053020	Extra for providing and mixing synthetic Polyester triangular synthetic fibre in specified ratio (@ 0.25% of cement by weight), 6 to 18mm in length, designed for melting point 240°C to 260°C and specific gravity of 1.33 to 1.40 in all types of work CC/RCC/plaster etc., This item shall only be used on specific instructions of Engineer-in-Charge.	Kg	802.76

Item No.	Description of Item	Unit	Rate (₹)

CHAPTER 6 : Rails, Sleepers and Fittings Renewal

Item No.	Description of Item	Unit	Rate (₹)
061000	Rails		
061010	Pulling & positioning of rails accurately on cess including supporting rails, providing required gap and squaring at ends for renewal preparation, as directed by Engineer in-charge.		
061011	Up to 40 m long rail panel	RM	10.18
061012	More than 40 m long rail panel	RM	16.10
061013	Extra to Item no. 061011 for working on bridge	RM	4.46
061014	Extra to Item no. 061012 for working on bridge	RM	7.42
061020	Dismantling and removing rail of all section & length from track, laid on any type & density of sleeper by removing fish plates, fastenings & fish bolts and other materials including stacking all released materials within an average distance of 500 metres as directed by Engineer in-charge. Note: 1.Cutting of rails shall be paid separately. 2.Work to be done under traffic block.		
061021	For Through Rail Renewal work	TRM	49.89
061022	For Casual/Scattered Rail Renewal work	RM	39.41
061030	Insertion of rails of all types & length in track, laid on any type & density of sleeper to the specified gauge under traffic block. Rates include fastening of rail with sleepers with standard set of fastenings and fixing of fish plates and bolts or, if required, providing gap for welding and stacking of released material without infringement within 250m as directed by Engineer-in-Charge. Note: Rail drilling and cutting to be paid separately.		
061031	For Through Rail Renewal work	TRM	51.45
061032	For Casual/Scattered Rail Renewal work	RM	41.74
062000	Sleepers		
062010	Through Sleeper Renewal (TSR) with PSC sleepers involving removal existing sleepers of any type along with fittings from track, insertion of PSC sleepers lying along the cess / formation / slope / toe within 5 metres height with all fittings to specified spacing, gauge and squareness, one round of through packing to make track fit for 20 kmph speed, dressing of ballast to standard profile, all in accordance with the latest provisions of IRPWM and stacking of all released material neatly at specified places within an average lead of 100 m as directed by Engineer in-charge.		
062011	For location of work not involving deep screening	Each	379.28
062012	For location of work involving deep screening (deep screening to be paid separately).	Each	212.06
062013	For PSC wider base sleepers - For location of work not involving deep screening	Each	398.24
062014	For PSC wider base sleepers - For location of work involving deep screening. (deep screening to be paid separately)	Each	222.67
062015	Extra to item no. 062011, 062012, 062013 and 062014 for sleepers lying on slope / toe of bank beyond initial height of 5 metres.	Each	46.16

Item No.	Description of Item	Unit	Rate (₹)
062020	Re-spacing of existing PSC sleepers for Increasing Sleeper Density (ISD) work in track after marking of sleeper spacing as per required sleeper density, including fixing all fastenings and initial packing and all associated work required to complete the work, as directed. Note: Insertion of new sleeper will be paid extra under relevant item.		
062021	For location of work not involving deep screening	TRM	184.64
062022	For location of work involving deep screening (deep screening to be paid separately).	TRM	66.61
062030	Replacement of any type of sleepers in track with PSC sleepers lying on cess or at Bridge Approaches for casual renewal at isolated locations with all fittings complete to specified gauge & cross level with contractor's tools including packing and dressing of ballast, as directed by Engineer in-charge. Released materials shall be neatly stacked and handed over at specified location within an average lead of 250 m or near either side of Bridge approaches as directed.		
062031	Locations other than Ballasted Deck Bridge	Each	526.76
062032	Ballasted Deck Bridge	Each	622.59
063000	Fittings/Lubrication Works		
063010	Fixing of fish plates with fish bolts on a joint of all rail sections duly lubricating fish plates/bolts with contractor's grease graphite in running track condition including transportation of fish plates and fish bolts from nearest station / store / level crossing. Note: Rail cutting & drilling to be paid separately.		
063011	Fish plates with 4 fish bolts.	Joint	234.58
063012	Fish plates of 6 bolts.	Joint	337.52
063020	Through renewal of Metal / GFN liners in running track condition after cleaning of rail foot at liner seat, greasing of liner, liner seat and sealing of liner contact area at rail foot including removing, cleaning & lubrication of ER Clip & Insert Eye and re-driving the same with contractor's grease graphite of approved quality with all lead & lift.	Sleeper	30.57
063030	Through Fitting Renewal (TFR) on PSC track, comprising of renewal of Grooved Rubber Pads, Liners and ERCs without damaging PSC sleepers. Scope includes removal of all fittings, cleaning of rail seat, rail flange at liner seats, and eye of Inserts with wire brushes and applying Grease Graphite Grade "O" (IS:408) to eye of insert and central leg of ERC with contractor's grease of Railway's specification, fixing all fittings in correct position and sealing liner edges with grease all complete including collection and stacking of released materials at nominated locations within SSE Jurisdiction as directed by Engineer-in-Charge. Note: All the fittings will be supplied at SSE/Stores/Depot.	Sleeper	38.47

Item No.	Description of Item	Unit	Rate (₹)
063040	Through replacement of Grooved Rubber Sole pads(GRSP) on PSC sleepers duly removing the ERCs and liners and replacing the GRSP by just lifting the rail after cleaning the rail seat, refixing the liner and ERC after greasing of ERCs, liners and Liner contact area including sealing with Contractor's Grease Graphite Grade 'O' (IS:408) duly cleaning of rust/scale of ERC, Metal /GFN liners & SGCI insert by using wire brush, scrapper/sand emery paper etc., with all contractor's labour, tools, plants including collection and stacking of released materials at nominated locations within SSE Jurisdiction and as directed by Engineer-in-Charge. Note: GRSP will be supplied at SSE/stores/depot.	Sleeper	35.69
063050	Lubrication of fish plated rail joints under traffic, by using Grease Graphite Grade 'O' (IS:408) and Black oil supplied by contractor, for all types of rail sections as per procedure laid down in latest version of IRPWM and as directed by Engineer In charge. Note: Release U/S bolt & nuts is to be deposited back. If any fish bolts is jammed it should be cut with chisel and hammer and replaced with fresh fish bolt supplied.		
063051	For 1.00m long fishplates	Joint	139.62
063052	For 610 mm long fish plates.	Joint	97.26
063060	Opening and refixing of Joggled fish plates provided to weld joints/rail of any rail section under traffic to enable examination of weld/rail by departmental official nominated by Engineer In charge and lubrication of fishplates by applying departmental Grease graphite grade 'O' (IS:408) to fishing planes and bolts by departmental black oil as per procedure laid down in latest version of IRPWM, including all tools required and as directed by Engineer-in-charge. Note: 1. Grease Graphite, black oil, fish bolts, K.Oil, wire brush, required for work shall be given by department and issued at concerned SSE/PW Stores. 2.Jammed fish bolts shall be cut using chisel and hammer and replaced with new bolt.	Set	58.37
063070	Lubrication of Elastic Rail Clips on PSC sleepers with contractor's grease, conforming to Railway's specifications, labour etc. complete as per procedure prescribed in latest edition of IRPWM.	ERC	4.71
063080	Lubrication of Elastic Rail Clips on PSC sleepers as per procedure prescribed in latest edition of IRPWM with Railway's grease.	ERC	2.69
063090	Lubrication of ERCs and its liner contact area by removal of ERCs and Metal / GFN liners in rail panel, cleaning of rust / scale of ERC, Metal / GFN liners & SGCI insert by using wire brush, scrapper / sand emery paper etc supply and application of graphite grease, as prescribed by Railway for under side of liners & corresponding area of rail foot & SGCI insert with ERCs and re-fixing the same as per procedure prescribed in latest edition of IRPWM with contractors grease and all other tools & plants complete and as directed. Note: Each ERC in this item shall constitute 1 ERC and its Liner Contact area.	ERC	6.54

Item No.	Description of Item	Unit	Rate (₹)
063100	Removing seized ERC from SGCI inserts of existing track by using suitable approved chemicals and re-fixing after greasing of insert eye and ERC with Contractor's grease of specified quality as per provisions of IRPWM, as directed by Engineer in-charge. Note: 1.List of Seized ERC along with location shall be prepared after inspection of SSE/P.Way and marked prior to execution of this item. 2. Due care shall be taken to avoid any damage to the sleeper 3.A penalty of 50% of the basic cost of new sleeper in nearest sleeper factory shall be levied on each, if SGCI insert is broken or sleeper gets cracked in the process.	ERC	59.91
063110	Lubrication of gauge face of rail on curves, cross overs, points & crossings, turn-in curves and at locations as required with contractor's grease graphite grade "O" IS 408 and as directed.	RM	6.03
063120	Lubrication of Plate/Rail screws of Points and crossings, SEJs, Bridges, Curves etc., with greases graphite, including removal of screws carefully without damaging sleepers, cleaning with wire brush etc., both screws and dowel hole, applying grease graphite, refixing the screw and sealing the top and sides of screw with grease graphite to prevent ingress of moisture and corrosion with contractors labour, tools, consumables under traffic condition all lead and lift complete.		
063121	By using Railway's Grease graphite	Each	33.91
063122	By using Contractor's Grease Graphite	Each	42.74
063130	Scattered renewal or replacement of missing / worn-out fittings with Railway's fittings for track/Points & Crossings sleepers including leading to required location for the work and the released fittings shall be collected and neatly stacked, as directed by the Engineer In charge. Note: New fittings shall be supplied from and released material shall be deposited at, nearest P.Way Stores.		
063131	GRSP	Each	23.15
063132	ERCs	Each	7.73
063133	Metal/GFN Liners	Each	5.15
063140	Renewal of seized Plate/Rail screws on PSC Sleepers by using gas or any approved methods, duly drilling holes in broken screw and removing existing screw pieces from the holes along with existing dowels and fixing new contractor's dowels (procured from RDSO approved sources) and grouting around dowel with Epoxy materials of approved specification and refixing new Railway's rail/Plate screws duly greasing the screw with specified grease with all contractor's materials, consumables, tools & plants, labour with all lead, lift. Note: 1.Seized screws shall be identified and marked by JE/P.Way and verified at minimum SSE/P.Way In charge) level. 2. Due care shall be taken to avoid any damage to the sleeper 3.A penalty of 50% of the basic cost of new sleeper in nearest sleeper factory shall be levied on each, if sleeper gets damaged in the process.	Each	275.98
064000	Drilling and Cutting Works		

Item No.	Description of Item	Unit	Rate (₹)
064010	Cutting / cropping of rail of 52Kg – 72 UTS or lighter section, manually and perfectly vertical with contractor's labour, hacksaw blade and tools & plants. Note: 1.Manual cutting should be used only in emergencies with prior permission of sectional ADEN where machine cutting can not be arranged in time. 2.Cutting of Rails with blade and forcing to part by using other means to break the rails is prohibited. 3.Rails should be cut right through hacksaw blades only.		
064011	On Cess	Each	240.28
064012	In-situ situation	Each	336.43
064020	Cutting / cropping of rail of 52Kg – 90 UTS, manually and perfectly vertical with contractor's labour, hacksaw blade and tools & plants - Note: 1.Manual cutting should be used only in emergencies with prior permission of sectional ADEN where machine cutting can not be arranged in time. 2. Cutting of Rails with blade and forcing to part by using other means to break the rails is prohibited. 3.Rails should be cut right through hacksaw blades only.		
064021	On Cess	Each	277.25
064022	In-situ situation	Each	397.60
064030	Cutting / cropping of rail of 60Kg – 90 UTS, manually and perfectly vertical with contractor's labour, hacksaw blade and tools & plants - Note: 1.Manual cutting should be used only in emergencies with prior permission of sectional ADEN where machine cutting can not be arranged in time. 2. Cutting of Rails with blade and forcing to part by using other means to break the rails is prohibited. 3.Rails should be cut right through hacksaw blades only.		
064031	On Cess	Each	360.43
064032	In-situ situation	Each	528.88
064033	Extra to item no. 064031 for cutting 110 UTS rail	Each	54.06
064034	Extra to item no. 064032 for cutting 110 UTS rail	Each	79.33
064040	Drilling of hole of different diameter and chamfering, in rail of any section and any UTS manually only in emergencies with contractor's labours, tools & plants, consumables etc.		
064041	Hole of dia. 26.5mm and above	Each	321.85
064042	Hole of dia. below 26.5mm	Each	176.24
064050	Gas cutting of rail of various sections with contractor's tools & plants, as directed by engineer in-charge :		
064051	Rail section of 90R and below	Each	102.86
064052	Rail section of 52Kg and above	Each	123.43
065000	Switch Expansion Joints (SEJs)		

Item No.	Description of Item	Unit	Rate (₹)
065010	Renewal of existing SEJ along with PSC sleepers under traffic block conditions as per approved drawing including fixing of special size bearing plate, rubber pad and other sleeper / rail fittings, greasing to the fittings, leading all new materials to site, transportation of released materials within a lead of 250m, cutting of Rails, drilling of holes, fixing of related fittings, providing temporary connection with fishplates till welding of SEJ is done and sleepers shall be given initial packing to make track fit for 20KMPH speed. Note: (1) Rail cutting and hole drilling shall be paid separately. (2) One set comprise complete SEJ on both rails at SEJ.	Set	8737.56
065020	Renewal of existing SEJ with improved SEJ with PSC sleepers under traffic block conditions as per approved drawing including fixing of special size bearing plate, rubber pad and other sleeper / rail fittings, greasing to the fittings, leading rails, sleepers & fittings to site, leading and stacking of released materials within a lead of 250m, cutting of Rails, drilling of holes, fixing of related fittings, providing temporary connection with fishplates till welding of SEJ is done and sleepers shall be given initial packing to make track fit for 20KMPH speed. Note: (1) Rail cutting and hole drilling shall be paid separately. (2) One set comprise complete SEJ on both rails at SEJ.	Set	9598.52
065030	Assembling and Laying of Improved Switch Expansion Joint (SEJ) on PSC sleepers of any rail section as per RDSO drawing including leading of SEJ rails, sleepers, fittings for a free lead of 250 metres, cutting of rails, drilling of holes as required and lubrication of SEJ, gauging, aligning rails, providing temporary connection with adequate welding gap with adjoining rails, providing reference posts at SEJ, first through packing of SEJ portion to make track geometry fit for 30 kmph speed and making ballast profile as per IRPWM. Note: (1) Rail cutting and hole drilling shall be paid separately. (2) One set comprise complete SEJ on both rails at SEJ.		
065031	Under Conditions not requiring Traffic Block	Set	7558.58
065032	Under Traffic Block Conditions	Set	8314.44
065040	Dismantling & removing existing SEJ (Switch Expansion Joint) assembly during line block and its replacement with plain track as of adjoining section with all fittings including rail cutting and drilling of holes and renewal of special sleepers with PSC Sleepers as directed and aligning rails, providing fishplates and bolts/ temporary connection with adequate welding gap with adjoining rail and ensuring proper track geometry for 30 kmph speed. The release material shall be stacked as directed by Engineer in charge.	Set	10578.04

Item No.	Description of Item	Unit	Rate (₹)

CHAPTER - 7 : Turnouts and Renewals

Item No.	Description of Item	Unit	Rate (₹)
071000	Dismantling Works		
071010	Under Traffic Block: Dismantling of existing BG turnouts, diamond crossings and derailing switches with all types of rails and sleeper layout, removing rails, switches, crossings, sleepers & fastenings, leveling of ballast to correct profile & stacking all the released materials, sleepers, fastenings, rails, switches & crossings including segregating & stacking at specified locations in a neat and countable manner, within the lead of 250m & all lift, clear of infringements, crossing of track, if any complete, as directed. Note: 1. This item shall be operated only when existing turnout is replaced either with new turnout in case of TTR or with plain track when existing turnout is no more required at that location. 2. Rail cutting will be paid extra under relevant item. 3. Laying of new turnout or plain track on prepared ballast bed, as required, shall be paid separately under relevant item.		
071011	1 in 8½ Turnout (Under Traffic Block)	Set	37701.25
071012	1 in 12 Turnout (Under Traffic Block)	Set	42793.44
071013	1 in 16 Turnout (Under Traffic Block)	Set	47900.34
071014	1 in 20 Turnout (Under Traffic Block)	Set	52999.89
071015	Diamond Crossing (Under Traffic Block)	Set	56399.59
071020	Under conditions not requiring Traffic Block: Dismantling of existing BG turnouts, diamond crossings and derailing switches with all types of rails and sleeper layout, removing rails, switches, crossings, sleepers & fastenings, leveling of ballast to correct profile & stacking all the released materials, sleepers, fastenings, rails, switches & crossings including segregating & stacking at specified locations in a neat and countable manner, within the lead of 250m & all lift, clear of infringements, crossing of track, if any complete, as directed - Note: 1. This item shall be operated only when existing turnout is replaced either with new turnout in case of TTR or with plain track when existing turnout is no more required at that location. 2. Rail cutting will be paid extra under relevant item. 3. Laying of new turnout or plain track on prepared ballast bed, as required, shall be paid separately under relevant item.		
071021	1 in 8½ Turnout (Under conditions not requiring Traffic Block).	Set	30413.91
071022	1 in 12 Turnout (Under conditions not requiring Traffic Block).	Set	32732.56
071023	1 in 16 Turnout (Under conditions not requiring Traffic Block).	Set	36595.18
071024	1 in 20 Turnout (Under conditions not requiring Traffic Block).	Set	40455.13
071025	Diamond Crossing (Under conditions not requiring Traffic Block).	Set	50055.10
071026	Derailing Switch (Under conditions not requiring Traffic Block).	Set	6967.49
071030	Dismantling the existing BG Buffer-stop laid with rails & wooden/ST sleepers including leading the dismantled Buffer stop materials to nominated places within station yard limits and stacking as material-wise and classification-wise duly releasing all fittings carefully without causing any damage with all contractor's labour, tools, with all lead and lifts, crossing of tracks if any, etc., complete as directed by the Engineer-in-charge.	Set	5818.47

Item No.	Description of Item	Unit	Rate (₹)
072000	Assembling, Insertion and laying Works		
072010	Assembling complete BG Turnout on staging, clear of infringements, to correct gauge and alignment as per standard drawings with all types of rail sections over PSC sleepers at specified locations, duly leading rails, special sleepers, switches, crossings with a maximum lead of 500m, all lift & crossing of track as required and testing points with S&T staff for throw of switch etc. at station yard after levelling surface complete including lubrication of all fastenings, complete in all respect. Note: 1.Rail cutting and Drilling shall be paid separately 2. Required P.Way fittings/fastenings shall be supplied at the SSE/P.Way stores.		
072011	1 in 8½ Turnout	Set	46195.15
072012	1 in 12 Turnout	Set	51607.11
072013	1 in 16 Turnout	Set	55467.06
072014	1 in 20 Turnout	Set	61648.33
072020	Assembling all types of Switches on staging, clear of infringements, to correct gauge and alignment as per standard drawings with all types of rail sections over PSC sleepers at specified locations, duly leading rails, special sleepers, switches with a maximum lead of 500m, all lift & crossing of track as required including cutting, drilling, fixing of all components, fittings etc. with housing of tongue rails as per requirement of signaling including lubrication of fittings/fastenings, complete in all respect. Note: Required P.Way fittings shall be supplied at SSE/P.Way stores.		
072021	1 in 8½ Turnouts	Set	20999.24
072022	1 in 12 Turnouts	Set	24089.88
072023	1 in 16 Turnouts	Set	26142.54
072024	1 in 20 Turnouts	Set	27687.86
072025	Derailing Switch	Set	9684.93
072030	Assembling on temporary staging and insertion of all types of turnouts including diamond crossings and derailing switches on prepared ballast bed during traffic block, manually or by contractor's cranes, at specified location with 52Kg / 60Kg rail section on PSC sleepers with Railways rails/sleepers available anywhere within 500m as per standard drawing, duly leading sleepers, rails, switches, crossings, fastenings etc. including rail cutting, drilling, fixing of all components, fittings etc. with housing of tongue rails as per requirement of signaling including crossing of track, filling and spreading of ballast in crib and shoulder as required, linking of turnout with existing track, attending track parameters including lifting, providing one round of packing to make track fit for 20 kmph speed including lubrication of fittings/fastenings, complete in all respect and as directed by Engineer in-charge. Note: Required P.Way fittings shall be supplied at the SSE/P.Way stores.		
072031	1 in 8½ Turnouts	Set	70201.57
072032	1 in 12 Turnouts	Set	80859.59
072033	1 in 16 Turnouts	Set	89544.67
072034	1 in 20 Turnouts	Set	99002.42
072035	Diamond Crossing	Set	103076.44
072036	Derailing Switch	Set	16946.75

Item No.	Description of Item	Unit	Rate (₹)
072040	Laying and linking of turnouts of all types including diamond crossings & Derailing switches with 52Kg / 60Kg rail section on PSC sleepers on prepared ballast bed for New lines or during total closure of section at indicated location as per standard drawing, duly leading sleepers, rails, switches, crossings, fastenings including rail cutting, drilling, fixing of all components, fittings with housing of tongue rails as per requirement of signaling, preparing ballast bed, filling and spreading of ballast as required, linking of turnout with track, attending track parameters including lifting, providing one round of packing to make track fit for 20 kmph speed including lubrication of fittings/fastenings, complete as directed by Engineer in-charge.		
072041	1 in 8½ Turnouts	Set	53470.90
072042	1 in 12 Turnouts	Set	60853.53
072043	1 in 16 Turnouts	Set	61696.70
072044	1 in 20 Turnouts	Set	67626.82
072045	Diamond Crossing	Set	75088.61
072046	Derailing Switch	Set	11523.88
072050	Laying and linking all types of turnouts, diamond crossings and Derailing switches with 52Kg / 60Kg rail section on PSC sleepers on ballast bed, prepared after dismantling & removal of existing turnout/normal line during TTR/yard remodeling under traffic block, as per standard drawing, duly leading sleepers, rails, switches, crossings, fastenings including rail cutting, drilling, fixing of all components, fittings with housing of tongue rails as per requirement of signaling, preparing ballast bed, filling and spreading of ballast as required, linking of turnout with track, attending track parameters including lifting, providing one round of packing to make track fit for 20 kmph speed including lubrication of fittings/fastening, complete as directed by Engineer in-charge. Note: Payment for dismantling & removal of existing turnout/normal line, transportation/stacking of released material and preparing of ballast bed is not included in this item and shall be paid under relevant item.		
072051	1 in 8½ Turnouts	Set	58817.99
072052	1 in 12 Turnouts	Set	66938.89
072053	1 in 16 Turnouts	Set	67866.37
072054	1 in 20 Turnouts	Set	74389.51
072055	Diamond Crossing	Set	82597.48
072056	Derailing Switch	Set	12676.27

Item No.	Description of Item	Unit	Rate (₹)
072060	Assembling on temporary staging and insertion of all types of switches including TWS on prepared ballast bed during traffic block, manually or by contractor's cranes, at specified location with 52Kg / 60Kg rail section on PSC sleepers with Railways rails/sleepers available within 250m as per standard drawing, duly leading sleepers, rails, switches, fastenings etc. including rail cutting, drilling, fixing of all components, fittings etc. with housing of tongue rails as per requirement of signaling etc. including preparation for operation of traffic block, including crossing of track, filling and spreading of ballast in crib and shoulder as required, linking with existing track, attending track parameters including lifting, providing one round of packing to make track fit for 20 kmph speed lubrication of fittings/fastenings, complete as directed by Engineer in-charge. Note: Required P.Way fittings shall be supplied at the SSE/P.Way stores.		
072061	1 in 8½ Turnouts	Set	20392.13
072062	1 in 12 Turnouts	Set	26861.39
072063	1 in 16 Turnouts	Set	30120.61
072064	1 in 20 Turnouts	Set	33104.13
073000	Lifting Works		
073010	Lifting for increase in ballast cushion of existing points & crossing layouts up to 75mm or part thereof including approach and exit sleepers including one round of through packing, correcting the disturbed sleeper spacing, tightening of fittings, boxing of ballast and ramping out on either side at slope not steeper than 1 in 1000 or as directed. Note: Item will be paid only when lifting is 50mm or more.		
073011	1 in 8½ Points & Crossing	Set	14909.17
073012	1 in 12 Points & Crossing	Set	20301.06
073013	1 in 16 Points & Crossing	Set	23398.39
073014	1 in 20 Points & Crossing	Set	27265.03
073015	Diamond Crossing	Set	34964.86
073016	Derailing Switch	Set	4360.61
073017	Extra over item nos. 073011 to 073015 for additional lift beyond 75mm for every 50mm or part thereof up to 225mm for each set	Each	0.15
073020	Lifting the newly inserted BG 60 Kg. / 52 Kg. turnouts/ trap switches to required level to provide full ballast cushion as per approved drawings after initial laying with Railway's stone ballast in convenient stages including one round of through packing after completion of final stage of lift, levelling, aligning, gauging and boxing to standard profile to make it fit for 20 kmph with all lead and lifts, complete in all respect and as directed by the Engineer-in-charge. Note: 1. The item shall be used only when UNIMAT is not available for the work before the turnout is opened for operation. 2. Leading and dumping of ballast will be paid separately under relevant item.		
073021	For 1 in 8½ Points & Crossing	Set	8727.90
073022	For 1 in 12 Points & Crossing	Set	11035.84
073023	For 1 in 16 Points & Crossing	Set	14113.10
073024	For Derailing Switch	Set	6419.96
074000	Renewal Works		

Item No.	Description of Item	Unit	Rate (₹)
074010	Casual renewal of PSC sleepers on points and crossings, derailing switches and diamonds portion of any layout including packing under new sleepers. All the released materials shall be stacked at specified location in a countable manner within the lead of 250m & all lift, clear of infringements, crossing of track, if any complete, as directed with contractor's vehicles, consumables, stores, labour etc. complete, as directed by Engineer in-charge. Note: Approach and Exit sleepers shall be paid as normal sleepers under relevant item.		
074011	Sleepers up to 2.85 m length	Each	676.70
074012	Sleepers of length more than 2.85 m and up to 4.20 m	Each	933.14
074013	Sleepers of more than 4.20 m length	Each	1471.88
074020	Renewal of CMS Crossing of all rail sections with CMS crossing or with WCMS crossing complete with fastenings including replacement of worn-out rubber pads, liners and ERC, as required. All the released materials shall be stacked at specified location in a countable manner within the lead of 500m & all lift, clear of infringements, crossing of track, if any complete, as directed. with contractor's vehicles, consumables, stores, labour etc. complete, as directed by engineer in-charge. Note: Rail cutting and drilling shall be paid separately under relevant item.		
074021	1 in 8½ Turnout	Set	4225.18
074022	1 in 12 Turnout	Set	4629.07
074023	1 in 16 Turnout	Set	5032.96
074024	1 in 20 Turnout	Set	5440.36
074030	Renewal of Switch Rails (Tongue rails, Stock rails and fittings) of all rail sections, under line block conditions ensuring proper housing & changing of stretcher bars and fittings as required. Work also includes drilling of hole, if any, and leading of rails laying anywhere in station yard to site of work. Released switch rails shall be stacked at indicated place in a countable manner within the lead of 250m & all lift, clear of infringements, crossing of track, if any complete, as directed. with contractor's vehicles, consumables, stores, labour etc. complete, as directed by engineer in-charge. Note: 1).One set means Two Tongue rails and Two Stock rails (2) One tongue & stock rail shall be considered as 1/2 set. (3) One tongue rail or one Stock rail shall be considered as 1/4 Set.		
074031	1 in 8½ Switch Assembly	Set	15047.37
074032	1 in 12 Switch Assembly	Set	16754.58
074033	1 in 16 Switch Assembly	Set	18543.38
074034	1 in 20 Switch Assembly	Set	20243.23

Item No.	Description of Item	Unit	Rate (₹)
074040	Through Switches Renewals of existing curved/Thick web switches with Thick Web Switches on 60Kg Points and crossings including approach rails as required, on PSC sleepers, removing and re-fixing or replacing fittings, fastenings, stretcher bar, blocks etc., with housing of tongue rails as per requirement of signaling etc. including preparation for operation of traffic block, under line block conditions and packing of any disturbed sleepers and boxing of ballast to profile, picking of slacks of track at switch portion, crossing of track wherever necessary. All the released materials shall be stacked at specified location in a countable manner within the lead of 250m & all lift, clear of infringements, crossing of track, if any complete, as directed with contractor's vehicles, consumables, stores, labour etc. complete, as directed by engineer in-charge. Note: Rail cutting and Hole Drilling shall be paid under relevant item.		
074041	For 1 in 12 Turnouts	Set	34054.10
074042	For 1 in 16 Turnouts	Set	40864.92
074043	For 1 in 8.5 Turnouts	Set	27243.28
074050	Through renewal of Liners and ERCs on PSC turnouts without damaging PSC sleepers. Scope includes removal of all ERCs and Liners, cleaning rail seat, rail flange at liner seats, and eye of Inserts with wire brushes and applying grease to liner contact area, eye of insert and central leg of ERC with contractor's grease of Railway's specification, fixing all fittings in correct position and sealing liner edges with grease all complete including collection and stacking of released materials at nominated locations within SSE Jurisdiction as directed by Engineer-in-Charge. Note: All the fittings will be supplied at SSE/Stores/Depot.		
074051	1 in 8.5 Turnouts	Set	3143.24
074052	1 in 12 Turnout	Set	5083.00
074053	1 in 16 Turnout	Set	5431.03
074054	1 in 20 Turnout	Set	6692.19
074060	Through fitting renewal (TFR) with new Grooved Rubber Sole pads(GRSP), Liners and ERC or through renewal with new GRSPs using existing ERCs and liners after cleaning and greasing on entire Turnout of PSC Fan shaped layout including approach & exit sleepers comprising of removing & refixing or replacement of plate screws, ERCs and liners including seized ERCs, replacing the GRSP after cleaning rail seat, refixing slide chairs, lubrication of ERCs, applying grease to plate screws and Liner contact area with contractor's Grease Graphite Grade 'O' (IS:408) after cleaning of rust/scale on liner contact area etc., as per provisions of IRPWM of latest version with all contractor's labour, tools, plants and stacking all the released materials etc .complete and as directed by Engineer in charge. Note: GRSP will be supplied at SSE/stores/depot.		
074061	For 1 in 12 Turnouts	Set	7848.28
074062	For 1 in 8.5 Turnouts	Set	6278.63
074063	For 1 in 16 Turnouts	Set	9417.94

Item No.	Description of Item	Unit	Rate (₹)
074070	Through renewal of Grooved Rubber Sole pads(GRSP) on Switch portion of PSC fan shaped layout comprising of removing & refixing Plate screws, ERCs including seized ERCs and liners, and replacing the GRSP after cleaning rail seat, refixing Slide chairs, liner and ERC after greasing and lubrication of ERCs, applying grease to liners and Liner contact area with contractor's Grease Graphite Grade 'O' (IS:408) after cleaning of rust/scale on liner contact area and on ERC, with all contractor's labour, tools, plants, leading of GRSP and stacking all the released materials etc .complete and as directed by Engineer in charge. Note: GRSP will be supplied at SSE/stores/depot.		
074071	For 1 in 12 Turnouts (Sleeper No 1 to 25 and 5 approach sleepers)	Set	2028.64
074072	For 1 in 8.5 Turnouts & Derailing switches (Sleeper No 1 to 22 and 5 approach sleepers)	Set	1622.91
074073	For 1 in 16 Turnouts (Sleeper No 1 to 31and 5 approach sleepers)	Set	2434.37
074080	Through renewal of Grooved Rubber Sole pads(GRSP) on lead portion of PSC fan shaped layout comprising of removing & refixing ERCs, Liners including seized ERCs and replacing the GRSP after cleaning rail seat, refixing the liner and ERC after lubrication of ERCs, liners and Liner contact area with contractor's Grease Graphite Grade 'O' (IS:408) after cleaning of rust/scale on liner contact area and on ERC , etc., with all contractor's labour, tools, plants, leading of GRSP and stacking all the released materials etc .complete and as directed by Engineer in charge. Note: GRSP will be supplied at SSE/stores/depot.		
074081	For 1 in 12 Lead portion (Sleeper Nos 26 to 64 & 74 to 83 and 8 approach sleepers) :	Set	4990.78
074082	For 1 in 8.5 Turnouts (Sleeper No 23 to 42&59 to 54 and 8 approach sleepers)	Set	3992.62
074083	For 1 in 16 Turnouts (Sleeper No 32 to 76 & 87 to 101 and 8 approach sleepers)	Set	5988.93
074090	Through renewal of Grooved Rubber Sole pads(GRSP) on Crossing portion of PSC Sleeper turnout duly removing the Liners, ERCs including seized ERCs, and replacing the GRSP after cleaning rail seat, refixing the liner and ERC after lubrication of ERCs, liners and Liner contact area with contractor's Grease Graphite Grade 'O' (IS:408) after cleaning of rust/scale on liner contact area etc., with all contractor's labour, tools, plants, transportation of GRSP, and stacking all the released materials etc. complete and as directed by Engineer in charge. Note: GRSP will be supplied at SSE/stores/depot.		
074091	For 1 in 12 Turnouts (Sleeper No 65 to 73)	Set	1515.76
074092	For 1 in 8.5 Turnouts (Sleeper No 43 to 48)	Set	1212.61
074093	For 1 in 16 Turnouts (Sleeper No 77 to 86)	Set	1818.92

Item No.	Description of Item	Unit	Rate (₹)
074100	Renewal of corroded slide chairs duly removing the old slide chairs by heating using contractors gas and equipments or by any approved methods and inserting Railways new slide chairs and plate screws including crossing of tracks, leading all required materials to site, stacking all released materials, with all contractor's tools, consumables, labour, lead, lift and incidental charges etc complete as directed by the Engineer in charge. Note: 1. All the fittings will be supplied at nearest SSE/Stores. 2. In case of damage of PSC sleeper, penalty at the rate of 25% of the current cost of sleeper shall be levied.	Each	398.56
074110	Fabrication, supply and fixing of hand operated lever boxes with pull rod of 33mm dia to Drg.No. MA3040 including lead, lift, loading, unloading, tools and plants, transportation, crossing of track wherever necessary as directed by Engineer-in-charge at site. Note: 1. Rate including Fabrication, Supply and Fixing of hand operated boxes. 2. Spring point lever (Self reversing type) as per drawing no. TMC-12 (Sheet 1,2,3).	Set	17372.27
074120	Fabrication, supply and fixing of MS lock pins/bolts for stock and tongue rails made out of MS 40mm dia of length 200mm with head cutting, lathe machining, milling, drilling, welding the rod with MS flat of 6mm thick of suitable size as required at site with MS split pins/bolts and supplying of remaining ancillary materials required at for locking, including all taxes, lead, lift, loading and un loading , tools and plants, transportation, crossing of track whenever necessary etc., complete and as directed by Engineer-in-charge at site.	Set	1341.09
074130	Re-spacing of PSC sleepers of existing turnout after pre-marking of sleeper locations as per standard layout drawings, removing ballast and all other fittings/fastenings to clear obstruction for shifting as required, shifting of sleeper at correct location, fixing of all fittings/fastenings, ballasting, requisite packing, boxing and profiling, complete as directed by Engineer-in-charge. Note: Prior inspection and recording defective spacing and approval of Engineer-in-Charge shall be mandatory for operating this item.		
074131	Turnout sleepers of length up to 2.85 m	Each	152.71
074132	Sleepers of length more than 2.85 m and up to 4.20 m	Each	183.26
074133	Sleepers of length more than 4.20 m	Each	198.53

Item No.	Description of Item	Unit	Rate (₹)

CHAPTER - 8 : Deep Screening and Ballast Related Activities

Item No.	Description of Item	Unit	Rate (₹)
081000	Deep Screening Works		
081010	Manual deep screening of Plain track/ turnouts under traffic as per procedure prescribed in IRPWM, June 2020 or latest, in other than PSC sleepers of any density and throwing away screened muck arising out of screening on toe of bank or on cess, if low or on spoil banks above top of cutting (including throwing and leveling, if required beyond minimum 5m from the edge of cutting which are up to 3m deep or alternatively carting it up to 50m for disposing it off beyond cutting or platforms) as per direction of Engineer in-charge, including cutting cess for effective drainage on both sides, one round of kutcha packing with screened ballast and further attending to track parameter to make track fit for 20 kmph speed complete in all respect. Note : Payment shall be made for length along main line only for turnouts.		
081011	Depth of 150 mm below bottom of sleeper of Plain Track	TRM	391.82
081012	Depth of 200 mm below bottom of sleeper of Plain Track	TRM	426.75
081013	Depth of 250 mm below bottom of sleeper of Plain Track	TRM	461.04
081014	Depth of 300 mm below bottom of sleeper of Plain Track	TRM	506.95
081015	Depth of 150 mm below bottom of sleeper for Turnouts	TRM	626.91
081016	Depth of 200 mm below bottom of sleeper for Turnouts	TRM	682.80
081017	Depth of 250 mm below bottom of sleeper for Turnouts	TRM	737.67
081018	Depth of 300 mm below bottom of sleeper for Turnouts	TRM	811.12
081020	Manual deep screening of Plain track/ turnouts as per procedure prescribed in IRPWM, June 2020 or latest, on PSC sleepers of any density and throwing away screened muck arising out of screening on toe of bank or on cess, if low or on spoil banks above top of cutting (including throwing and leveling, if required beyond minimum 5m from the edge of cutting which are up to 3m deep or alternatively carting it up to 50m for disposing it off beyond cutting or platforms) as per direction of Engineer in-charge, including cutting cess for effective drainage on both sides, one round of kutcha packing with screened ballast and further attending to track parameter to make track fit for 20 kmph speed complete in all respect. Note : Payment shall be made for length along main line only for turnouts.		
081021	Depth of 150 mm below bottom of sleeper - For Plain Track :	TRM	474.04
081022	Depth of 200 mm below bottom of sleeper - For Plain Track :	TRM	520.33
081023	Depth of 250 mm below bottom of sleeper - For Plain Track :	TRM	574.23
081024	Depth of 300 mm below bottom of sleeper - For Plain Track :	TRM	647.16
081025	Depth of 150 mm below bottom of sleeper for Turnouts	TRM	758.47
081026	Depth of 200 mm below bottom of sleeper for Turnouts	TRM	832.53
081027	Depth of 250 mm below bottom of sleeper for Turnouts	TRM	918.77
081028	Depth of 300 mm below bottom of sleeper for Turnouts	TRM	1035.46

Item No.	Description of Item	Unit	Rate (₹)
081030	Extra to item nos. from 081011 to 081018 and from 081021 to 081028 for disposal of muck at a distance beyond 50m for every additional lead of 50 metres or part thereof up to 500 metres for 1 TRM in station yard / cutting.	Each	6.18
081040	Extra to item nos. from 081011 to 081018 and from 081021 to 081028 for disposal of muck for additional lift of 1 metre or part thereof beyond 3 metre lift in case of disposal of muck from track for 1 TRM in station yard / cutting.	Each	12.87
081050	Deep screening of turnout under line block within stipulated time by way of removing the Points and Crossing assembly by using T-28 cranes, removing the entire stone ballast bed by excavators up to shoulders to depth of 200/250/300 mm, limiting the digging up to original formation level only, screening the ballast so removed and stacking, spreading ballast on the formation in uniform layer from stack of new/screened ballast, placing the points and crossing assembly in designed position, dumping and spreading ballast in cribs and shoulders, lifting of track as required so as to get a clean cushion of 300mm, shifting of sleepers to correct spacing including removal and re-fixing of fittings wherever necessary, aligning of sleepers as per prescribed layout, initial packing, aligning, dressing/ lowering the cess to deep screened depth up to the edge of bank with a slope of 1 in 30, boxing of ballast to profile and making fit to run the trains at a speed of non stop 20 KMPH as specified in IRPWM - June 2020 or latest complete in all respect as directed by the Engineer - in - charge. Note: 1. Rail cutting and Rail hole drilling shall be paid under relevant items. 2. Scooped ballast shall be screened and the unused quantity of screened ballast shall be stacked for use in future.		
081051	For 1 in 12 points and Crossings	Set	54194.41
081052	For 1 in 8.5 Points & Crossings	Set	43355.53
081053	For 1 in 16 Points & Crossings	Set	65033.29
082000	Spreading of Ballast		
082010	Recoupment of ballast in running line with railway's stone ballast from existing stacks available along alignment either on top of cutting or on cess or at toe of bank by head leads or by any other means and spreading to make up deficiency in the required profile with contractor's labour, tools & plants, as directed by Engineer-in-charge. Note: Payment shall be made based on ballast stack measurement.		
082011	For average lead up to 50m and lift up to 5m	Cum	159.02
082012	Extra over item no. 082011 for each additional average lead of 50m or part thereof when total average lead exceeds 50m, but up to 250m. Note: This item may be used only in exceptional circumstance under prior order on record.	Each	29.13
082013	Extra to item no. 082011 for each additional average lift of 1m or part thereof when total average lift exceeds 5m.	Each	13.32
083000	Lifting, Packing & Boxing Works		

Item No.	Description of Item	Unit	Rate (₹)
083010	Lifting and packing for regrading the existing PSC sleeper track to required height / level in stages not exceeding 75mm or part thereof at a time, providing permissible ramp for the track, insertion of moorum / sand / stone ballast uniformly under the existing track and placing the same to safe approved gradient, gauge, cushion including levelling and one round of through packing to allow train movement at restricted speed of 30 kmph for a specified length with all leads & lifts and fixing, marking, painting rail level pegs at every 30m interval. Note: Lifting of track shall be done in stages as per procedure prescribed in latest edition of IRPWM to get the proposed final level as per approved working profile, as directed by Engineer in-charge.	TRM	198.96
083011	Extra for additional lift over 75mm for every 50mm lift or part thereof up to 275mm for item nos. 083010 for each TRM.	TRM	30.88
083020	Regrading the existing track by lowering up to required depth in stages by cutting the formation top maintaining the depth of existing cushion finally, not exceeding 75mm in one stage including one round of through packing and making track fit for 30kmph speed at each stage of lowering as per procedure prescribed in latest edition of IRPWM and subsequent picking up of sags / slacks and attending to misalignment / cross level defects during train operation, providing required ramp-in and ramp-out for safe passage of trains, including cutting trenches across track at every 30m interval to the required final formation level complete, and fixing, marking, painting rail level posts, tie bars at every 30m interval as directed by engineer in-charge. Note: The item shall be only operated only when formation is required to be cut for lowering of existing track.	TRM	691.38
083030	Boxing and profiling of ballast as per procedure prescribed in latest edition of IRPWM including cess dressing on both sides of track. The work will include removing excess ballast from track and putting the same in crib and shoulder by leading to a maximum of 50m including crossing of track, deweeding on ballast section etc and as directed by Engineer-In charge.	TRM	29.22
083040	Removing, screening and salvaging ballast from track, duly digging / scarifying ballast by beaters / wire brushes or any mechanical means, leveling and dressing formation with specified cross slope after salvaging ballast, separating muck by screening the salvaged ballast with contractor's 20mm size sieve, stacking of screened ballast for measurement, disposing off muck at specified locations with all lead & lifts as directed by Engineer in-charge. Note: Payment shall be made for quantity of ballast stacked after screening of retrieved ballast from track.	Cum	344.21
084000	Loading & Unloading of Ballast		
084010	Loading Railway's ballast, collected at yard / depot into Railway's BOB / BKH / any other type of open wagon, using Mechanical Loader or any other method with all lead and lifts, as directed by Engineer in-charge.	Cum	45.30
084020	Leading and loading Railway's Ballast collected at yard / depot into Railway's covered wagon using any approved method with lead up to 250m & all lifts as directed by Engineer in-charge.	Cum	122.99
084030	Leading and loading Railway's Sand collected at yard / depot into Railway's covered wagon using any approved method with lead up to 250m & all lifts as directed by Engineer in-charge.	Cum	64.35

Item No.	Description of Item	Unit	Rate (₹)
084040	Unloading of ballast from Railway's Hopper Wagons, quantity distribution as per pre-defined site requirement, clearing infringements/jammed ballast, distributing the unloaded ballast uniformly over the track, profiling and boxing following all prescribed safety norms.		
084041	Under Traffic Block Conditions:	Cum	58.33
084042	Under Conditions not requiring Traffic Block:	Cum	44.23
084050	Unloading of Ballast from Railway's wagons other than Hopper wagons by opening the doors of boxes and pulling & pushing down ballast with rake irons / phowrahs and distributing unloaded ballast uniformly over the track as required, clearing infringements/jammed ballast, profiling and boxing following all prescribed safety norms.		
084051	Under Traffic Block Conditions:	Cum	133.31
084052	Under Conditions not requiring Traffic Block:	Cum	108.71
084060	Unloading of sand / quarry dust during block from Railway's wagons other than Hopper wagons by opening the doors of boxes and pulling & pushing down sand with rake irons / phowrahs taking out jammed sand and distributing unloaded sand uniformly over the track.	Cum	124.46
085000	Supply of Ballast		
085010	Manufacturing, supply and stacking of machine crushed Track Ballast conforming to RDSO Specification (IRS-GE-1) with latest correction slips at Railway depot or nominated location. Note: Distance of nearest quarry mentioned in each sub-item is only for the purpose of selecting the items for preparation of estimates/tender schedule, based on the minimum distance between nearest quarry and centre of supply points and will not affect the selection of quarry during physical supply in any way till prescribed specification is met fully.		
085011	When distance of nearest quarry is up to 10 km	Cum	1350.47
085012	When distance of nearest quarry is more than 10 km and up to 20 km	Cum	1414.06
085013	When distance of nearest quarry is more than 20 km and up to 30 km	Cum	1483.38
085014	When distance of nearest quarry is more than 30 km and up to 40 km	Cum	1520.43
085015	When distance of nearest quarry is more than 40 km and up to 50 km	Cum	1568.62
085016	When distance of nearest quarry is more than 50 km and up to 100 km	Cum	1705.23
085017	When distance of nearest quarry is more than 100 km and up to 150 km	Cum	1949.20
085018	When distance of nearest quarry is more than 150 km and up to 200 km	Cum	2203.59
085019	When distance of nearest quarry is more than 200 km and up to 250 km	Cum	2457.97

Item No.	Description of Item	Unit	Rate (₹)

CHAPTER - 9 : Welding Activities

(Note: Items of this chapter shall be executed only through special tender)			
Item No.	**Description of Item**	**Unit**	**Rate (₹)**
091000	Supply of Alumino Thermic Welding Portions		
091010	Manufacturing and Supply of Alumino thermic welding portions of 52Kg/60 Kg/60EI-R260 as approved by RDSO for welding of rails 52Kg/60Kg/60EI-R260 kg for 25mm gap by the process of AT welding along with complete accessories confirming to the specification laid down in Indian Railway Standard specification No.IRST-19-2020 up to date correction slips with Single shot crucible fitted with Automatic Tapping Thimble, 3 pieces pre fabricated mould (Zircon washed) manually pressed using compressed air petrol/LPG pre heating for execution of welding of rail joint as directed by the engineer in charge at site. Note: 1. The accessories along with welding portion shall be supplied as per Annexure-I of the IRUSSOR - 2021. 2. Rate is inclusive of transportation of above to SSE/P.Way stores.		
091011	For 60Kg 90 UTS Rails	Each	3289.64
091012	For 52Kg 90 UTS Rails	Each	3863.69
091013	For 60Kg/60EI- R260 rails	Each	3996.15
092000	Alumino Thermic Welding Works		
092010	25mm gap 'in-situ' welding during traffic block and finishing of weld to meet the prescribed tolerances and pass all stipulated tests with all required labour, materials, consumables, tools, equipments etc. to complete the work in all respect as per IR's "Manual for Fusion Welding of Rails by Alumino - Thermic Process" with latest correction slips, including marking of welded joint, painting weld collar with anticorrosive paint, restoration of track near weld joint to original position and fixing of joggled fish plate at new weld, to be removed after passing of weld in USFD test as directed by Engineer in charge. Note: 1. Welding shall be carried out only by trained welder having valid competency certificate using RDSO approved Alumino Thermit Welding Portions, 3 piece prefabricated mould (ZIRCON WASHED) manually pressed, Single shot crucible fitted with auto tapping thimble and Compressed Air Petrol/LPG preheating technique as per RDSO Specification No IRST/19-2020 with latest amendment. 2. Hydraulic Weld trimmer shall be used for chipping and profile Grinder for finishing. 3. Only required nos. of Joggled fish plates shall be supplied by Railway at nearest P. Way Stores and the same shall be returned at nearest P. Way Store or at other location as per direction of Engineer-		
092011	For 60 Kg - 90 UTS Rail	Each	5833.38
092012	For 60 Kg/60EI - R260 grade Rail	Each	6618.31
092013	For 52 Kg - 90/72 UTS Rail	Each	6471.14
092014	For 90R Rail	Each	6471.14

Item No.	Description of Item	Unit	Rate (₹)
092020	25mm gap 'in-situ' welding during traffic block using Railway's welding portion and finishing of weld to meet the prescribed tolerances and pass all stipulated tests with all required labour, materials, consumables, tools, equipments etc. to complete the work in all respect as per IR's "Manual for Fusion Welding of Rails by Alumino - Thermic Process" with latest correction slips, including marking of welded joint, painting weld collar with anticorrosive paint, restoration of track near weld joint to original position and fixing of joggled fish plate at new weld, to be removed after passing of weld in USFD test as directed by Engineer in charge. Note: 1. Welding portion and related accessories as per Annexure - I shall be supplied by Railways. All other items required shall be supplied by the Contractor. 2. Welding shall be carried out only by trained welder having valid competency certificate. 3. Hydraulic Weld trimmer shall be used for chipping and profile Grinder for finishing. 4. Required nos. of Joggled fish plates shall be supplied by Railway at nearest P. Way Stores and the same shall be returned at nearest P. Way Store or at other location as per direction of Engineer-in-Charge		
092021	For 60 Kg Rail, Single shot crucible fitted with Automatic Tapping Thimble , 3 pieces Mould (Zircon washed) and Compressed Air Petrol/LPG pre heating technique	Each	2196.11
092022	For 60 Kg/60EI-R260 grade Rail, Single shot crucible fitted with Automatic Tapping Thimble Technology, 3 pieces Mould (Zircon washed) and Compressed Air Petrol heating technique.	Each	2026.86
092023	For 52 Kg - 90 UTS or 52 Kg 72UTS Rail, Single shot crucible fitted with Automatic Tapping Thimble Technology, 3 pieces Mould (Zircon washed) and Compressed Air Petrol heating technique.	Each	2026.86
092024	For 90R Rail, Single shot crucible fitted with Automatic Tapping Thimble Technology, 3 pieces Mould (Zircon washed) and Compressed Air Petrol heating technique.	Each	2026.86
092030	25mm gap 'in-situ' welding during traffic block using Railway's welding portion & Welder and finishing of weld to meet the prescribed tolerances and pass all stipulated tests with all required labour, materials, consumables, tools, equipments etc. to complete the work in all respect as per IR's "Manual for Fusion Welding of Rails by Alumino - Thermic Process" with latest correction slips, including marking of welded joint, painting weld collar with anticorrosive paint, restoration of track near weld joint to original position and fixing of joggled fish plate at new weld, to be removed after passing of weld in USFD test as directed by Engineer in charge. Note: 1. Only welding portion and related accessories as per Annexure - I and Welder shall be supplied by Railways. 2. Hydraulic Weld trimmer shall be used for chipping and profile Grinder for finishing. 3. Required nos. of Joggled fish plates shall be supplied by Railway at nearest P. Way Stores and the same shall be returned at nearest P. Way Store or at other location as per direction of Engineer-in-Charge after release from track.	Each	1806.57

Item No.	Description of Item	Unit	Rate (₹)
092040	25mm gap Cess Welding and finishing of weld to meet the prescribed tolerances and pass all stipulated tests with Contractor's labour, materials, consumables, tools, equipments etc. to complete the work in all respect as per IR's "Manual for Fusion Welding of Rails by Alumino - Thermic Process" with latest correction slips, including all required handling and rehandling of rails, marking of welded joint, painting weld collar with anticorrosive paint, as directed by Engineer in charge. Note: 1. Welding shall be carried out only by trained welder having valid competency certificate using RDSO approved Alumino Thermit Welding Portions, 3 piece prefabricated mould (Zircon washed) manually pressed, Single shot crucible fitted with auto tapping thimble and Compressed Air Petrol/LPG preheating technique as per RDSO Specification No IRST/19-2020 with latest amendment. 2. Hydraulic Weld trimmer shall be used for chipping and profile Grinder for finishing.		
092041	For 60 Kg - 90 UTS Rail	Each	4562.85
092042	For 60 Kg/60EI - R260 grade Rail	Each	5285.32
092043	For 52 Kg - 90/72 UTS Rail	Each	5151.53
092044	For 90R Rail	Each	5151.53
092050	25mm gap Cess Welding with Railway's welding portion and finishing of weld to meet the prescribed tolerances and pass all stipulated tests with Contractor's labour, materials, consumables, tools, equipments etc. to complete the work in all respect as per IR's "Manual for Fusion Welding of Rails by Alumino - Thermic Process" with latest correction slips, including all required handling and rehandling of rails, marking of welded joint, painting weld collar with anticorrosive paint, as directed by Engineer in charge. Note: 1. Only welding portion and related accessories as per Annexure - I shall be supplied by Railways. 2. Welding shall be carried out only by trained welder having valid competency certificate. 3. Hydraulic Weld trimmer shall be used for chipping and profile Grinder for finishing.		
092051	For 60 Kg Rail, Single shot crucible fitted with Automatic Tapping Thimble, 3 pieces Mould (Zircon washed) and Compressed Air Petrol/LPG pre heating technique	Each	1254.24
092052	For 60 Kg/60EI-R260 grade Rail, Single shot crucible fitted with Automatic Tapping Thimble, 3 pieces Mould (Zircon washed) and Compressed Air Petrol/LPG pre heating technique.	Each	1254.24
092053	For 52 Kg - 90 UTS or 52 Kg-72 UTS Rail, Single shot crucible fitted with Automatic Tapping Thimble Technology, 3 pieces Mould (Zircon washed) and Compressed Air Petrol heating technique.	Each	1254.24
093000	Flash Butt Welding Works		

Item No.	Description of Item	Unit	Rate (₹)
093010	Flash Butt Welding of 90 UTS rails and finishing of weld to meet the prescribed tolerances and pass all stipulated tests, conforming to IR's Manual for Flash Butt Welding of Rails with latest amendment, using contractor's self-propelled rail cum road / Mobile FBW Plants, tools, equipments and consumables. Item also includes painting with anticorrosive paint as approved and marking of welded joints, pre-straightening & post-straightening of panels and USFD testing of finished weld as directed by Engineer in-charge.		
093011	52 Kg on Cess	Each	5429.41
093012	60 Kg on Cess	Each	5986.69
093013	52 Kg 'in-situ' under traffic block	Each	6603.65
093014	60 Kg 'in-situ' under traffic block	Each	7768.82

Item No.	Description of Item	Unit	Rate (₹)

CHAPTER - 10 : Reconditioning of Points and Crossings

Item No.	Description of Item	Unit	Rate (₹)
101000	Built-Up Crossing		
101010	In-situ re-conditioning of worn out 1:8½ built-up / fabricated crossing on all types of rail sections under traffic by RDSO approved agency, as prescribed in 'IR's Reconditioning of Points & Crossings Manual' with RDSO approved electrodes and suppliers, finishing & grinding within permissible tolerance limit, as directed by engineer in-charge. Note : One obtuse crossing shall be considered equivalent to two nos. of 1:8½ crossing for payment.		
101011	Using H3B electrodes	Each	6802.44
101012	Using H3C electrodes	Each	9148.29
101020	In-situ reconditioning of worn out 1:12 or flatter built-up / fabricated crossing on all types of rail sections under traffic condition by RDSO approved agency, as prescribed in 'IR's Reconditioning of Points & Crossings Manual' with RDSO approved electrodes and suppliers, finishing & grinding within permissible tolerance limit, as directed by engineer in-charge :		
101021	Using H3B electrodes	Each	7717.30
101022	Using H3C electrodes	Each	10649.62
102000	CMS Crossing		
102010	Reconditioning of worn-out 1:8½ CMS (Cast Manganese Steel) crossing on all types of rail sections on Cess or Depot by RDSO approved agency, as prescribed in 'IR's Reconditioning of Points & Crossings Manual' with RDSO approved electrodes and suppliers, finishing & grinding within permissible tolerance limit, as directed by engineer in-charge. Note: One obtuse crossing shall be considered equivalent to two nos. of 1:8½ crossing for payment.		
102011	Using H3B electrodes	Each	7919.62
102012	Using H3C electrodes	Each	10851.93
102020	Reconditioning of worn out 1:12 or flatter CMS (Cast Manganese Steel) crossing on all types of rail sections on Cess or Depot, as prescribed in 'IR's Reconditioning of Points & Crossings Manual' with RDSO approved electrodes and suppliers, finishing & grinding within permissible tolerance limit, as directed by engineer in-charge.		
102021	Using H3B electrodes	Each	9090.92
102022	Using H3C electrodes	Each	12609.69
102030	In-situ reconditioning of worn-out CMS (Cast Manganese Steel) crossings of all types as per reconditioning manual and "Work Procedure for In-Situ Reconditioning of CMS Crossing using Robotic Welding Machine" of RDSO through approved agency, finishing & grinding within permissible tolerance limit, as directed by engineer in-charge. Note: (1) One obtuse crossing shall be considered equivalent to two nos. of crossing for payment. (2) Reconditioned crossing shall have Guaranteed service life of minimum 80 GMT. In case of pre-mature reconditioning, it shall be done by the contractor free of cost.	Each	27046.64
103000	Switches / Tongue Rails		

Item No.	Description of Item	Unit	Rate (₹)
103010	In-situ reconditioning of worn out 1:8½ tongue rail (only one tongue rail along with connected stock rail) of all rail sections under traffic, as prescribed in 'IR's Reconditioning of Points & Crossings Manual' with RDSO approved electrodes and suppliers, finishing & grinding within permissible tolerance limit, with all contractor's own power T&P, men and materials including crossing the track, lead lift and as directed by engineer in-charge.		
103011	Using H3B electrodes	Each	2382.07
103012	Using H3C electrodes	Each	3437.70
103020	In-situ reconditioning of worn out 1:12 or flatter tongue rail (only one tongue rail along with connected stock rail) of all rail sections under traffic, as prescribed in 'IR's Reconditioning of Points & Crossings Manual' with RDSO approved electrodes and suppliers, finishing & grinding within permissible tolerance limit, as directed by engineer in-charge :		
103021	Using H3B electrodes	Each	3015.21
103022	Using H3C electrodes	Each	4305.43
103030	Reconditioning of worn out 1:8½ tongue rail (only one tongue rail along with connected stock rail) of all rail sections on Cess or Depot, as prescribed in 'IR's Reconditioning of Points & Crossings Manual' with RDSO approved electrodes and suppliers, finishing & grinding within permissible tolerance limit, as directed by engineer in-charge.		
103031	Using H3B electrodes	Each	2300.06
103032	Using H3C electrodes	Each	3238.40
103040	Reconditioning of worn out 1:12 or flatter tongue rail (only one tongue rail along with connected stock rail) of all rail sections on Cess or Depot, as prescribed in 'IR's Reconditioning of Points & Crossings Manual' with RDSO approved electrodes and suppliers, finishing & grinding within permissible tolerance limit, as directed by engineer in-charge.		
103041	Using H3B electrodes	Each	2604.30
103042	Using H3C electrodes	Each	3659.94
104000	SEJ, Weld and Rail		
104010	Re-conditioning of worn out all types of SEJs of all rail sections to the standard profile by using H3B electrodes as per RDSO drawing and prescribed in 'IR's Reconditioning of Points & Crossings Manual' including grinding to finished tolerances etc. complete. Note: Two stock rails + Two tongue rails will constitute one set of SEJ.		
104011	On Cess condition	Set	9291.42
104012	In-situ under traffic condition	Set	10964.67
104020	Re-conditioning of cupped welded joints 'in-situ' by using CP-3032 powder under traffic conditions as per RDSO's guidelines for 'IR's Reconditioning Of Scabs, Wheel Burns of Rail And Cupped AT Welded Joint'	Each	543.71
104030	Repairs/Reconditioning of scabbed rails & wheel burns on tongue rails / running rails/stock rails etc in situ using Micro flow thermal spray technology by using CP – 3032 powder as approved and as per RDSO / LKO and as per specifications with all Contractor's material, labour, tools, powder, equipment and consumable, with all lead and lift complete and as per the instructions of the Engineer-in-charge at site. Note: Inventory of scabs/wheel burn area should be prepared duly test checked at ADEN level before starting of the work.	Sq cm	16.31

Item No.	Description of Item	Unit	Rate (₹)
104040	In-situ reconditioning of MCI insert of points & crossings sleeper by reclaiming the worn-out portion to the desired height, grinding of the finished profile for regaining the toe load lost. The reconditioning to be done by using TERRA C I-94 - Electrodes of make L & T, Advani Oerlicon, Diffusion, SHARP - 650, or equivalent approved by RDSO for reconditioning of Cast iron alloys. removing and refixing the required fittings for reconditioning in traffic condition. The cost includes all labour, lead lift, transportation of men and material, cost of consumables, hiring of machinery required etc, complete and as directed by the Engineer-in -charge.	Each	391.63

Item No.	Description of Item	Unit	Rate (₹)

CHAPTER - 11 : Formation Rehabilitation

(Items only for Rehabilitation of poor formation of running line)

Item No.	Description of Item	Unit	Rate (₹)
111000	Rehabilitation of weak formation by Replacement of Weak Soil		
111010	Rehabilitation of existing week formation by replacing top layers of existing formation only with mechanically manufactured blanketing material of specified formation width and thickness under traffic/power block or without traffic block by blocking the line for longer period by diverting the traffic or otherwise. The item includes all things necessary to complete the work, all in accordance with the latest applicable specifications, guidelines, manuals instructions and includes, more particularly, and without in any way limiting the generality of liability to complete the work in all respect e.g. (i) dismantling/lifting of track panel by crane, (ii) scooping of ballast from track, screening & stacking along track (iii) removal of top layers of existing formation up to 550 mm (iv) spreading of blanketing material in layers not exceeding in 30 cm in thickness in loose conditions, leveling by motor grader & compacting by vibro roller of required capacity up to specified degree of compaction to achieve a compacted blanket thickness of 550 mm & finishing to correct profile.		
	(v) placing 4m width of Non-woven Needle Punched and Mechanically or Thermally bonded type Geo-textile with minimum strengths in Grab test, Trapezoidal Tear test and Puncture test of 1750N, 800 N and 5800 N respectively (vi) spreading new/screened ballast layer of 200mm uniform thickness over it and compaction by rollers (vii) linking of track panels with Crane and connecting at both ends, initial packing and leveling (viii) screening of scooped ballast, stacking and using the same at the same location or adjacent location along with additional ballast to provide specified cushion and profile (ix) disposal of waste material at nominated place (x) all pre and post attention during required nos. of machine tamping (xi) removal of service rails with rail panel and de-stressing of track after final packing & surfacing and all other incidental works required to complete the work in all respect.		
	Note: 1. Net quantity of blanketing material considered under this item as 4.455 cum per TRM as per assumed teoretical profile of 7.0m formation width and 0.55m depth (excluding extra quantity required for compaction) . If the net quantity required as per approved designed cross section is different, extra payment or deduction shall be made as per relevant item. 2. Minimum number of Machineries and plants to be available at site in working order is as under: (i) Crawler Crane 20 MT - 2 nos. (ii) Crawler mounted Hydraulic Excavator 0.92 cum bucket capacity - 4 nos. (iii) Motor Grader 3.71 m Blade - 1 no. (iv) Tandem Vibratory roller 8 - 10 tonne capacity - 2 nos. (v) Water Tanker 5 to 6 KL Capacity - 1 no.		
111011	Under Traffic Block	TRM	15260.36
111012	Not requiring Traffic Block by diverting traffic on diversion or blocking the line for longer duration till completion of rehabilitation work. Note: Cost of diversion, if any, is not included in this item.	TRM	14012.23

Item No.	Description of Item	Unit	Rate (₹)
111020	Extra/Deduction in the rate of item nos. 111011 & 111012 for increase / decrease in net compacted quantity of blanketing material required as per approved designed cross section over net compacted quantity of 4.455 cum per TRM considered in above items, for theoretical profile of 7.0m formation width and 0.55m depth (excluding extra quantity required for compaction).		
111021	Extra for increase in compacted quantity	Cum	2227.96
111022	Deduction for decrease in compacted quantity	Cum	-2227.96
111030	Extra/Deduction in the rate of item nos. 111011 & 111012 for increase / decrease in area of Non-woven Needle Punched and Mechanically or Thermally bonded type Geo-textile required as per approved design over net quantity of 4.0 Sqm per TRM considered in above items.		
111031	Extra for increase in area	Sqm	431.79
111032	Deduction for decrease in area	Sqm	-431.79
112000	Soil Testing		
112010	Slope stability calculation and design for Railways Embankment / Cutting more than 6 meters height based on soil materials & parameters as per RDSO's latest standards and specifications, duly conducting relevant lab test, e.g. cohesion and angle of internal friction etc. and submitting report for approval duly showing the cross-section dimensions for embankment / cutting for each cross section.		
112011	Embankment	Each	569.23
112012	Cutting	Each	686.08
113000	Miscellaneous		
113010	Cess repair/widening work as per RDSO Specifications and guidelines RDSO/2020/GE: IRS-0004 or latest in running line with suitable soil to the designed profile The work shall include uprooting and disposing of all the vegetation, benching at every 30 Cm vertical height, earthwork in benching portion and compaction using suitable slope vibratory Rollers/Compactors etc. to achieve prescribed MDD. Note: 1. Payment of cess repairs shall be based on the quantities worked out from the cross sectional calculations only and worked out from the initial ground levels before doing benching and final levels as done for new embankment. The earth work in benching portion shall not be paid extra as the same has been included in the rate. 2. The earth work shall be started only after Completing of the benching and certified. 3. The benching Work shall be done for a maximum height of 1.50 m at any time based on the progress of earthwork starting from toe of the embankment.	Cum	1014.51
113020	Extra over item 113010 for earth-work for making cess on other side of the track (when no approaches available along track or no road vehicles to work at site) by dumping contractor's own earth, collected along toe of bank of any height on to other side of track & side slope of the existing bank by head load, duly crossing of tracks with all contractor's materials, labour, tools, plant including loading of earth in baskets, lifting, leading to the non-cess side of bank including crossing of tracks & dumping etc. and as directed by the Engineer in-charge.	Cum	101.45

Item No.	Description of Item	Unit	Rate (₹)
113030	Excavation for widening of existing formation in cuttings in hard soils which require picks or crow bars for hacking including soils containing stones or boulders of size under 0.03 cum without infringing the nearby track, as directed by engineer-in-charge at site including cutting of earth, loading, leading by contractor's vehicles, unloading at site, dumping on spoil bank by head loads and utilising same excavated earth for widening of existing formation in embankment as per standards, duly rolling manually at 2:1 slope and levelling bank to the required profile including watering and compaction with contractor's labour or mechanically operated rollers with all contractor's labour, clearing of jungle, benching etc., tools, plants, vehicles etc. complete with lead up to 1000m and all lifts including crossing of track, wherever necessary.	Cum	776.19

Item No.	Description of Item	Unit	Rate (₹)

CHAPTER - 12 : Activities at Construction Sites

Item. No.	Description of Item	Unit	Rate (₹)
121000	Dismantling Works		
121010	Dismantling of existing LWR/SWR track of any structure, removing rails, sleepers, fish plates, cutting of rails, segregation and stacking of released Rails, Sleepers and fitting at nominated location in countable manner within a free lead of 500m, levelling of ballast to correct profile for laying new track over it, all as per direction of Engineer-in-Charge.	TRM	216.96
121020	Dismantling existing sand humps in yards from end of turnout to end of sand hump. Scope includes dismantling of track and brick / stone masonry on either sides of track, removing sand and earth to the required level including clearing site and stacking released materials within maximum lead of 250m, clear of infringement, complete and as directed.	Each	14869.04
122000	Shifting & Pairing Works		
122010	Shifting & pairing of rails / panels unloaded alongside existing running track to adjoining formation of a new line including crossing of one track, duly lifting & pushing rail / panel without damaging it and taking all necessary precautions, so as not to infringe the running track, as directed by Engineer in-charge. Note: The rail barricading, if disturbed during working, should be restored to its original condition by the agency including re-fixing & concreting as required.		
122011	Rail length up to 13m - Under Traffic Block	RM	22.17
122012	Rail length up to 13m - Under Conditions not requiring Traffic Block	RM	18.03
122013	For rails/panels of more than 13m and up to 40m length - Under Traffic Block	RM	32.79
122014	For rails/panels of more than 13m and up to 40m length - Under Conditions not requiring Traffic Block	RM	23.42
122015	For rails/panels of more than 40m length - Under Traffic	RM	48.16
122016	For rails/panels of more than 40m length - Under Conditions not requiring Traffic Block	RM	34.19
122017	Extra over item No 122011 for crossing each additional line	RM	2.22
122018	Extra over item No 122013 for crossing each additional line	RM	3.28
122019	Extra over item No 122015 for crossing each additional line	RM	4.82
123000	Laying & Linking Works		
123010	Providing Centre Line / Rail Level, reference Pegs on formation at an interval of 30 metres on one side or at centre of proposed / existing track, as directed by engineer in-charge for linking of new track / CTR / Deep Screening / Lifting / Lowering works, duly embedding in formation including marking with contractor's paint. Note: (1) Rails/tie bar of suitable size bar shall be supplied by the Railways from nearest Stores Depot. In case of hard wood peg, the hard wood will be supplied by the contractor. (2) Excavation and concrete work, if required, will be paid separately.		
123011	With Rail pegs	Each	152.14
123012	With Tie bar pegs	Each	100.41
123013	With contractor's hard wood pegs of 50 mm dia and 60 cm long	Each	155.31

Item No.	Description of Item	Unit	Rate (₹)
123020	Installation of reference points for track centre line in main and loop lines, in straight or curve portion, SRJ for turnouts, heel of crossing (HOC), locations of derailing switches, switch expansion joints etc. away from formation on firm ground at known offset with MS Angles of 50mmx50mmx5mm thick of length 1.80 m each, founded in concrete block of size 30cm x 30cm x 45cm of nominal mix 1:3:6, including painting to reference pegs with two coats of enamel paints on exposed surface, as directed by Engineer In charge. Note: Earth work and Cement concrete will be paid under relevant items.	Each	708.60
123030	Spreading of ballast, from existing stacks available along formation on top or at cess, in required uniform thickness, compaction of ballast layer laid on new formation at all the locations with smooth wheeled power roller of 8-10 tonne capacity to sufficient number of passes to form consolidated ballast bed of approximately 250mm thickness to a width of 4m symmetrical to centre line of proposed track in correct line & level with all ascents & descents, as directed by Engineer in-charge. Note: Item is inclusive of (a) providing ramp for taking roller to formation and removing the same & making good formation after completion of work; (b) redistribution & leveling of excess ballast while rolling to obtain uniform plane cambered surface.	Cum	49.15
123040	Linking of BG track (except at LC, Bridges and SEJs) with any type of rail section and sleeper of specified density, on ballast bed spread and compacted with suitable roller, over prepared formation including leading free rails/welded panels available along the alignment on to formation, leading and spreading all fittings and fastenings, spreading of sleepers at specified spacing, squaring, placing of rails over sleepers and fixing rails to sleepers with all types of fittings and fastenings to correct gauge & alignment, lubrication of fittings and fastenings with contractor's grease as per IRPWM standards with contractors labour, tools, consumables, with all lead, lifts etc. complete and raising, levelling and initial packing of track to make it fit for 30 kmph and meet other prerequisites prescribed in Indian Railway Track Machine Manual for deployment of Tamping Machine. Note: 1.Rail cutting and Hole drilling shall be paid separately. 2.Spreading of ballast and compaction shall be paid separately under relevant item.		
123041	For sleeper density of 1660 sleepers per km	TRM	351.76
123042	For sleeper density of 1540 sleepers per km	TRM	325.44

Item No.	Description of Item	Unit	Rate (₹)
123050	Linking of track at level crossing locations as per RDSO drawings with any type of rail section and sleeper on prepared formation including leading free rails/welded panels available along the alignment on to formation, spreading of sleepers at specified spacing, squaring, placing of rails over sleepers and fixing rails to sleepers with all types of fittings and fastenings to correct gauge & alignment, excavating level crossing portion as necessary, fixing check rails to running rails, providing C.C blocks, chairs, anti corrosive painting to running rails and check rails, lubrication of fittings and fastenings with contractor's grease as per IRPWM standards with contractors labour, tools, consumables, with all lead, lifts etc. complete and raising, levelling and initial packing of track to make it fit for 30 kmph and meet other prerequisites prescribed in Indian Railway Track Machine Manual for deployment of Tamping Machine. Note: Rail cutting and hole drilling, if required, shall be paid separately under relevant item.	TRM	492.95
123060	Linking of BG track (with guard rail) over ballasted deck bridges with any type of rail section and PSC sleeper including leading free rails/welded panels available along the alignment on to bridge, leading and spreading all fittings and fastenings, leading & spreading of sleepers at specified spacing, squaring, placing of rails over sleepers and fixing rails & guard rails to sleepers with all types of fittings and fastenings to correct gauge & alignment, lubrication of fittings and fastenings with contractor's grease as per IRPWM standards with contractors labour, tools, consumables, with all lead, lifts etc. complete and raising, levelling and initial packing of track to make it fit for 30 kmph and meet other prerequisites prescribed in Indian Railway Track Machine Manual for deployment of Tamping Machine. Note: 1.Rail cutting and Hole drilling shall be paid separately. 2.Spreading of ballast and compaction shall be paid separately under relevant item. 3. This item shall be applicable only when track is with Guard Rail. Linking without guard rail be paid under relevant item for plain track linking.	TRM	472.62
123070	Linking of track on Girder Bridge with Steel Channel/H-beam sleepers as per approved drawings including leading of running and guard rails, sleepers and fittings, bending of guard rails, notching, drilling of holes, cutting of rails etc. as per IRPWM with latest correction slips and making track structure fit for normal speed. Note: 1) Rails, Steel Channel/H-beam sleeper and all fittings will be supplied by Railways. 2)Transportation of track material if supplied beyond 250m of bridge approaches, shall be paid separately under relevant item.	TRM	666.19

Item No.	Description of Item	Unit	Rate (₹)
123080	Carrying out cut & connection to the existing PSC sleeper track under line block of any rail section and sleeper density to connect the same to newly linked track which is laid by the side, duly carrying out cutting of rails, insertion of additional PSC sleepers, if required, providing fish plated joints including drilling of holes, slewing required length of both tracks to prescribed alignment, adjusting sleeper spacing, providing continuity to track, spreading of ballast to provide cushion, shoulder ballast to the track stretch, giving one round of initial packing to make track fit for 20 kmph speed and boxing of ballast to profile as directed by Engineer in charge.	Each	72097.07
123090	Shifting / Slewing the existing or newly assembled track of any rail section with any type of sleepers and any density under line block to correct locations & alignment and attending to one round kutcha packing to run safely at 20KMPH speed with all contractors tools and consumables complete and as directed by Engineer in-charge.		
123091	Maximum Shifting / Slewing up to 1 metre	TRM	229.57
123092	Maximum Shifting / Slewing for more than 1 metre & up to 2 metres	TRM	275.93
123100	Assembling, laying and linking of Broad Gauge track over CC apron, RCC/CC Bed Blocks etc. to correct level & alignment, fixing of all fittings with rails / panels, aligning & leveling correctly, as directed by engineer in-charge. Rate is inclusive of cutting rails, drilling holes for fixing fish plates, lubrication of fittings & fastenings, fixing reference pillars, arrangement for keeping assembly in correct position while concreting, as required.	TRM	241.01
123110	Fixing all types of free rails / rail panels over pit line for BG track with inserts, elastic rail clips, MS liners and grooved rubber pads below rail to correct spacing, gauge, alignment and level with above fittings & fastenings in position, duly providing full complements of rail fittings. Required nos. of inserts per bearing shall be fixed at the time of concreting bed block over pit wall to correct spacing, centre to centre, alignment & levels as per IR's approved drawing.	TRM	159.93
124000	Miscellaneous		
124010	Construction of Sanded Dead End as per RDSO's Drawing no. RT-347 (with all amendments) with brick-work using country bricks or CC bricks in mud mortar and filling with river coarse sand, surrounding rails and filling around. Note: Cost of brick and sand is not included in the rate.	Each	12139.91
124020	Working of the Railway Push Trolley by arranging one Head trollyman along with 3 trollymen as per Railway's rules and stipulations for conducting inspections by Railway officials and as directed by Engineer in-charge. Note: 1) Labourers supplied should be of skilled in case of head trollyman and semiskilled in case of trollymen and capable of pushing trolley in all gradients, and levels duly observing all safety precautions as per the manual. 2) The labour engaged should be physically fit for strenuous work, literate and meeting prescribed medical category.		
124021	For Full day (8 hrs)	Each	3657.65
124022	For Half day (4 hours)	Each	2339.52

Item No.	Description of Item	Unit	Rate (₹)
124030	Providing Caution Watchman at a location where caution order is imposed and ensuring to be on continuous vigil and exhibit necessary hand signals to the trains for their passage over caution spot. Note: 1) Prescribed protection equipment shall be supplied by Railways and the same shall be returned after work is over. 2) If Contractor fails to post watchman at any time during one day, penalty at double the accepted rates will be levied and 3) The watchman nominated by the contractor will be screened for suitability as per Railway norms.		
124031	For one shift (12 Hrs)	Each	1324.83
124032	For Half Shift (4 hours)	Each	446.07
124040	Preparation of completion drawings of yard in AutoCAD, showing all the details, such as circulating area, approach road, platform shelter, platform, FOB etc., showing relevant particulars to appropriate scale as per IR's Engineering Code on approved quality, transparent media as per details supplied by Railways, including submission of check print for proof checking, duly incorporating the suggested corrections and modifications and supplying the final plot on approved quality & transparent media with six copies of ammonia prints complete and soft copy, as directed by Engineer in-charge Note: (i) Drawings shall be prepared by using latest drawing making softwares AutoCAD, Work station etc. and printing shall be done on high end latest plotters. (ii) Stage Payment - (a) For check print - 40% (b) For Paper tracing - 40% (c) For Ammonia print & soft copy - 20%.		
124041	Completion drawing of yard at junction station	Each	7571.72
124042	Completion drawing of building	Each	5578.20
124043	Completion drawing of land plan	Km	5538.06
124044	Completion drawing of way side station	Each	3479.98
124050	Dismantling / removing the existing bearing plate and fixing new bearing plates supplied by Railways in pit lines, duly breaking / chiselling CC to required depth, so as to fix new bearing plates etc. with all contractor's labour, tools, lead, lift, transportation etc. including crossing of tracks complete and as directed by Engineer in-charge (concrete work for fixing will be paid separately)	Each	79.56

Item No.	Description of Item	Unit	Rate (₹)

CHAPTER - 13 : Maintenance Activities

Item No.	Description of Item	Unit	Rate (₹)
131000	Through Packing Works		
131010	Through packing of track, as per procedure prescribed in latest edition of Indian Railways Permanent Way Manual		
	For PSC sleeper Track		
131011	For PSC sleeper Track with Sleeper Density of 1540 Sleepers/Km or more	TRM	115.94
131012	For PSC sleeper Track with Sleeper Density of less than 1540 Sleepers/Km	TRM	99.89
	For other than PSC Sleeper Track		
131013	For other than PSC Sleeper Track with Sleeper Density of 1540 Sleepers/Km or more	TRM	99.38
131014	For other than PSC Sleeper Track with Sleeper Density of 1340 Sleepers/Km (M+4)	TRM	89.71
131020	Picking up of slacks in track of all sleeper density, duly opening up ballast, gauging, alignment, correcting longitudinal & cross levels, packing, boxing of ballast and dressing the same under traffic conditions as per procedure prescribed in latest edition of IRPWM and as directed by Engineer in-charge. Note: In-charge section Engineer should identify locations requiring packing and obtain prior approval of DEN/XEN before execution of the work when there is no Zonal Track Maintenance agency deployed in the section.		
131021	For PSC Sleeper	TRM	99.38
131022	For other than PSC Sleeper	TRM	86.44
131030	First or Second Through Packing of track of all sleeper density including giving a general lift, as desired to eliminate sag after Deep Screening work, lifting of track, lowering of track and major realignment of curves and formation rehabilitation as per procedure prescribed in latest edition of IRPWM. Note: General lift is normally 25 mm and isolated lift may be up to 50 mm.		
131031	For PSC Sleeper Track with Sleeper Density of 1540	TRM	139.13
131032	For PSC Sleeper Track with Sleeper Density of 1660	TRM	153.04
131033	For PSC Sleeper Track with Sleeper Density of 1340	TRM	111.30
131034	For other than PSC Sleeper Track with Sleeper Density of 1540	TRM	115.25
131035	For other than PSC Sleeper Track with Sleeper Density of 1660	TRM	126.78
131036	For other than PSC Sleeper Track with Sleeper Density of 1340	TRM	92.20
131040	Third or subsequent Through Packing of track for all sleeper density including picking of slacks, as required after second through packing, subsequent to Deep Screening work as per procedure prescribed in latest edition of IRPWM. This item can also be used after lifting/regrading/realignment works also. Note: General lift is normally 25 mm and isolated lift may be up to 50 mm.		
131041	For PSC Sleeper Track with Sleeper Density of 1540	TRM	107.02
131042	For PSC Sleeper Track with Sleeper Density of 1660	TRM	117.72
131043	For PSC Sleeper Track with Sleeper Density of 1340	TRM	85.62
131044	For other than PSC Sleeper Track with Sleeper Density of 1540	TRM	92.20
131045	For other than PSC Sleeper Track with Sleeper Density of 1660	TRM	101.42
131046	For other than PSC Sleeper Track with Sleeper Density of 1340	TRM	73.76

Item No.	Description of Item	Unit	Rate (₹)
131050	Through packing of points and crossings, derailing switches including gauging, fittings recoupment, ballasting as required, elimination of sag and to the required alignment after Deep Screening as per procedure prescribed in latest edition of IRPWM complete as per direction of Engineer-in-charge. Note: This work shall be operated in exceptional cases with written approval at DEN level when UNIMAT is not available and immediate packing is required to pass train over it.		
131051	1 in 8½ PSC layout	Set	12701.58
131052	1 in 12 PSC layout	Set	16554.84
131053	1 in 16 PSC layout	Set	18896.23
131054	1 in 8½ Derailing Switch	Set	1802.34
131055	1 in 12 Derailing Switch	Set	2578.34
131060	Packing of isolated loose PSC sleepers on plain track below the bottom of the sleepers and surrounding through out its length duly opening two galas on either side of the renewed sleepers and packing the sleeper to bring the track to normal speed including gauging, aligning, squaring of sleepers and sectioning of ballast to the required profile with all contractor's labour, tools and plant etc. including all lead and lift and crossing of tracks where ever necessary complete and as directed by the Engineer-in-charge.	Sleeper	89.62
131070	Slack picking of joint sleepers and 3 approach sleepers on either sides giving required lift to make up general track level, packing and profiling as directed.	Each	628.17
132000	Systematic Overhauling Works		
132010	Systemic overhauling of track under traffic as per procedure prescribed in latest edition of IRPWM , including removing the crib ballast in 50mm to 75mm depth below bottom of sleeper and complete shoulder ballast without breaking core under the bottom of sleeper, to recover clean ballast by screening on wire mesh and disposing off the muck including throwing & leveling, if required beyond minimum 5m from the edge of cutting which are up to 3m deep or alternatively carting it up to 50m for disposing it off beyond cutting or platforms away from the track, as directed by Engineer in-charge including cutting & making up the cess and ensuring proper drainage slope and then re-inserting cleaned ballast into track and compaction of shoulder and crib ballast by wooden mallet and dressing / profiling ballast as per railway specifications.		
132011	For PSC sleeper Track with Sleeper Density of 1540 sleepers/Km or more	TRM	197.80
132012	For PSC sleeper Track with Sleeper Density less than 1540 sleepers/Km	TRM	150.05
132013	For other than PSC sleeper Track with Sleeper Density of 1540 sleepers/Km or more (M+7)	TRM	173.08
132014	For other than PSC sleeper Track with Sleeper Density of 1340 sleepers/Km (M+4)	TRM	133.38
132015	Extra over Items 132011 to 132014 for working in yards	TRM	51.47
132020	Overhauling of fish plated / welded joint track sleepers including 3 approach sleepers on either sides up to 50mm below bottom of sleepers in crib & shoulder, replacing rounded ballast, recouping deficient ballast within 50m lead, replacement of worn-out fittings supplied by Railway, as directed as per procedure prescribed in latest edition of IRPWM.	Each	1413.90
133000	Pulling Back & End Cropping Works		

Item No.	Description of Item	Unit	Rate (₹)
133010	Pulling back of rails / panels on running track for creep adjustment or other incidental activities by removing and re-fixing all the fittings, and fastenings including squaring of sleepers and slack picking of displaced sleepers, as directed.		
133011	For rails up to 13 metre length	TRM	40.05
133012	For rail panel above 13 metre & up to 40 metre length	TRM	44.10
133013	For rail panel more than 40 metre length	TRM	48.15
133020	Pulling of welded rail panels to create a specified gap under traffic block, including opening of fittings & fastenings and re-fixing them on track after pulling of rail and creating standard gap for welding.		
133021	For Rail panel more than 13m and up to 40m length	RM	23.75
133022	For Rail panel more than 40m length	RM	27.83
134000	Re-Alignment of Curves		
134010	Slewing and realigning of curves under traffic line block condition, as directed by Engineer in-charge with contractor's labour, tools & plants, as required with general lift up to 25mm including one round of through packing, ballast profiling, loosening/tightening of P.Way fittings, if required and other incidental works. Note: Payment will be made based on average slew calculated in each 50m length of track by averaging absolute values of positive and negative value of slews.		
134011	Other than PSC Sleeper track - Maximum slew up to 50mm	TRM	118.20
134012	Other than PSC Sleeper track - Maximum slew more than 50mm and up to 100mm	TRM	140.64
134013	Other than PSC Sleeper track - Maximum slew more than 100mm and up to 150mm	TRM	156.48
134014	Other than PSC Sleeper track - Maximum slew more than 150mm	TRM	174.97
134015	PSC Sleeper track - Maximum slew up to 50mm	TRM	139.59
134016	PSC Sleeper track - Maximum slew more than 50mm and up to 100mm	TRM	176.03
134017	PSC Sleeper track - Maximum slew more than 100mm and up to 150mm	TRM	203.43
134018	PSC Sleeper track - Maximum slew more than 150mm	TRM	233.30
135000	Destressing Works		
135010	De-stressing of LWR/CWR track of any density under traffic line block with contractor's labours, tools, equipments and consumables inclusive of all lead & lift. Activities include cutting of LWR/CWR into convenient panels of specified length, removal of ERCs, liners, greasing of ERCs and liner contact area, lifting rails and keeping them on rollers provided at every 15 sleepers, working out elongation of rail ends depending on prevailing site conditions, pulling rails with the help of Hydraulic Tensor to achieve the desired elongation, cutting rails, as required, removing rollers and placing rail in position, re-fixing ERCs & liners and adjustment of gap at SEJs : Note: (1) Welding of rail joints will be paid separately. (2) Rail cutting and Hole drilling shall be paid separately. (3) Opening and closing of LC if required will be paid separately. (4) As per procedure prescribed in latest edition of IRPWM & CE's Circulars for destressing of LWR/CWR, if any.		
135011	With Railway's Hydraulic Rail tensor	TRM	52.78
135012	With Contractor's Hydraulic Rail tensor	TRM	58.53
135013	Without Rail tensor	TRM	51.02

Item No.	Description of Item	Unit	Rate (₹)
135020	Providing temporary Buffer Rails of fish plated joints of 3 pairs, measuring 6.5m each, duly removing rails of the existing track including cutting & drilling of rails as required for isolating LWR/CWR on all types of track structure. Work will be done under traffic block condition. Note: 1.Each set comprises of 3 pairs of rails 6.5 m long only. 2.Only Rails fish plate and fish bolts will be supplied free by Railway within free lead of 250m.	Set	9752.96
136000	Renewal and Miscellaneous Works		
136010	Fixing Joggled Fish Plates with bolt / clamp (supplied by Railway from nearest SSE Store) in running track conditions at welds on rail, as directed by engineer in-charge (drilling of holes in rail, if required, shall be paid separately).		
136011	With 2 bolts	Set	121.53
136012	With 4 bolts	Set	134.22
136013	With Clamps	Set	172.85
136020	Providing wooden blocks under weld joint duly transporting Railway's released wooden blocks with rail screw / dog spikes and doing packing, as directed under traffic condition. Note: Wooden blocks, rail screws/dog spikes will be supplied free at SSE/P.Way depot.	Each	179.78
136030	Removing the existing wooden blocks under joint, duly removing fittings, transporting and stacking material wise in a countable manner and handing over the wooden blocks & fittings at PWI's Depot or as directed by Engineer in charge.	Each	61.69
136040	Maintenance of track on main line & loops, Points & crossings etc. including special attention to section for carrying out various maintenance works listed in Indian Railways P.Way Manual / Bridge Manual for safe running of goods and passenger trains with contractor's tools / labours etc. complete, as directed by Engineer in-charge. Note: Contractor shall arrange one gang at any point of time comprising of minimum specified labours with sufficient experience in P.Way working.		
136041	One mobile Gang comprising of 15 physically fit labours plus 1 Mate. Note: (1) In case, contractor provides less no. of Labour/Mate or for non availability of vehicle, payment will be deducted for each such person or non-availability of vehicle @ 20% of the accepted item rate, separately for each shortfall. (2) The Contractor shall keep one pick up Truck of minimum 1.5T payload capacity with Driver all the time and all expenditures for running at an average of 80 kms per day shall be born by the Contractor.	Gang Day	15337.88
136042	One Gang comprising of 20 physically fit labours plus 1 Mate. Note: In case, contractor provides less no. of Labour/Mate, payment will be deducted for each such labour @ 10% of the accepted item rate.	Gang Day	17156.91
136050	Interchanging gauge face of rails of any section in traffic line block including removal of fittings and re-fixing the same after changing of gauge face, cutting of rails, joining the rails with fish plate & drilling holes as directed by engineer in-charge.	TRM	110.55

Item No.	Description of Item	Unit	Rate (₹)
136060	Replacing existing glued joint rail with cut rails or with glued joint rail or insertion of glued joint by cutting existing track under traffic condition by cutting rails, refixing with all rail sleeper fastenings and providing required gaps for carrying out welding as an alternative to drilling holes or joining rails with fish plates duly drilling holes as required including stacking of released material and as directed by engineer in-charge. Note: (1) Drilling holes & rail cutting will be paid separately. (2) Transportation of materials to the site of work from supply points, if more than 250m, shall be paid separately.	Each	1999.79
136070	Fixing of Wooden Distance Block of size 1.0m x 0.3m x 0.15m between track and platform wall.		
136071	With Railway's wooden block (by cutting Railway's wooden sleepers into blocks by sawing to size)	Each	231.01
136072	With Contractor's hard wood block.	Each	4425.05
136080	Drilling holes of 16mm to 22mm dia. on all types of PSC sleepers and fixing the dowels with adhesive of RDSO approved quality for fixing check rails & guard rails, as directed by Engineer in-charge.	Each	292.68
136090	Cleaning of side drains along the track including disposing of muck beyond Railway boundary as per instructions of Engineer in-charge to keep drains clean and clear in cuttings etc.	RM	35.96
136100	Removing weeds & bushes in ballast section and cess up to 3.95m from centre line of track in mid section & station yard, as specified by Engineer in-charge including disposal of branches, bushes outside cess/yard.	TRM	16.55
136110	Trimming of tree branches coming within 6m of centre line of track & those obstructing views of Curves/LCs / Signal / Indicator at locations in section & station yard, as specified by Engineer in-charge including disposal of branches, bushes outside cess/yard. Note: Girth of more than 20 cm will only be considered as tree branch.	Each	189.81
136120	Making kutcha trapezoidal side drain of bottom width as 300mm and depth of 450mm in cutting section by excavation in all types of soil including utilising excavated muck for dressing of cess, slopes etc. in Railway land.	RM	141.67
136130	Providing Assistant to Patrol man for patrolling during cold / hot weather on track for protecting track as per IRPWM. Note: 1.The person deployed for patrolling must have the following items: • Valid certificate of competency issued by Railways. • Fit for A-3 medical category - certificate issued by registered medical practitioner 2.Necessary equipments prescribed shall be supplied by Railways for each patrolman and same to be handed over back to Railways in good condition. 3.The following equipment to be arranged by contractor for each patrol man: H.S.Flags Green -1 No (Standard size), H.S Flags Red- 2 Nos. (Standard size),Torch light 3 cell -1 no., Staff for flags -1 no., Whistle Thunder - 1no, Protective clothing to withstand climate, Gum boots, Haver sack.		

Item No.	Description of Item	Unit	Rate (₹)
136131	For duration of 8 hrs.	Each	912.21
136132	For 12 hrs. duration	Each	1351.58
136140	Providing Assistant to Patrolman for monsoon / security patrolling whenever required for protection of track as per IRPWM (for a duration of 12 hours). Note: 1.The person deployed for patrolling must have the following items: • Valid certificate of competency issued by Railways. • Fit for A-3 medical category - certificate issued by registered medical practitioner. 2.The equipment supplied by Railways shall be handed over back to Railways in good condition:		
	3.The following equipment to be arranged by contractor for each patrol man: • H.S.flags (standard size): Green – 1 no. & Red - 2 Nos. • Torch (3 cell) – 1no.; Staff for flags – 1no.; Whistle thunder – 1no. •Protective cloth to withstand the climate; Gum boots; Haver sack		
136141	For Day shift	Each	912.21
136142	For Night shift	Each	1135.24
137000	Marking and Painting Works		
137010	Anti-corrosive painting of rail outside track on rail bottom, web, foot and fishing plane with two coats of thickness of 100 microns each by bituminous black paint confirms to IS-9862 of reputed make including surface preparation, as a complete job as per procedure prescribed in latest edition of IRPWM.		
137011	For 60 Kg Rails	RM	72.48
137012	For 52 Kg Rails	RM	64.40
137020	Anti-corrosive painting of rail on running track of any sleeper density on web, foot etc. including liner contact area (excluding bottom of foot) and fishing plane as per requirement with two coats of thickness of 100 microns each by bituminous black paint confirms to IS-9862 of reputed make including painting of liners, ERCs and including surface preparation, as a complete job as per procedure prescribed in latest edition of IRPWM Note: 60% of payment shall be made if painting on only gauge face side is done.		
137021	For 60 Kg Rails	TRM	96.39
137022	For 52 Kg Rails	TRM	85.64

Item No.	Description of Item	Unit	Rate (₹)
137030	Anti-corrosive painting to weld collar for Thermit welded rail joints on track or on cess for new welded joints to protect against normal corrosion for any rail section with two coats of ready mixed bituminous black paint of reputed make confirming to latest IS:9862 on welded area up to 10cm on either side including on the underside of rail foot by brush including surface preparation as per Railway's AT Weld Manual including lettering / weld numbering with approved enamel paint as directed Note: Before painting, dust, loose rust and mill scale and dirt shall be removed thoroughly by wire brushing. Scrubbing welded area with water to make it free from slag and other water soluble compounds to make it dry.	Each	28.51
137040	Anti-corrosive painting to weld collar for Thermit welded rail joints on track for old painted joints in normal corrosive prone area for any rail section with two coats of ready mixed bituminous black paint of reputed make confirming to IS:9862 latest version on welded area up to 10cm on either side including on the underside of rail foot by brush including surface preparation as per Railway's AT Weld Manual including lettering / weld numbering with approved enamel paint as directed Note: 1.Before painting, dust, dirt and flaked paint from the welded joint shall be removed thoroughly by scrapping with wire brush. Grease and oil shall be removed by use of appropriate solvent confirming to latest IS:1745. 2.Use of detergent followed by water washing should also be done to ensure removal of oil and grease apart from the greasing compound. 3.The paint should be procured along with the thinner recommended by the manufacturer of the paint. 4.No other thinner like kerosene oil should be used.	Each	32.13
137050	Anti-corrosive painting to weld collar for Thermit welded rail joints on track or on cess for new welded joints to protect against severe corrosion for any rail section with one coat of high build epoxy paint (two pack) of reputed make confirming to RDSO Specification M&C/PCN-111/99 on welded area up to 10cm on either side including on the underside of rail foot by brush including surface preparation as per Railway's AT Weld Manual including lettering / weld numbering with approved enamel paint as directed Note: Before painting, dust, loose rust and mill scale and dirt shall be removed thoroughly by wire brushing. Scrubbing welded area with water to make it free from slag and other water soluble compounds to make it dry.	Each	56.49

Item No.	Description of Item	Unit	Rate (₹)
137060	Anti-corrosive painting to weld collar for Thermit welded rail joints on track for old painted joints in severe corrosive prone area for any rail section with one coat of high build epoxy paint (two pack) of reputed make confirming to RDSO Specification M&C/PCN-111/99 on welded area up to 10cm on either side including on the underside of rail foot by brush including surface preparation as per Railway's AT Weld Manual including lettering / weld numbering with approved enamel paint as directed Note: 1.Before painting, dust, dirt and flaked paint from the welded joint shall be removed thoroughly by scrapping with wire brush. Grease and oil shall be removed by use of appropriate solvent confirming to latest IS:1745: 2.Use of detergent followed by water washing should also be done to ensure removal of oil and grease apart from the greasing compound. 3.The paint should be procured along with the thinner recommended by the manufacturer of the paint 4.No other thinner like kerosene oil should be used	Each	60.10
137070	Marking, inscribing, painting, writing, bordering etc. on new / old iron surface at various locations of Points & Crossings with details of turn-in / turn-out reference station mark on rail web for one set, duly preparing surface with contractor's wire brush and applying two coats of yellow synthetic enamel paint of approved quality as background and stenciling the details to suitable size, as described for every curve reference station mark / switch / crossing details with black enamel paint of approved quality complete, as directed : Note: Stenciling of letters is only permitted. No hand written letters are accepted.		
137071	1 in 16 Turnout	Set	2129.98
137072	1 in 12 Turnout	Set	1411.94
137073	1 in 8½ Turnout	Set	909.93
137074	Derailing Switch	Set	454.96
137080	Painting 2 coats to various P.Way Reference Post, Structures etc. with enamel paint of approved make with 2 coats of different colours & letters, as directed by Engineer in-charge.		
137081	Kilometre & Gradient post	Each	100.96
137082	Hectometre Post	Each	116.65
137083	LWR / SEJ Board	Each	184.00
137084	Level Crossing Boards including Road Sign Boards	Each	209.06
137085	Level Crossing Post	Each	202.13
137086	Curve Post	Each	107.80
137087	Level Crossing Boom including fringe	Metre	177.45
137088	Level Crossing Boom without fringe	Metre	146.06
137089	Curve Board	Each	184.00
137090	Curve details, SE, Versine, Station Nos. etc. per station.	Each	62.44
137100	Painting 2 coats to Bridge Reference / Boards, Structures etc. along track with enamel paint of approved make with different colours & letters, as directed by Engineer in-charge.		
137101	Bridge Board	Each	184.00
137102	Bridge Tablet	Each	51.29
137103	Bridge Height Gauge	Each	3204.21
137104	HFL, FSL & DL on Bridge Pier / Abutment	Each	753.44
137105	Miscellaneous General Boards, Jurisdiction Boards, Structures etc.	Sqm	145.04

Item No.	Description of Item	Unit	Rate (₹)
137110	Attending the CC apron repairs under the sleeper where there is separation of PSC Sleeper along whole periphery and puncturing of apron under the sleepers, chiselling as required including removal of foreign materials from the sleeper trench and dewatering duly filling cement concrete with CONBEXTRA-GP2 or similar, the narrow gaps completely including pouring, finishing, curing to match with the existing C.C.apron surface and slopes complete, labour charges in traffic block and as per the direction of Engineer In charge.	Each	2516.73

Item No.	Description of Item	Unit	Rate (₹)

CHAPTER - 14 : Testing of Rails and other Components

Item No.	Description of Item	Unit	Rate (₹)
141000	USFD Testing of Rails		
141010	Ultrasonic testing of single rails, required for fabrication of points and crossings by using double crystal normal probe 4.0 MHz frequency with water / oil couplant. The rails shall be tested by probing from the rail head top, rail head side and web with typical oscillogram pattern for various probe positions as per 'Indian Railways Standard Specification for Ultrasonic Testing of Rails and Welds', as applicable to rails for fabrication of points & crossings. The rates are inclusive of contractor's men, materials & machines complete and as directed.	RM	48.27
141020	Carrying out Through USFD testing of running rails & welds (excluding flange testing) including level crossings, lead portion of points and crossings and scabbed rail testing of all types of rails by NBC (Need Based Concept) method under traffic conditions as per provisions of IR's "USFD Manual & Specifications for Ultrasonic Testing of Rails and Welds" with latest correction slips & related instructions, duly marking defects, submission of daily reports and storing back-up data, as specified & directed. Note: The SRT/DRT machine should have minimum of 9 probes (including 370 forward /backward probe for detecting bolt hole cracks.		
141021	With Contractor's USFD machine	TRM	5.55
141022	With Railway's USFD machine including related T&P and probes	TRM	5.19
142000	USFD Testing of A.T. Welds		
142010	Carrying out USFD testing of Alumino Thermic (AT) welds on all types of rails, using 0º (2 MHz) double crystal; 70º (2 MHz) 20mm x 20mm single crystal probe for head & flange testing; 2 nos. 45º (2 MHz) single crystal with tandom rig for testing from rail top to bottom & for half moon testing and 70º (2 MHz) 20mm x 20mm side looking probe by NBC (Need Based Concept) method under traffic conditions as per provisions of IR's "Manual & Specifications for Ultrasonic Testing of Rails and Welds" & related instructions duly marking the defects, submission of daily reports and storing back-up data as specified & directed. The rates are inclusive of contractor's men, materials & machines complete unless otherwise specified and directed.		
142011	Track having up to 3 rail panels - With Contractor's USFD machine :	Each	202.71
142012	Track having more than 3 Rail panels - With Contractor's USFD machine.	Each	185.82
142013	Track having up to 3 rail panels - With Railways' USFD machine including related T&P and probes :	Each	183.25
142014	Track having more than 3 rail panels - With Railways' USFD machine including related T&P and probes :	Each	165.75
143000	USFD Testing of Flash Butt Weld		

Item No.	Description of Item	Unit	Rate (₹)
143010	Carrying out USFD testing of Flash Butt (FB) & Gas Pressure (GP) welds on all types of rails using 2 single crystal 45º (2 MHz) for head testing and one single crystal 70º (2 MHz) probe for web & flange testing by NBC (Need Based Concept) method under traffic conditions as per provisions of IR's "Manual & Specifications for Ultrasonic Testing of Rails and Welds" & related instructions, duly marking the defects, submission of daily reports and storing back-up data as specified & directed. The rates are inclusive of contractor's men, materials & machines complete unless otherwise specified and directed.		
143011	Track having up to 3 rail panels - With Contractor's USFD machine :	Each	216.70
143012	Track having more than 3 rail panels - With Contractor's USFD machine :	Each	198.64
143013	Track having up to 3 rail panels -With Railway's USFD machine including related T&P and probes :	Each	197.24
143014	Track having more than 3 rail panels - With Railway's USFD machine including related T&P and probes :	Each	180.80
144000	USFD Testing of SEJ		
144010	USFD testing of Switch Expansion Joint (SEJ) by NBC (Need Based Concept) method under traffic conditions as per provisions of "IR's Manual & Specifications for Ultrasonic Testing of Rails and Welds" with latest amendments & related instructions, duly marking the defects, submission of daily reports and storing back-up data, as specified in the special conditions, as applicable to rail testing. The rates are inclusive of contractor's men, materials & machines complete unless otherwise specified and directed. Note: One set consists of both SEJ on left and right rail.		
144011	With Contractor's USFD machine	Set	1510.40
144012	With Railway's USFD machine including related T&P and probes	Set	1376.61
144020	Providing an assisting gang comprising of 4 men per day with SSE/P.Way/ USFD for carrying out ancillary works viz., lookout, watering, paint marking and handling machine for USFD test with Single Rail Tester (SRT) machine and as directed by Engineer in charge. Note: 1. This item shall be operated only when there is no departmental staff available and only with the prior approval of concerned Sr. DEN/Co-ordination. 2. In case, contractor provides less no. of Labour, payment will be deducted for each such person @ 50% of the accepted item rate.	Gang Day	3090.64
144030	Providing an assisting gang comprising of 6 men per day with SSE/P.Way/ USFD for carrying out ancillary works viz., lookout, watering, paint marking and handling machine for USFD test with Double Rail Tester (DRT) machine and as directed by Engineer in charge. Note: 1. This item shall be operated only when there is no departmental staff available and only with the prior approval of concerned Sr. DEN/Co-ordination. 2. In case, contractor provides less no. of Labour, payment will be deducted for each such person @ 1/3 rd of the accepted item rate.	Gang Day	4629.26

Item No.	Description of Item	Unit	Rate (₹)

CHAPTER - 15 : Heavy Track Machines

Item No.	Description of Item	Unit	Rate (₹)
151000	PQRS Related Works		
151010	Unloading of mono-block PSC sleepers in PQRS Depot using Railway's Portal crane from wagons and stacking them at the end of Assembling Line with all leads & lift. Note: 1.Unloading to be done within the stipulated time as and when loaded BFRs are received, so as to hand over empty BFRs without demurrage; 2.If unloading is not done within the stipulated time, the demurrage raised by the Railways shall be borne by the Contractor. 3.Contractor has to arrange necessary tools etc., complete for unloading from BFR's and stacking.	Each	7.03
151020	Assembling of 13m / 12.6m long track panels in PQRS Depot by spreading PSC sleepers already unloaded and stacked, to correct spacing as per specified sleeper density per km, using Railway's portal crane, placing service rails on them and fixing rails to sleepers with standard fastening properly to get correct gauge with all contractor's labour, tools, plants etc.	TRM	43.81
151030	Loading pre-assembled panels with PSC sleepers in layers on BFR with Railway's Portal Crane in PQRS Depot, complete in such a manner that it may be dispatched in train formation to mid section, as directed by engineer in-charge.	TRM	6.31
151040	PQRS: Pre Block activity: Removing of the existing ballast from crib portion of the full length of existing PSC sleeper and further up to the bottom of sleepers to accommodate new sleeper and dumping the ballast so removed on the shoulders/cess with contractor own labour, tools and plants etc, complete with all lead and lift and as directed by the Engineer-in-charge at site including crossing of track wherever necessary.	TRM	36.02
151050	PQRS: During line block activity: Dismantling existing track, levelling disturbed and uneven surface of bed up to bottom of sleeper, Loading the released panels in to BFR with Railway's portal cranes, Placing new panels from BFRs on to track with Railway's portal crane, Linking of Track with all fittings, placing ballast as required in crib and shoulders, aligning and surfacing of track, attending track parameters and initial packing to track to allow traffic at restricted speed of 20 kmph with contractor's labour, tools etc, complete and lead & lift as directed by the Engineer-in-charge at site including crossing of track wherever necessary. Note: The PQRS cranes with fuel and operators will be provided by Railway.	TRM	45.79
151060	PQRS: Post Block activity, Pulling back the left over ballast from shoulders/cess in to track and dumping in cribs and shoulders, regulating and boxing with available ballast to facilitate surfacing of track during lifting with contractors own labour, tools etc, complete and lead & lift as directed by the Engineer-in-charge at site including crossing of track wherever necessary.	TRM	24.19

Item No.	Description of Item	Unit	Rate (₹)
151070	Unloading of released track panels consisting of all types of rails & sleepers from Railway wagon at PQRS Depot, using portal cranes including dismantling of released panels to rails, sleepers & fastenings and stacking them material-wise and classification-wise at nominated locations within the yard limits with all leads, lift and crossing of tracks.		
151071	With Railway's portal crane for PSC sleeper track	TRM	70.64
151072	With Railway's portal crane for other than PSC sleeper track	TRM	37.93
151080	Mechanised loading of all types of rails on BFRs in PQRS Depot with Railway's cranes, as directed by engineer in-charge.	RM	11.20
151090	Providing group of 2 men for doing various miscellaneous works for Railway's PQRS cranes (one set of 2 portals) for proper upkeep of crew rest van / rest room, as directed by the machine in-charge by : (1) Fuelling the machine, duly bringing diesel / hydraulic oil from the stacked drums; (2) Bringing water to the staff rest van or staff rest room, cleaning rest van / rest room, cooking food for Track Machine staff or bringing food from outside (cost of food shall be borne by the staff concerned).	Day	1552.01
151100	Guarding and watching the Track machine / group of machines, spare parts, oils, grease etc. of PQRS cranes (one set of 2 portals) during day and night time in a shift of 12 hours each, at all locations wherever necessary, as instructed by the machine in-charge. Note: One shift comprises of 12 hours.	Shift	872.07
151110	Laying of auxiliary track with all types of rails, already available on cess, fixing rails on wooden blocks / CST-9 pots at 2m interval, true to square, to required alignment & level, fixing with spikes / screws / keys, linking rails with fish plates, bolts & nuts to a gauge of 3400mm (with reference to centre line of existing BG track), levelling both the rails to same plane as that of BG track over stone ballast by way of removing ballast from shoulders of existing track, providing one round of packing. Subsequently, dismantling auxiliary track after completion of PQRS work at site by way of removing wooden blocks / CST-9 pots and carrying same to next stretch / location, if required, where auxiliary track has to be laid and spreading the same at required locations and leaving rails there itself for carrying out TRR work later.	TRM	48.81
151120	In PQRS work, through rail renewal of BG track on PSC sleepers of any density with all types of rails / rail panels lying in auxiliary track or on cess for replacement of service rails including handling of rails by way of dragging, pairing etc. and leading released service rails to load into BFR / Lorry or to shift to next location including crossing of track with lead & lift and any other incidental works as required.		
151121	For rails up to 13m length	TRM	128.10
151122	For rails of more than 13m and up to 40m length	TRM	121.03
151123	For rails above 40m length	TRM	120.90
151130	Through Rail renewal with free service rails of all types by removing existing running rails, already cut into free rails / rail panels for making auxiliary track, including attending alignment, cross level, gauging, packing; wherever required including crossing of track, as directed.	TRM	128.10
152000	Track Relaying Train (TRT) Related Works		

Item No.	Description of Item	Unit	Rate (₹)
152010	Carrying out preparatory works before operation of Track Relaying Train (TRT), such as – (1) Broken corroded sleepers to be removed and fastenings to be loosened; (2) Excess ballast to be removed up to bottom of sleepers; (3) Check rails of level crossings falling in the range of work to be removed; (4) In case of CTR, rail panels placed at 1.5m away from existing track centre; (5) All existing longer wooden sleepers if available or interlaced sleepers of different height to be removed; (6) Cutting of existing rails to 6m piece closure at work site from where Track Relaying Train (TRT) will start working on that day; (7) Removal of Reverse jaw type CST-9 sleeper if available joggled fish plates, OHE bonds & other obstructions etc. 8. Removal of Guard Rails at bridge locations other than Girder Bridges. 9. Rail cutting and drilling shall be paid separately under relevant item.	TRM	35.24
152020	Loading of PSC sleepers in layers on BRH (special type modified BFR for TRT / PQRS working) by using contractor's Gantry (Crane) in TRT / PQRS Base Depot, placing dunnage (wooden beddings / wedges) between sleepers to cover entire layer of sleepers, complete in such a manner that it may be dispatched in train formation.		
152021	Mechanised loading with Railway's cranes	Each	5.02
152022	Mechanised loading with Contractor's cranes /Hydra	Each	13.95
152030	Unloading of released sleepers from BRH (special type modified BFR for TRT working) in Depot by using contractor's Gantry (Crane) and stacking them at nominated locations within the yard limits with all leads & lift.	Each	34.93
153000	T-28 Machine Related Works		
153010	Dismantling of existing Turnout by removing switches, rails, crossings, check rails, sleepers and all fixtures and stacking all released materials, removing ballast and muck by excavating up to required depth, preparation of formation bed, laying of pre assembled Turnout by Railway's T-28 machine, linking of track with all fittings, filling up of ballast duly screened, packing, adjusting, opening & housing of switch, testing operation of switch assembly and attending track parameters, so as to make track fit for 20 kmph speed including disposing off muck to indicated places up to free lead after the block working etc. complete. Note: Rate includes making necessary preparation for T-28 machine movement like preparation of approaches, transportation and laying of wooden sleepers/blocks, etc.		
153011	1 in 8½ Turnout	Each	58982.87
153012	1 in 12 Turnout	Each	67835.63
153013	1 in 16 Turnout	Each	76695.75
153014	1 in 20 Turnout	Each	83495.15

Item No.	Description of Item	Unit	Rate (₹)
153020	Dismantling of existing switch by removing switches, sleepers, fixtures and stacking all released materials, removing ballast and muck by excavating up to required depth, preparation of formation bed, laying of pre-assembled switch by Railway's T-28 machine, linking of track with all fittings, filling ballast duly screened, aligning, packing, adjusting, opening & housing of switch, testing operation of switch assembly and attending track parameters so as to make track fit for 20 kmph speed including disposing off muck to indicated places after the block working etc. complete. Note: Rate includes making necessary preparation for T-28 machine working/movement such as providing and removing rail closures, preparation of approaches, transportation and laying of wooden sleepers/blocks, etc.		
153021	1 in 8½ Switch	Each	25230.77
153022	1 in 12 Switch	Each	28630.47
153023	1 in 16 Switch	Each	32391.04
153024	1 in 20 Switch	Each	36629.63
153025	Derailing Switch	Each	14322.60
154000	BCM / FRM Machine Related Works		
154010	Carrying out preparatory works for operation of Ballast Cleaning Machine (BCM) which includes making trench in track for inserting cutter bar, supporting track on wooden block supplied by Railway, removal of ballast along with muck from shoulder which is out of reach of cutter chain and putting the same in cutting width or between rails. Rate includes all miscellaneous works, e.g. opening and re-fixing of joggled fish plates, OHE Bonds, dismantling & removing obstructions etc.	TRM	17.41
154020	Carrying out various works during operation of BCM, like filling up of ballast at deficient location from locations where ballast is excess or from adjoining tracks, required initial packing, adjustment of PSC Sleepers, provision wooden blocks supplied by department and attending track parameters etc. complete so as to make track fit for 20 kmph speed.	TRM	43.57
154030	Removal of screened muck discharged by BCM, where muck disposal on side slope is restricted due to platform, cutting, OHE mast etc. and disposing it beyond 5m from edge of cutting up to 3m deep or alternatively carting it up to 50m for disposing off beyond the end of cutting / platform and making up cess wherever low.	TRM	33.10
154040	Removal of screened muck discharged by FRM/SBCM where muck disposal on side slope is restricted due to platform, cutting, OHE mast etc. and disposing it beyond 5m from edge of cutting up to 3m deep or alternatively carting it up to 50m for disposing off beyond the end of cutting / platform and making up cess wherever low.	TRM	22.06
154050	Extra to item nos. from 154030 and 154040 for disposal of muck at a distance beyond 50m for every additional lead of 50 metres or part thereof up to 500 metres.	TRM	3.09
154060	Extra to item nos. from 154030 and 154040 for disposal of muck for additional lift of 1 metre or part thereof beyond 3 metre lift in case of disposal of muck from track in cutting.	TRM	6.43

Item No.	Description of Item	Unit	Rate (₹)
154070	Removing the ballast from shoulders, left over after BCM working, screening the same removing the muck and putting back the screened ballast into track, boxing the ballast to profile and using released muck for cess making or throwing away within 50m lead and 3m lift when not required for cess repairs and as directed by the Engineer-in-charge. Note: This item shall be used only when BRM is not available.	TRM	22.91
154080	Ballast equalisation & ballast profiling after completion of deep screening work by BCM and/or after unloading of ballast by DMT (Ballast Train), as directed by Site Engineer as per IRPWM including heaping of ballast in tamping zone keeping rails & sleeper top free from ballast, spacing and squaring of sleeper, gauging, cleaning of muck, proper fixing of fastening, attention during each round of sleeper tamping in relation to pre & post working Note: Payment shall be made only once in irrespective of numbers of TTRM packing round and after restoration of normal speed and restoration of complete ballast profile and cess profile.	TRM	41.10
154090	Making cess in deep screened track by using screened muck discharged by BCM where cess is low or cutting cess to required depth up to 4m from centre of track, where cess is high and disposing off extra muck beyond 5m from edge of cutting which are up to 3m deep or alternatively carting it up to 50m for disposing it off beyond cutting or platforms, so as to make cess as per standard profile including providing proper slope.	TRM	36.60
154100	Carrying out Through packing of sleepers to make track fit for 30 KM speed as per procedure stipulated in latest version of IRPWM, behind BCM including filling ballast when only lifting is carried out by BCM.	TRM	94.56
154110	Pulling the left over ballast to the shoulders and dumping excess ballast in the cribs and shoulders including boxing/profiling as per IRPWM of track together with left over stretches at fixed structures/masts immediately after FRM work, leveling the muck for making up cess and side slopes including removing and re-fixing of traction bonds during line block with all contractors labour, tools, plant, all lead, lift, crossing of track etc. complete and as directed by the Engineer-in-charge.	TRM	34.39

Item No.	Description of Item	Unit	Rate (₹)
154120	Pre, during, and post BCM works for deep screening of ballast in Points and crossings with all contractor's labour, tools and plants as required to carry out the work to the standards in specific time including crossing of tracks etc. complete and as directed by the Engineer - in - charge. I. Pre-BCM Operation : a) making trenches for insertion of cutter bars at various locations as per the directions of engineer in charge. i.e.., one trench ahead of one rail length from SRJ and second trench near sleeper No 62 (1in 12) etc., b) Filling up ballast up to sleeper level. c) Tightening of fittings/ plate screws, ERCs, Stud bolts, check rail bolts. II. During BCM Operation : a) Assistance to S&T Department : Opening of cables at approach of Points & Crossings, TLD Boxes/ removing of Point motor and refixing the same and covering cables after passing of BCM in block period with S&T Staff. b) Engineering : c) Removing of two long sleepers i.e.., sleeper No 3 & 4 and refixing the same in position during block after passage of BCM. d) Removing obstruction i.e.., S&T CC block duly digging with crow bars and breaking with chisel/ hammer, cutting of rail pegs with gas. e) To remove, excess ballast on rail table for free movement of BCM and for packing purpose. f) Extension of cutter bar wherever required in assisting machine staff. g) Removing of cutter bar/ Chain links from	TRM	465.49
	III . Post BCM Operation : a) Packing switch portion including Motor long sleeper i.e.., SRJ to heel joint to reset Point for train movement & initial packing of lead portion to allow train at 20KMPH and lifting the track in two stages (50mm to 75mm in each lift) wherever required for correcting the longitudinal surfacing b) Dumping of ballast in the deficient portion in crib, on main line turnout side for initial packing purpose. c) Boxing / Levelling of muck duly ensuring levelling of muck on cess side and lowering of cess to the deep screened depth and removing of muck in between the lines and leading up to 250mts. Note: 1. For technical reasons, some of the points and crossings cannot be deep screened either fully or partially by BCM, in which case, the left over length will be deep screening manually. 2. The length of points and crossings assembly for payment of this item should be taken from SRJ to longest concrete sleeper available just beyond heel of crossing along main line..		
155000	CSM, Duomatic and 3X Sleeper Tamping Machines		

Item No.	Description of Item	Unit	Rate (₹)
155010	Carrying out pre-tamping, during tamping and post-tamping work for tamping track with all types of rails, sleepers & sleeper density by various Track Tamping machines, like CSM,DUO/3X Machines which include : (1) Re-adjustment of ballast, heaping-up of ballast, filling-up of cavities in tamping zone by picking ballast from stacks / shoulders / crib of adjoining track up to lead of 50 m to ensure effective packing; (2) Clearing of ballast on sleepers to make them visible to operator, (3) Clearing of ballast over rail foot to facilitate holding of rail by rollers of TTRM; (4) Digging, screening and replenishment of ballast at mud pumping / rounded ballast in sleeper crib location; (5) Tightening of loose fittings immediately before & after tamping; (6) Replacement of broken / missing fittings supplied by Railway; (7) Correcting displaced sleepers to position along with squaring; (8) Re-setting of worked-out / fallen fittings;		
	(9) Removing and re-fixing joggled fish plates & wooden blocks, wherever necessary; (10) Manual consolidation of ballast in crib / shoulders; (11) Removing and refixing of traction bonds during the block in electrified sections (12) Dressing of ballast Note: 1. Tamping blocks are not identical & it may be given at any time either during day or night. 2. Stages of payment a) 30% of the rate will be paid on completion of pre tamping attention, b) Balance 70% of the rate will be paid on completion of post tamping. 3. Recovery at the rate of twice the above applicable rate will be effected in case contractor fails to carry out pre/during/post operation. 4.Payment shall be made only once in irrespective of numbers of TTRM packing round and after restoration of normal speed and restoration of complete ballast profile.		
155011	For day time block working	TRM	21.05
155012	For night time block working	TRM	23.61
155013	New Line Section, not opened for traffic	TRM	11.44
155020	Pre, during & post tamping operations, for tamping of track on level crossing portion on all types of track structure and density, during traffic block, duly opening the road surface by digging up to the required width and up to 50mm below bottom of sleeper to facilitate tamping, removing and refilling ballast, adjustment of deficient ballast if necessary by picking from adjoining track/shoulder/cribs, removing and refixing all inter locking gears interfering, removing and re-fixing of check rails and painting of running rail & check rail with coal tar emulsion, completing road surface to smooth motorable condition after tamping is over, including tightening of loose fittings, replacement of broken/missing fittings, correction of displaced sleepers to correct position and as directed by Engineer in charge.		
155021	Level crossing with asphalted surface	Sqm	442.84
155022	Level crossing with CC block surface	Sqm	385.14
155023	Level crossing with Moorum/earth surface	Sqm	308.21

Item No.	Description of Item	Unit	Rate (₹)
155030	Removing and refixing of guard Rails over slab bridges during machine packing with all contractor's men and materials duly removing fittings, leading guard rails to bridge approaches, lifting, dragging, positioning and crossing of track etc, and as directed by Engineer In charge.	TRM	116.39
156000	Unimat Machine Related Works		
156010	Carrying out pre-tamping, during tamping and post-tamping works for tamping of Turnouts of all types Under Traffic Block Conditions which include :(1) Re-adjustment of ballast, heaping-up of ballast, filling-up of cavities in tamping zone by picking ballast from stacks / shoulders / crib of adjoining track up to lead of 50 m to ensure effective packing; (2) Clearing of ballast on sleepers to make them visible to operator; (3) Clearing of ballast over rail foot to facilitate holding of rail by rollers of UNIMAT; (4) Digging, screening and replenishment of ballast at mud pumping / rounded ballast in sleeper crib location; (5) Tightening of loose fittings including check rails immediately before & after tamping; (6) Replacement of broken / missing fittings supplied by Railway; (7) Correcting displaced sleepers to position along with squaring; (8) Re-setting worked-out / fallen fittings; (9) Removing and re-fixing joggled fish plates & wooden blocks, OHE bonds & other obstructions, wherever necessary ;(10) Removing and re-fixing stretcher bar, as directed; (11) Adjustment in opening and housing of switch for testing operation of points (12)Manual consolidation of		
156011	1 in 8½ Turnouts (Under Traffic Block Conditions)	Set	10379.53
156012	1 in 12 Turnouts (Under Traffic Block Conditions)	Set	12086.74
156013	1 in 16 Turnouts (Under Traffic Block Conditions)	Set	15666.88
156014	1 in 20 Turnouts (Under Traffic Block Conditions)	Set	16527.84
156015	Derailing Switch (Under Traffic Block Conditions)	Set	3787.35
156020	Extra Over Item Numbers 156011 to 156015 for night block working		
156021	Extra to Item no. 156011 for night block working	Set	1556.93
156022	Extra to Item no. 156012 for night block working	Set	1813.01
156023	Extra to Item no. 156013 for night block working	Set	2350.03
156024	Extra to Item no. 156014 for night block working	Set	2479.18
156025	Extra to Item no. 156015 for night block working	Set	568.10
156030	Carrying out pre-tamping, during tamping and post-tamping works prescribed in current version IRTMM/IRPWM for tamping of Turnouts of all types Under Conditions not requiring Traffic Block.		
156031	1 in 8½ Turnouts	Set	6227.72
156032	1 in 12 Turnouts	Set	7252.04
156033	1 in 16 Turnouts	Set	9400.13
156034	1 in 20 Turnouts	Set	9916.70
156035	Derailing Switch	Set	2272.41
157000	Miscellaneous		

Item No.	Description of Item	Unit	Rate (₹)
157010	Carrying out various miscellaneous works, for proper upkeep of crew rest van / rest room as directed by machine in-charge of Track Machines by providing a team of 2 labours for 12 hours shift, broadly mentioned hereunder: (1) Bringing water from nearby source and cleaning machine with water jet or any suitable means; (2) Fuelling machine duly bringing diesel / hydraulic oil from the stacked drums; (3) Bringing water to staff rest van or staff rest room, cleaning rest van / rest room, cooking food for Track Machine staff or bringing food from outside (cost of food shall be borne by the staff concerned).; (4) Guarding & watching machines, spare parts, oils, grease etc. during day and night time at all locations, wherever necessary, as instructed by the machine in-charge; (5) In case, contractor provides less no. of Labour/Mate, payment will be deducted for each such person @ 75% of the accepted item rate.	Shift	1552.01
157020	Carrying out ancillary works required for UTV working under line block i.e., turning of rails/ Sleepers and keeping in position for fixing of UTV clamps to rail, keeping rails/PSC Sleepers in position while loading into BFR, removal of clamps on BFR for releasing loaded rail/Sleepers, adjusting of rails/Sleepers on BFR etc. by providing minimum of three men in a shift of 8 hours, with all contractor's tools, all lead, lift, crossing of tracks etc., complete and as directed by the engineer - in - charge. Note: In case, contractor provides less no. of Labour, payment will be deducted for each such person @ 2/3 rd of the accepted item rate.	Shift	2553.45
157030	Providing lighting arrangements with halogen lamps on and around machine during machine working in night time blocks, with contractor's generator, consumables, all necessary electrical fittings, operators etc. Note: 1. Lighting arrangement is to be provided as per advance planning of Night Blocks and written communication. 2. In case lighting arrangement is made available but not used due to non-availability of block, payment @ 60% of the item rate shall be made. 3. In place of Halogen, LED lamps of equal lumen capacity may be used with the approval of Engineer -in-Charge. 4. If lighting arrangement fails during block, recovery shall be made twice the rate per day.		
157031	BCM/FRM/UNIMAT (7.5 KVA generator and 12x500 W)	Night	6995.45
157032	CSM / DUO / 3X with or without DGS (7.5 KVA generator and 8x500 W)	Night	6018.76

Item No.	Description of Item	Unit	Rate (₹)

CHAPTER - 16 : Small Track Machines

Item No.	Description of Item	Unit	Rate (₹)
161000	Rails		
161010	Quick cutting with abrasive rail cutter of all types of rail sections including wear resistant, head hardened rails up to 110 UTS, with contractors tools & plants, equipment, consumable with all lead & lift etc. complete as directed by Engineer in-charge. Abrasive Rail Cutter will be as per RDSO Specification No. TM/SM/1 (Rev. 01 of 2012) with latest status of RDSO; Rail Cutting Wheel Abrasive Disc will be as per RDSO Specification No.TM/SM/2 (Rev. 01 of 2020)		
161011	60 Kg - 110/90 UTS - Outside Track	Each	302.82
161012	52 Kg - 90 UTS - Outside Track	Each	274.77
161013	52 Kg - 72 UTS & other rails - Outside Track	Each	168.07
161014	60 Kg - 110/90 UTS - On Running Line	Each	383.76
161015	52 Kg - 90 UTS- On Running Line	Each	311.48
161020	Cutting of rails with Rail Cutting Machine (Saw type) in all types of rail sections with contractor's tools & plants, equipment, consumable with all lead & lift etc. complete, as directed by Engineer in-charge. Rail Cutting Machine (Saw type) will be as per RDSO Specification No. TM/SM/4, dated 24.04.1991. Note: This item shall only be used in specific circumstances on specific order of Engineer-in-Charge.		
161021	60 Kg - 110 UTS - Outside Track	Each	408.21
161022	60 Kg - 90 UTS - Outside Track	Each	320.73
161023	52 Kg - 90 UTS - Outside Track	Each	301.31
161024	52 Kg - 72 UTS & other rails - Outside Track	Each	225.98
161025	60 Kg - 110 UTS- On Running Line	Each	541.66
161026	60 Kg - 90 UTS- On Running Line	Each	487.49
161027	52 Kg - 90 UTS- On Running Line	Each	334.44
161030	Cutting of rails with electrically operated Rail Cutting Machine in all types of rail sections, with contractor's tools & plants, equipment, consumable with all lead & lift etc. complete, as directed by Engineer in-charge as per Specifications. Machine to be fitted with monorail wheel arrangement and a handle of convenient height to enable it to be pushed over one rail by one person to take it to the work-site.		
161031	Outside track - When Electricity provided by static power supply of Railway :	Each	290.09
161032	On Running track - When Electricity provided by static power supply of Railway :	Each	380.80
161040	Drilling holes of 16 mm to 32 mm dia. with Rail Drilling machine including chamfering with appropriate chamfering tools in all types of rail section with contractor's tools & plants, equipment, consumable with all lead & lift etc. complete, as directed by Engineer in-charge. Rail Drilling Machine will be as per RDSO Specification No. TM/SM/3, dated 24.04.1991.		
161041	Outside Track	Each	72.67
161042	On Running Line	Each	90.38
161050	Drilling holes of specified size for bond holes with 7.2mm dia drill twist to correct spacing and location on 60kg/52kg rails on cess or under traffic block with contractor's tools and plant, equipment, consumable, labour etc complete as directed by the Engineer in charge at site.	Each	53.93

Item No.	Description of Item	Unit	Rate (₹)
161060	Bending & De-kinking with Hydraulic rail bender (Jim Crow) heavy duty in all types of rail sections of flat bottom rails maximum up to 40mm with contractor's tools & plants, equipment, consumable with all lead & lift etc. complete, as directed by Engineer in-charge. Hydraulic Rail Bender (Jim Crow) Heavy duty will be as per RDSO Specification No. TM/SM/5, dated 08.05.1991.		
161061	Outside Track	Each	99.47
161062	On Running Line	Each	118.70
161070	Pulling of rail in LWR track by hydraulic rail tensor (Non-infringing type) under traffic block for maintaining specified gap at rail joints for A.T. welding with contractor's tools & plant, equipment, consumable with all lead & lift etc. complete, as directed by Engineer in-charge. Hydraulic Rail Tensor (Non-infringing type) will be as per RDSO's Specification No. TM/SM/32, dated 20.12.1991.	Each	809.81
162000	Sleepers		
162010	Sleeper Spacing, Re-spacing / Squaring of sleeper by Hydraulic Sleeper Spacer with contractor's tools & plants, equipment, consumable with all lead & lift etc. complete, as directed by Engineer in-charge. Hydraulic Sleeper Spacer shall be as per RDSO's Specification No. TM/SM/17, dated 31.03.1992.	Each	81.12
162020	Drilling of holes (vertically) of required size into concrete sleeper in-situ for fixing guard rails and check rails on concrete sleeper track at specified locations by concrete sleeper drilling machine with contractor's tools & plants, equipment, consumable with all lead & lift etc. complete, as directed by Engineer in-charge as per RDSO's Specification.	Each	109.11
162030	Loading / unloading of concrete sleepers from cess to BFR / BRH wagons and vice-versa by jib crane attachable to BFR / BRH for handling concrete sleepers with contractor's tools & plants, equipment, consumable with all lead & lift etc. complete, as directed by Engineer in-charge.	Each	32.39
162040	Quick removal of damaged concrete sleepers and restoration of railway track in case of accidents / derailments and other such emergent situations by Concrete Sleeper Breaker & angle grinder with contractor's tools & plants, equipments, consumable etc. with all lead & lift complete, as directed by Engineer in-charge.	Each	197.26
163000	Fittings		
163010	Measuring of Toe Load of ERC during service in field by Toe Load Measuring Device (Mechanical) with contractor's tools & plants, equipment, consumable with all lead & lift etc. complete, as directed by Engineer in-charge. Toe Load Measuring Device (Mechanical) will be as per RDSO's Specification No. TM/SM/14 (Rev. 01 of 2005 with all updation).	Each	4.89
163020	Measuring of Toe Load of ERC during service in field by Electronic Toe Load Measuring Device with contractor's tools & plants, equipment, consumable with all lead & lift etc. complete, as directed by Engineer in-charge. Electronic Toe Load Measuring Device will be as per RDSO's Specification No.TM/SM/ETLMD/218 dated 13.9.2012.	Each	5.73
163030	Extraction of jammed ERC by Heavy Duty Hydraulic Extractor with contractor's tools & plants, equipment, consumable with all lead & lift etc. complete, as directed by Engineer in-charge. Heavy Duty Hydraulic Extractor for jammed ERCs (10 Ton capacity) shall be used as per RDSO's Specification No. TM/SM/6, dated 8.05.1991.	Each	39.81

Item No.	Description of Item	Unit	Rate (₹)
164000	Miscellaneous		
164010	Tamping of track for picking up slacks in concrete sleeper track by Hand Held Off Track Tamper (Power Pack Version) with contractor's tools & plants, equipment, consumable with all lead & lift etc. complete, as directed by Engineer in-charge. Off-track tamper (Power Pack Version) will be as per RDSO Specification No. TM/SM/OTT/320, dated 28.01.2009.	Each	93.49

Item No.	Description of Item	Unit	Rate (₹)

CHAPTER - 17 : Handling of Materials

Item No.	Description of Item	Unit	Rate (₹)
171000	Rails		
171010	Loading of rails of any section and length up to 13 metres in Wagons / Truck / trailer including lead up to 50 metres and lift up to 5 metres.		
171011	In wagons during period of traffic block where handling by mechanical means is not possible	MT	317.64
171012	In wagons not involving traffic block or on lines not opened to traffic but handling by mechanical means is not possible	MT	181.14
171013	In Wagon under traffic block where mechanical handling is possible	MT	225.21
171014	In Wagon where mechanical handling is possible and traffic block is not required or in Truck/trailer.	MT	165.78
171020	Loading of tongue rail, stock rail, switch assembly and crossings of any section and length, SEJ, Glued joint etc. with / without P.Way fittings and fastenings, in Wagon / Truck / trailer including lead up to 250 metre and lift up to 5 metre.		
171021	In wagons during period of traffic block where handling by mechanical means is not possible	MT	386.74
171022	In wagons not involving traffic block or on lines, not opened to traffic but handling by mechanical means is not possible.	MT	260.00
171023	In Wagon where mechanical handling is possible and traffic block is required.	MT	205.26
171024	In Wagon where mechanical handling is possible and traffic block is not required or in Truck/trailer.	MT	161.36
171030	Loading, leading and unloading of 52Kg / 60Kg rail up to 13 metre length by Railway's Rail Dolly / Dip Lorry to the nominated location under traffic with line protection in case road carriage is not possible with different lead with a lift up to 5 metre during block period.		
171031	For lead up to 500 metre.	MT	425.50
171032	For lead beyond 500 metre and up to 1 Km.	MT	549.50
171033	Extra to Items no. 171032 for lead beyond 1 Km for every subsequent Km or part thereof and up to 10 Km	MT	65.90
171034	Extra to Item no. 171031 and 171032 with contractor's Rail Dolly / Dip Lorry	MT	192.17
171040	Loading, unloading and hauling of 52Kg / 60Kg rail more than 13 metre and up to 39 metre length by Railway's Rail Dolly / Dip Lorry to the nominated location under traffic and line protection in case road carriage is not possible for different leads and lift up to 5 metre.		
171041	For lead up to 500m	MT	481.66
171042	For lead beyond 500 metre and up to 1 Km	MT	701.48
171043	Extra to Items no. 171042 for lead beyond 1 Km for every subsequent Km or part thereof and up to 10 Km	MT	87.80
171044	Extra to Item no. 171041 and 171042 with contractor's Rail Dolly / Dip Lorry	MT	171.45
171050	Unloading of rails of any section and length up to 13 metre, in neat manner for Railway usage from departmental material train (DMT) or contractor's / Railway's Truck/trailer including lead up to 50 metre, lift up to 5 metre and stacking in prescribed manner.		
171051	From wagons during period of traffic block where handling by mechanical means is not possible	MT	196.50
171052	From wagons not involving traffic block or on lines, not opened to traffic but handling by mechanical means is not possible	MT	136.83

Item No.	Description of Item	Unit	Rate (₹)
171053	From Wagon where mechanical handling is possible and traffic block is not required or in Truck / trailer.	MT	121.63
171060	Unloading of rails of any section and length from 13 metre to 39 metre, in neat manner for Railway usage from departmental material train (DMT) including lead up to 50 metre and lift up to 5 metre.		
171061	During period of traffic block	MT	205.37
171062	Not involving traffic block or in lines not opened to traffic	MT	136.70
171070	Unloading of all type of rails of length 130 metre and beyond from end unloading rake and keep the panels in head-up position at specified distance from centre of track clear from any infringement.. Note: Contractor has to keep Oxygen and Acetylene gas with cutter as standby during the period of work.		
171071	During period of traffic block	MT	32.42
171072	Not involving traffic block	MT	27.10
172000	Sleepers		
172010	Loading of 52kg / 60kg PSC normal line and special sleepers up to 2.75 metre length in Depot / Station / Mid-section between stations in a neat manner to departmental material train (DMT) or contractor's / Railway's Truck/Trailer with crane or any other means including crossing of one track with free lead up to 250 metre and lift up to 5 metre, if required with contractor's labour, tools & plants, machinery, consumables etc. Note: In case of any damage to sleeper during loading, penalty @ 50% of the all inclusive cost of sleeper shall be levied.		
172011	In wagons during period of traffic block where handling by mechanical means is not possible	MT	257.70
172012	In wagons not involving traffic block or on lines, not opened to traffic but handling by mechanical means is not possible	MT	148.59
172013	In Wagon where mechanical handling is possible and traffic block is required.	MT	176.16
172014	In Wagon where mechanical handling is possible and traffic block is not required or in Truck / trailer	MT	132.26
172020	Loading of 52kg / 60kg PSC line and special sleepers beyond 2.75 metre length including existing fittings and fastenings in Depot / Station / Mid-section between stations in a neat manner to departmental material train (DMT) or contractor's / Railway's Truck/trailer with crane or any other means including crossing of one track with free lead up to 250 metre and lift up to 5 metre, if required with contractor's labour, tools & plants, machinery, consumables etc. Note: In case of any damage to sleeper during loading, penalty @ 50% of the all inclusive cost of sleeper shall be levied.		
172021	In wagons during period of traffic block where handling by mechanical means is not possible	MT	337.07
172022	In wagons not involving traffic block or on lines, not opened to traffic but handling by mechanical means is not possible	MT	239.90
172023	In Wagon where mechanical handling is possible and traffic block is required.	MT	204.82
172024	In Wagon/Truck / trailer where mechanical handling is possible and traffic block is not required.	MT	160.92
172030	Loading, leading and unloading of PSC Sleepers of 52Kg / 60Kg by Railway's Rail Dolly/ Dip Lorry to the nominated location under traffic in case road carriage is not possible for different leads and lift up to 5 metres.		
172031	For lead up to 500 metres	MT	331.33

Item No.	Description of Item	Unit	Rate (₹)
172032	For lead beyond 500 metre and up to 1 Km	MT	492.16
172033	Extra to Items no. 172032 for lead beyond 1 Km for every subsequent Km or part thereof and up to 10 Km	MT	51.40
172034	Extra to Item no. 172031 and 172032 with contractor's Rail Dolly/Dip Lorry.	MT	200.97
172040	Loading, leading and unloading of all types of P.Way fittings and all other miscellaneous material except Rails, sleepers, switches, crossings, SEJs and Glued Joints by road vehicles for different leads. Note: Lead shall be the shortest motorable road length between the points of loading and unloading.		
172041	Lead up to 5 Km	MT	183.33
172042	Lead beyond 5 Km and up to 10 km	MT	226.31
172043	Lead beyond 10 Km and up to 20 km	MT	284.82
172044	Lead beyond 20 Km and up to 30 km	MT	356.09
172045	Lead beyond 30 Km and up to 50 km	MT	455.05
172046	Lead beyond 50 Km and up to 100 Km	MT	670.56
172047	Lead beyond 100 Km and up to 150 Km	MT	993.34
172048	Extra for every Km per MT beyond 150 Km over item no. 172047	MT Km	3.30
172050	Transportation of Rails, sleepers, switches, crossings, SEJs and Glued Joints by road vehicles for different leads. Note: 1. Lead shall be the shortest motorable road length between the points of loading and unloading. 2. Loading and unloading shall be paid extra under relevant items.		
172051	Lead up to 5 Km	MT	55.11
172052	Lead beyond 5 Km and up to 10 km	MT	98.10
172053	Lead beyond 10 Km and up to 20 km	MT	156.60
172054	Lead beyond 20 Km and up to 30 km	MT	227.87
172055	Lead beyond 30 Km and up to 50 km	MT	326.83
172056	Lead beyond 50 Km and up to 100 Km	MT	542.34
172057	Lead beyond 100 Km and up to 150 Km	MT	865.12
172058	Extra for every Km per MT beyond 150 Km over item no. 172057	MT Km	3.30
172060	Unloading of 52kg / 60kg PSC line and special sleepers up to 2.75 metre length in Depot / Station / Mid-section between stations in neat manner for Railway usage from departmental material train (DMT) or contractor's / Railway's Truck/Trailer with crane or any other means including crossing of one track and lead up to 250 metre & lift up to 5 metre with contractor's labour, tools & plants, machinery, consumables etc. Note: In case of any damage to sleeper during loading, penalty @ 50% of the all inclusive cost of sleeper shall be levied.		
172061	From DMT - During period of traffic block	MT	184.99
172062	From DMT - Not involving traffic block or on lines, not opened to traffic	MT	131.30
172063	From Truck / Trailer	MT	116.66
172070	Unloading of 52kg / 60kg PSC special sleepers beyond 2.75 metre length in Depot / Station / Mid-section between stations in neat manner for Railway usage from departmental material train (DMT) or contractor's / Railway's Truck/Trailer with crane or any other means including crossing of one track and lead up to 50 metre & lift up to 5 metre with contractor's labour, tools & plants, machinery, consumables etc. Note: In case of any damage to sleeper during loading, penalty @ 50% of the all inclusive cost of sleeper shall be levied.		

Item No.	Description of Item	Unit	Rate (₹)
172071	From DMT - During period of traffic block	MT	235.27
172072	From DMT - Not involving traffic block or on lines not opened to traffic	MT	149.62
172073	From Truck / Trailer	MT	124.87
172080	Spreading of New / SH , normal or wider base PSC sleepers from stack along track on either side for different leads with all lifts by any means.		
172081	For a lead up to 500m	Each	77.49
172082	Extra to Item no. 172081 for additional lead of every 500m or part thereof beyond 500 m	Each	51.85
173000	Miscellaneous		
173010	Unloading of Switches / Crossings / SEJ Rails / Glued Joints of any rail section and length with or without P.Way fittings & fastenings in neat manner for Railway usage from departmental material train (DMT) or contractor's / Railway's Truck/Trailer with lead up to 250 metre & lift up to 5 metres.		
173011	From DMT - During period of traffic block	MT	235.27
173012	From DMT - Not involving traffic block or on lines, not opened to traffic	MT	186.25
173013	From Truck / Trailer	MT	172.41
173020	Unloading all types of P.Way fittings and fastenings for Railway usage from Truck and stacking with lead up to 250 metre & lift up to 5 metre.	MT	155.20
173030	Collection, segregation and stacking of various scattered P.Way materials at nominated stacking location with serviceable and un-serviceable ones separately within a lead up to 500 metre and lift up to 5 metre including crossing of track(s) wherever necessary as directed by Engineer-in-Charge.		
173031	Rails, switches, crossings, SEJ, Glued Joints, Check Rails etc.	MT	500.78
173032	All type of PSC sleepers	MT	539.92
173033	P.Way fittings of all types and other similar loose items	MT	430.26
173040	Stacking of glued joints in single layer for electrical testing, in such a manner that glued joints - (a) shall not touch ground, (b) shall not touch one another, (c) shall not touch any rail or any metallic body, (d) shall not be water-logged from any side and (e) end post shall not rest on supports of glued joint	Each	71.89
173050	Un Loading of stone boulders weighing not less than 35 kg each from Railway Wagons and stacking at specified locations with all contractor's tools & plants, machinery, labour, lead and lift, crossing of track wherever necessary etc., complete as directed by the Engineer In charge.	Cum	198.71

Item No.	Description of Item	Unit	Rate (₹)

CHAPTER - 18 : Level Crossings

Item No.	Description of Item	Unit	Rate (₹)
181000	Dismantling		
181010	Opening of level crossing up to required width from centre line of track for replacement of sleepers by digging of pucca road surface up to bottom of sleeper, removing of ballast, muck etc., screening of ballast & stacking the same near level crossing and disposing of all debris, replacing the required sleeper duly packing the sleeper to make fit for normal traffic and closing of LC surface with screened ballast to original level by proper ramming and consolidation to smooth motarable surface as directed by engineer in-charge.	Sqm	408.22
181020	Dismantling existing check rail of Level Crossing, blocks, bolts & nuts and stacking these in a countable manner near LC, free from any infringements as directed by Engineer in-charge.	RM	200.70
181030	Dismantling exiting Rail Height Gauge carefully and stacking the released material in countable manner, free from any infringements as directed by Engineer in-Charge including removal of cement concrete foundation and making surface clean.	Each	4023.98
181040	Dismantling existing lifting barrier along with winch assembly and other components like boom, fringes, locking arrangements, pedestal, boom rest, locking rods/wires, pulley stakes, turn out wheels, 'A' base and other materials connected with functioning of lifting barrier, removing engineering indicators on track and level crossing road signages without any damage including demolishing concrete base of existing structures, filling, ramming and levelling the ground disturbed during demolition, clearing debris and stacking all released material in a neat and countable manner and clear of infringements, as directed. Note: Barriers on both sides of level crossing constitute one set.	Set	24308.63
181050	Dismantling existing lifting barrier and other components except winch assembly, like boom, fringes, locking arrangements, pedestal, boom rest, locking rods/wires, pulley stakes, turn out wheels, 'A' base and other materials connected with functioning of lifting barrier without any damage including demolishing concrete base of existing structures and clearing debris in a neat manner and stacking in a countable manner and clear of infringements, as directed. Note: Barriers on both sides of level crossing constitute one set.	Set	22763.31
181060	Deduction to item no. 181050 for not dismantling ‘A’ base and its foundations	Set	-3063.88
181070	Dismantling existing swing gate consisting of two leaves with gate posts, meeting post and stopper post etc. without causing any damage to material and stacking the same near LC gate as directed by Engineer in-charge.	MT	2075.62
182000	Overhauling of Level Crossings		

Item No.	Description of Item	Unit	Rate (₹)
182010	Overhauling of level crossing by digging out up to 50mm below sleeper, screening of shoulder & crib ballast, replacing unserviceable sleepers & fastenings as necessary, removal of check rails for examination of running rails and check rails, scrapping of rails and painting running rails and check rails and all fixtures with two coats of coal tar emulsion, greasing of ERCs, MCI inserts and liners oiling all the bolts, correcting cross level, gauge, alignment, surfacing and packing etc., re-fixing check rails duly ensuring standard clearances, re-inserting screened ballast, making good deficient ballast with Railway's ballast from stacks / heaps/borrowing from adjacent length of adjoining track within 50m lead, ramming & levelling road surface and refixing concrete slabs/making motarable road surface as required excluding re surfacing with bitumen as directed by Engineer in-charge.		
182011	Level crossings with asphalted road surface	Sqm	654.78
182012	Level crossings with concrete blocks road surface	Sqm	596.74
182013	Level crossings with any other type of road surface	Sqm	538.71
183000	Check Rail Related Works		
183010	Drilling of parabolic shaped holes to the web of check rail as per drawings & specifications and as directed by engineer in- charge.	Each	191.64
183020	Fabrication including cutting, bending/machining and fixing of check rails of all rail sections over PSC Sleepers as per Railway's approved drawings & specifications for level crossings / trolley paths/inspection lines in yards duly cutting rail flanges, wherever required to correct alignment and level, drilling of holes with machine in check rails and fixing to Running rail and sleepers with all Railway's fittings, e.g. rail screws / grip expansion bolts, brackets, packing pieces, bolts, washers etc including grinding of brackets if required, fixing of Railway's wooden blocks at flare ends duly cutting and plaining, crossing of tracks and as directed by the engineer in-charge Note: 1. Drilling of holes in PSC Sleeper and fixing of dowels shall be paid under relevant item. 2. Required P.Way materials will be supplied at SSE/P.Way stores.	TRM	1307.16
183030	Cutting foot of rail by gas or any other approved method for check rails and grinding sharp edges into smooth profile. Payment shall be made for length of cutting of foot.	RM	199.32
183040	Fixing check rails to running rails on level crossings with MS brackets, MS packing plates, bolts & nuts, spring washers etc. including lubrication as per approved drawing & specifications, as directed. Rails, MS brackets, packing plates, bolts & nuts, spring washers will be supplied by Railways. Note: One set consists two check Rails.	Set	5569.30
184000	Painting Works		

Item No.	Description of Item	Unit	Rate (₹)
184010	Painting of running rails and check rails of any rail section of level crossing with anti-corrosive paint on both sides of web, foot etc. including liner contact area (excluding bottom of foot) and fishing plane with two coats of thickness of 100 microns each by bituminous black paint confirms to IS-9862 of reputed make including painting of liners, ERC surface preparation, i.e. cleaning with wire brush / sand paper as a complete job as per Para No 613 (2)(b)(iii) of Indian Railways Permanent Way Manual, as directed by Engineer in-Charge.	RM	56.99
184020	Painting speed breakers with paint of approved quality & colour over the Bituminous/ Concrete surface near approaches to level crossing.		
184021	With enamel paint (two coats)	Sqm	141.29
184022	With luminous paint (two coats)	Sqm	177.63
184023	With Hot melt thermoplastic road marking paint	Sqm	252.51
185000	Fencing and Gate Boom Related Works		
185010	Dismantling of existing rail fencing, fixed adjoining running lines of track, duly excavating and levelling the foundation by hand compaction, removing connections and carting the released material up to a lead of 250m by suitable means and stacking the same, as directed by engineer in-charge. Note: The released materials shall be handed over duly stacking the same in measurable fashion.	MT	1451.42
185020	Dismantling existing whistle boards along with post including demolishing base concrete and levelling of ground, stacking released materials at the level crossing concerned including clearing of debris, with contractor's labour, tools, vehicles, consumables, all lead and lift etc., complete without damage as directed by the Engineer-in-charge.	Each	282.75
185030	Providing Rail Height Gauge at approaches of level crossings as per approved drawings in cement concrete foundation using Railway's rails of all sections including cutting, bending, drilling holes, erecting in position with clamps, bolts & nuts including painting with one coat of enamel paint of specified colour over one coat of primer. Note: excavation and concrete work will be paid separately.		
185031	Less than 5 metre width of level crossing	Each	11872.43
185032	Above 5 metre width of level crossing	Each	13985.51
185040	Manufacture, supply, assembly, erection, commissioning and testing of Lifting Barrier assembly, having fragmented boom, boom light boxes with suitable gate lamps, bell, boom supports (stay wires) with adjusters, counter weight, pedestal and lock posts with foundation of 'A' type as required, turn-union wheel with brackets, balance and auxiliary weights clamps etc. to approved standard drawing with all fittings and fastenings excluding fringes, complete with contractor's men, equipments and materials, as per specifications and as directed.		
185041	Up to 6m long Lifting Barrier	Set	668806.49
185042	Above 6m and up to 8m long Lifting Barrier	Set	717527.58
185043	Above 8m and up to 10m long Lifting Barrier	Set	760787.57

Item No.	Description of Item	Unit	Rate (₹)
185050	Manufacture, supply, assembly, erection, commissioning and testing of Winch Arrangement for operation of level crossing lifting barriers, as per RDSO's approved layout, having standard covering arrangement, foundation of 'A' type as required and pulleys, pulley guides & stakes, horizontal rope wheel, vertical rope wheel, wire adjusting screws, wire ropes 6 x 6 x 19 with all fittings, fixtures & accessories to RDSO's approved drawings with all parts including painting of steel work as per specification, as directed with cement concreting complete. Note: Excavation and concrete work will be paid separately.	Each	237571.17
185060	Manufacture, supply, assembly, erection, commissioning and testing of auto boom locking arrangement for existing lifting barriers, consisting of interlocking ground frame near gate lodge, foundation of 'A' type, as required and connecting ground frame to lock posts of gate booms with stipulated rodding on guide rollers, supported on trestles including required excavation, foundation, providing RCC NP-2 Class pipes of 100mm dia. for road / rail crossing, as per RDSO's drawings complete (Excavation, concrete work and NP-2 pipe will be paid separately).		
185061	Single lever	Each	63625.89
185062	Double lever	Each	84567.03
185070	Manufacture, supply and replacement of one side of level crossing of existing Railway's lifting barrier assembly and boom supports of different boom length including required excavation & concreting foundation of 'A' type, as required for pedestal bases & fixing it on boom supports, painting iron works with two coats of synthetic enamel paint over one coat of primer of approved quality & colour and setting lifting barrier for smooth operation complete and as directed. Note: Excavation & concrete work will be paid separately.		
185071	Up to 6m long Lifting Barrier	Each	334403.25
185072	Above 6m and up to 8m long Lifting Barrier	Each	358763.79
185073	Above 8m and up to 10m long Lifting Barrier	Each	380393.78
185080	Manufacture, supply and replacement of gate lamps at one side of level crossing	Each	2478.31
186000	Miscellaneous		
186010	Manufacturing, supplying and laying factory made CC block pavers for road surface of level crossings to RDSO Drg. No. M.00003, manufactured using 20mm size graded hard stone aggregates of approved quality over a well compacted sand bedding 50 thick with all contractor's cement, labour, tools/plant and curing with all lead & lift as per specifications and as directed by Engineer in-charge.		
186011	80mm thick blocks of M-35 grade for medium traffic.	Sqm	1383.07
186012	120mm thick blocks of M-40 grade for heavy traffic.	Sqm	1758.35
186020	Fixing of Railway's existing precast concrete slabs of different sizes in position for level crossings / trolley path and filling gap between check rail / running rail, slabs, approaches etc. with asphalt complete and as directed.	Sqm	91.63
186030	Paving of level crossing road surface with Railway's precast RCC slab / blocks as per standards / approved drawings for light and heavy vehicles on bed of sand, moorum or gravel, duly compacted and joints filled with mixture of sand & tar/bitumen in proportion of 1:2 by weight.	Sqm	303.86

Item No.	Description of Item	Unit	Rate (₹)
186040	Removal of RCC slab in existing level crossing portion and in between tracks along with stacking them in countable manner, as directed.	Sqm	58.03
186050	Fixing of speed breaker on approaches of level crossings with pre-cast concrete blocks (M-25) of parabolic shape for entire road width with 125 mm central rise including painting two coats with paint of approved quality and colour in the width of 2 metres. Note: Cost of pre-cast concrete blocks shall be paid separately.	RM	428.35
186060	Provision of one Asphalt Speed Breaker Rumble Strip on each side of the approaches of manned level crossings as per approved drawing including painting two coats with paint of approved quality and colour.	RM	616.10
186070	Manufacture & supply of tested GI wire rope of 6mm dia. and 6 ply to suit lifting barrier gates at nearby P.Way Stores / Depot / Level Crossing gate, as directed.	Kg	433.16
186080	Supplying and fixing of Boom Supports (stay wires) for lifting barrier (approx. 8mm dia.) with suitable adjuster and other specials, as directed	Each	2888.34
186090	Manufacture and supply of vertical / horizontal Turnout Wheels and Shafts, mounted over base plate weighing not less than 6 Kg with supporting vertical base, made of MS angle 75mm x 75mm x 10mm as per Railway's approved drawings and specifications complete and as directed.	Each	10257.52
186100	Manufacturing, supplying and installation of pulley with pulley stakes complete, wire rope 6 x 6 x 19 with accessories as per Railway's approved drawings for operation of lifting barriers complete, as directed.	Each	1291.81
186110	Fabrication, supply and fixing of Collapsible Fringes to the lifting barriers of various length at level crossing as per approved drawing; made of MS flat of size 30mm x 6mm in 2 rows, 40mm x 6mm in 1 row horizontally and MS flat of size 30mm x 6mm vertically at 500mm centre to centre, painting iron works with two coats of synthetic enamel paint of approved quality & colour over one coat of primer of approved quality, as directed.	RM	980.92
186120	Supplying and driving into ground 'C' class G.I. pipes of 20mm dia. x 150mm length for planting red flags and lamp at 5 metre on both sides from the centre of road at level crossings with all leads & lifts. Payment shall be made for complete work at one Level Crossing. Note: Two pipes make one set.	Set	575.45
186130	Manufacturing, supplying and installation of Turnout wheel - Horizontal Rope Wheel - double wire (2-way) including guides with all contractor's materials, fabrication, labour, T&P, consumables, all leads & lifts etc. complete as per approved drawing and as directed by Engineer in-charge.	Each	12581.42
186140	Supplying galvanized Steel Wire Rope for DW signaling 6 x 19 ply as per IRS No. S.11 amended up to date for lifting barrier at level crossing gates, as directed by Engineer in-charge	Kg	403.61
186150	Fabrication, supplying and fixing Stop Boards of 600mm dia. to lifting barriers as per approved drawing, made of 3mm thick plate, using MS clamps, providing 6 nos. of 50mm dia. red retro-reflector on stop board, painting iron works with two coats of synthetic enamel paint over one coat of primer of approved quality & colour and writing STOP mark over the board.	Each	3126.46

Item No.	Description of Item	Unit	Rate (₹)
186160	Manufacturing, supplying and fixing Wicked Gate of size 1025mm x 1025mm x 1000mm at manned level crossings, as per approved drawing including painting with 2 coats of specified enamel colour paint over 1 coat of primer including earthwork in excavation etc. complete, as per specifications and as directed.	MT	121412.05
186170	Fixing of wooden blocks of approximate size of 150mm x 300mm x 1200mm on end of check rails including sizing at level crossings with contractor's labour, tools & plants and as directed.		
186171	With Railway's wooden block by cutting Railway's wooden sleepers (supplied free by Railways) into blocks by sawing to size	Each	311.70
186172	With Contractor's hard wood block	Each	5373.04
186180	Fixing of grip expansion bolts of 18mm / 22mm dia. with nuts and MS clips / washers on PSC sleepers as per specifications for fixing guard rails / check rails / trolley path including drilling of required holes in sleepers with all fittings with contractor's tools & plants, equipment, consumables with all lead, lifts etc. complete, as directed by Engineer in-charge, excluding cost of bolts, nuts, washers, clips etc.	Each	140.19
186190	Erecting detonator rail posts at required locations as required including cutting the rail to required length varying from 1.00M to 1.50M , leading the rail pieces from nominated station / mid section from nearest depot to site of work, erecting the rail post by making the pit size as required and filling with CC 1:3:6 mix with 40mm aggregates and painting the rail post with two coats of synthetic enamel paint of approved colour and make, marking of detonator symbol as per site requirement, with contractor's materials, labour, paint, all lead and lifts, etc., complete as per specifications and as directed by the Engineer-in-charge. Note: Excavation and concrete work for foundation will be paid under relevant item.	Each	600.63
186200	Erecting Emergency Chain Posts for level crossings , including cutting rail to required length varying from 1.00M to 1.50M , drilling holes, providing hooks & links / rings with necessary locking arrangements to fix emergency chain, leading the rail pieces from nominated station / mid section from nearest depot to site of work, erecting the rail post by making the pit of size as required and filling with CC 1:3:6 mix with 40mm aggregates and painting the rail post with two coats of synthetic enamel paint of approved colour and make, with contractor's materials, labour, paint, all lead and lifts, etc., complete as per specifications and as directed by the Engineer-in-charge. Note: (1) Rails & chain will be supplied by Railways. (2) Excavation and concrete work for foundation will be paid under relevant item.	Each	778.92
186210	Providing Rail Barricading with rails supplied by Railways with verticals provided at every 1.5m interval, height of barricade being up to 1.5m above ground / termination level and one or more row of horizontal rail, duly cutting rails and drilling holes as required, assembling necessary accessories to required length, including earthwork excavation for foundation, fixing posts in cement concrete 1:3:6 base of size 0.45m x 0.45m x 0.60m and one coat of red oxide painting of steel work. Note: 1. Excavation and concrete work will be paid separately. 2. Rail shall be made available within 250 metres	MT	1801.21

Item No.	Description of Item	Unit	Rate (₹)

CHAPTER - 19 : Bridge Related Activities

Item No.	Description of Item	Unit	Rate (₹)
191000	Dismantling Works		
191010	Dismantling existing track on girder bridges including guard rails and foot path etc., cutting existing SW panels / LWR, if required into free rails of not less than 12 metre length and leading all released materials to nominated place within 50m of bridge approaches and stacking the released materials clear of infringements, as per direction of Engineer-in-Charge. Note: Rail cutting and drilling shall be paid separately.		
191011	Under Traffic Block Conditions	TRM	483.08
191012	Under Conditions not requiring Traffic Block.	TRM	398.53
191020	Insertion of temporary girder in place of formation involving dismantling of track, removal of ballast and neatly stacking for future use, excavation & installation of CC crib or wooden crib at both ends as per approved design in one or more traffic blocks, excavation for creating space for insertion of girder as required, placement of girder by contractor's Crane, tools & plants, filling of earth/sand filled bags at different stages as required, linking of track and connecting with the approaches, ballasting, boxing and packing approach sleepers to make track fit for 20 kmph to the satisfaction of Engineer in-charge. Note: 1. The CC Cribs as required and Temporary Girder shall be supplied by Railways at available location. 2. Transportation of Temporary Girder to site shall be paid separately under relevant item. 3. The charges for wooden sleepers/blocks required for matting and bearing as per approved design shall be paid extra as per relevant item. 4. In case bridge timber / channel sleepers are required to be laid on girder, the same shall be paid separately under relevant item.		
191021	RH /Temporary girder of length varying from 12.2m to 16.3m using road crane capacity of 50 MT	Each	135788.17
191022	RH /Temporary girder of length above 16.3m and up to 26.00 using Road crane capacity of 80 MT	Each	165203.99
191030	Manufacturing and using wooden sleepers/blocks required for matting and bearing as per approved design for use below and above CC Crib for insertion of Temporary Girder etc.. Note: The item is for one time use and released wooden sleepers/blocks shall be the property of the Contractor.	Cum	2689.62
191040	Removal of temporary girder, crib on both ends and placing temporary girder on crib / cess away from Railway track as directed by engineer at site under traffic block; filling of Railway's earth by ramming, pulling ballast from stack / adjoining track / same track, laying track, linking with approach track and packing of ballast for opening track at 20 kmph speed, boxing & dressing of cess, ballast profiling etc. Note: If earth is to be brought by contractor from outside, the same will be paid separately.		
191041	RH /Temporary girder of length varying from 12.2m to 16.3m using road crane capacity of 50 MT	Each	143364.72
191042	RH /Temporary girder of length above 16.3m and up to 26.00 using Road crane capacity of 80 MT	Each	180064.61
192000	Linking of Track over Girders		

Item No.	Description of Item	Unit	Rate (₹)
192010	Removing existing Channel/H-Beam sleepers with fittings from the running track under traffic block for TBTR & stacking the same neatly at specified places with contractor's tools & labour, as directed by Engineer in-charge.	Each	310.91
192020	Extra to item no. 192010 for Track Circuited area including handling of released PVC washers on bolts and extra rubber pads on sleepers	Each	19.32
192030	Inserting in track Steel Channel/H-beam sleepers with all Railway supplied fittings complete for TBTR work to specified gauge under traffic block with contractor's tools including aligning, levelling to make track fit for 20 kmph speed and as directed by Engineer in-charge. Note: Transportation of track material if supplied beyond 250m of bridge approaches, shall be paid separately under relevant item.	Each	361.08
192040	Extra to item no. 192030 for Track Circuited area including handling of released PVC washers on bolts and extra rubber pads on sleepers.	Each	36.87
192050	Complete Track Renewal on Bridge with Steel Channel/H-beam sleepers as per approved drawings including leading of running and guard rails, sleepers and fittings, bending of guard rails, drilling of holes, cutting of rails etc. and leading the released rails, sleepers & fittings near bridge approaches under traffic block as directed and making track structure fit for normal speed. Note: 1) Rails, Steel Channel/H-beam sleeper and all fittings will be supplied by Railways. 2)Transportation of track material if supplied beyond 250m of bridge approaches, shall be paid separately under relevant item.	TRM	1296.25
193000	Casual Renewals Works		
193010	Renewal of existing cracked /broken/corroded isolated Steel Channel/H-beam sleepers with Railway supplied steel channel sleeper with its fittings during traffic block by removing the guard rail and foot path plates with its fittings and loosening of adjacent sleepers hook bolts and lifting of track to required height for removal of old sleeper and insertion of new steel channel sleeper with all fixtures including fixing GR/ER pad in position with epoxy adhesive to neat gauge without disturbing alignment of the track as a whole using with contractors own non infringing jacks and labour, consumables, wooden packings and refixng back in position guard rails and foot path plates along with fittings and tightening of loosened hook bolts etc as a complete job as directed by Engineer in charge at site. The rate includes trucking of new steel channel sleepers and its fittings from bridge approaches and trucking back released steel channels and its fittings to bridge approaches/ nominated locations.		
193011	Broad Gauge Track	Each	1180.44
193020	Renewal of existing running rail and guard rails of all sections on bridge portion over Steel Channel sleepers/PSC sleepers under traffic block including leading of new rails, fittings, refixing all the fastenings as per approved drawings including cutting of rails, drilling of holes to running and guard rails as required as per drawing and leading back the released rails and fittings and stacking at nominated place clear of infringements with all leads & lifts tools and consumables complete and as directed.	TRM	807.00

Item No.	Description of Item	Unit	Rate (₹)
193030	Scattered renewal or replacement of missing / worn-out fittings of channel sleeper on Bridge with Railway's fittings including leading to required location for the work and the released fittings shall be collected and neatly stacked as directed by Engineer in charge.		
193031	Involving Rubber Pad	Each	64.80
193032	Not involving Rubber Pad	Each	35.91
194000	Guard Rails related Works		
194010	Manufacture of flared portion of Guard Rail by cutting and bending to required shape & RDSO's approved drawings. Note: (1) Rails shall be supplied by Railways. (2) One set consists of two rails i.e. both left and right.	Set	4869.00
194020	Providing and fixing of flared portion of guard rails of any rail section over PSC sleepers including fixing of with all fittings, including leading of rails and fittings, squaring and adjusting spacing of sleepers as required, providing nose blocks duly cutting wooden blocks supplied by railways and fixing it with bolts of 16mm dia as directed complete and finished as per RDSO's approved drawing. Note: 1.One set consists of LH & RH side rails of one end. 2.Required P.Way fittings will be supplied at SSE stores depot.	Set	4064.12
194030	Drilling holes 25mm to 40mm dia. with drill twist in the foot of guard rails for fixing guard rails on bridge as directed.	Each	77.31
194040	Drilling of 25mm to 40mm dia. holes in PSC sleepers with suitable rotary hammer / drilling machine at indicated location for fixing of guard rails on bridges & its approaches as per approved drawing and fixing of contractor's HDPE dowels and adhesive of approved quality to Drawing no. RDSO/T-3002, procured from RDSO's approved sources with contractor's materials and consumable.	Each	262.36
194050	Renewal of existing guard rails of all rail sections on bridge portion over wooden/PSC/steel channel sleepers excluding flared ends duly leading new guard rails including cutting of rails, drilling holes to the guard rails as required and as per drawings, refixing with all fastenings, and leading back the released rail, stacking at nominated place clear of infringements with all leads & lifts complete and as directed.	TRM	259.55
194060	Dismantling of existing flared portion of guard rails of any rail section over PSC sleepers duly removing rails & fastenings and leading and stacking released materials at nominated place within free lead, clear of infringements, complete and as directed. Note: One set consists of LH & RH side rails of one end.	Set	2262.32
195000	Miscellaneous		
195010	Fabrication & supply of Galvanized Steel Channel Sleepers made from ISMC 150mm x 75mm / 175mm x 75mm / 200mm x 75mm standard rolled section conforming to IS:2062 as per RDSO approved drawing No 1636/R1/R2 with latest correction slips complete and as directed by Engineer In charge. Note: Cost of Steel fittings and GRSP shall be paid separately	MT	144404.85
195020	Fabrication & supply of Galvanized H-beam Sleepers made out of the materials confirming to IS 2062 of standard Rolled sections as per approved drawing Nos RDSO/B/1636/4/R,5&9 complete and as directed by Engineer-in charge. Note: Cost of steel fittings and GRSP shall be paid separately.	MT	139687.16

Item No.	Description of Item	Unit	Rate (₹)
195030	Supply of 25mm thick new rubber pads of RDSO drawing no B/1636/I/R2 from approved sources of RDSO and replacement with old crushed rubber pads of 10mm thickness and fixing by approved adhesive on steel channel sleepers on bridges complete, as directed by Engineer In-charge.	Each	2205.03
195040	Supplying & fixing Gang pathway of MS /Stainless Steel chequered plates between guard rails on un-ballasted deck bridge for gang pathway, overlapping at regular intervals of 2m to 2.5m with bolts duly drilling holes in chequered plate, as directed on new bridge or replacement of existing gangway on old bridge including removal of old chequered plates and stacking near approaches of bridge clear from all infringement.. Note: Overlapping of chequered plates shall not fall in between sleepers.		
195041	MS chequered plates 6 to 8mm thick on new bridge	Kg	111.90
195042	MS chequered plates 6 to 8mm thick including removal of existing chequered plates on Bridges Note: Payment shall be made only as per weight of new Chequered Plate fixed.	Kg	117.64
195043	Anti skid Stainless steel chequered plate of 409 M Grade as per Specification ASTM A240 SS and Pattern conforming to BIS 3502 with average thickness of 3.5 mm with bead height of 0.8 mm min thick - on New Bridges	Kg	277.92
195044	Fixing Anti skid Stainless steel chequered plate of Grade 409 M and average thickness of 3.5 mm with bead height of 0.8 mm min thick including removal of existing chequered plates on Bridges Note: Payment shall be made only as pert weight of new Chequered Plate fixed.	Kg	283.67
195050	Providing staging during traffic block to 3.6 m x 3.0 m x 3.0 m approx. size using steel cribs and/or wooden sleepers as per RDSO's approved drawing, duly excavating earth in pit and driving rails / sleepers vertically to form shoring and filling gap with sand bags etc. complete, as directed. Note: (1) Steel CC cribs, rails and wooden sleepers will be supplied by Railway. (2) Dismantling and linking of track will be paid separately.	Each	24250.39
195060	Clearing waterway of major & minor bridges by removing weeds / shrubs / bushes, removing silt deposit, filling scours, if any up to 10 metre from centre of bridge on either side including disposing waste and silt away from waterway. Note: Rate is for a single line and per metre of bridge span.	Metre	237.26
195070	Fabrication, supplying and fixing 600mm x 450mm Bridge Board made from 16 SWG MS Sheet duly welded or riveted to back support of two 600mm long horizontal angles of size 25mm x 25mm x 3mm & two numbers 2.5 metre long vertical support of MS Angle of size 50mm x 50mm x 5mm, welded / rivetted to board. Vertical supports shall have split ends for proper fixing in ground. Vertical supports of board shall be embedded in ground in M 20 Cement Concrete blocks of size 300mm x 300mm x 300mm, complete job including painting & writing of subject matter on bridge board, as directed by Engineer - In charge Note: Excavation & concrete work will be paid separately.	Each	3878.99

Item No.	Description of Item	Unit	Rate (₹)
195080	Overhauling of track on ballasted deck slab bridge i.e. screening of crib ballast and shoulder ballast in between sleeper ends and ballast retaining walls on both sides of the track without disturbing core under the sleeper under traffic following all safety precautions and other instructions prescribed by Engineer in-charge. Muck should be disposed of away from bridge up to a maximum distance of 350 m and lift up to 10m.	TRM	349.58
195090	Bending the inner and outer 52 Kg/60Kg/90R rails available at site suitable for V portion along bulb of rerailing ramp as per RDSO Drg No T-8259 drilling of holes and cutting to the required length and shape all lead, lifts, labour, tools and plants machinery and all other required materials for bending etc, and as directed by Engineer In charge at site.	Set	113886.86
195100	Supplying providing and fixing country kali wood/hard wood (Non teak) sleepers of various thickness and length as per the RDSO re railing ramp Drg No T-8259 for fixing bent rails and MS plates including cutting the wood in saw mills, transporting to site of work with all leads and lifts, labour, tools and plant etc. as directed by Engineer In-charge.	Cudm	95.13
195110	Fixing of 60Kg/52 Kg/90R rails for Re railing ramp as per RDSO Drg No T-8259 on bridge approaches on wooden/PSC sleepers including fixing railways fishplates, bolts, nuts, MS bearing plates, screws, check blocks of re-railing ramp etc, levelling after drilling of holes in rails wherever necessary under block with contractor's labour, tools and plants, machinery all etc, complete and as directed by Engineer in charge at site.	Each	24709.57
195120	Tightening of steel channel sleeper fittings i.e. hook bolts, running rails bolts, guard rail bolts on girder bridges with contractor labour tools, plants etc., including oiling, greasing of fittings complete and as directed by engineer in charge. Note: Before execution of work specific approval of ADEN to be obtained by duly indicating the locations with specific reasons along with date of last tightening done.	Sleeper	50.92

CHAPTER - 20 : Supply of P.Way Materials

Item No.	Description of Item	Unit	Rate (₹)
201000	Bridge Related Fittings		
201010	Manufacture and supply of Hook Bolt 28mm dia. & 320mm long as per RDSO Drg. no. BA-1636/I/R2 from RDSO approved sources	Kg	194.29
201020	Manufacture & supply of 10mm thick Grooved Rubber Pads as per drg. No. RDSO/T-5199 & RDSO's Spec. no. IRS-T-47-2006 (Prov.) from RDSO approved sources with all contractor's lead, lift, labour, tools, plant and transportation etc. complete as instructed by Engineer in-charge. Note: One set constitutes two nos.	Set	242.86
201030	Manufacture & supply of Elastomeric Pads 25mm / 30mm thick as per RDSO drawing No. B/1636/I/R2 to suit Insulated steel channel sleepers from RDSO approved sources with all contractor's material, lead, lift, labour, tools, plant and transportation etc. complete and as instructed by Engineer in-charge. Note: One set constitutes two nos.	Set	4239.01

Item No.	Description of Item	Unit	Rate (₹)
201040	Manufacture & supply of a set of 2 Nos of Elastomeric Pads 25mm / 30mm thick and 4 nos of Grooved rubber pads as per RDSO drawing No. B/1636/5 alt 2 to suit Insulated H Beam sleepers from RDSO approved sources with all contractor's material, lead, lift, labour, tools, plant and transportation etc. complete as per approved drawings and as instructed by Engineer in-charge. Note: One Set consists of 2 nos. Elastomeric Pad 25mm/30mm and 4 nos. Grooved Rubber Pad.	Set	2318.21
201050	Manufacturing and supplying Galvanised MS Inner and Outer Clips for Steel Channel Sleeper (RDSO Drg. No. T-6150 & T-6151) from RDSO approved sources. Note: One set constitutes two inner & two outer clips.	Set	771.63
201060	Manufacture, supply & fixing of galvanised steel fittings of insulated galvanised steel channel sleeper for 60 Kg running rails & 52 Kg Guard Rail as per RDSO drawing no. RDSO/T-5155 to 5164 with up-to-date correction slips and specifications from RDSO approved sources with all contractor's lead, lift, labour, tools, plant, transportation etc. complete and instructions of Engineer in-charge.	Set	7948.14
201070	Manufacture, supply & fixing of galvanised steel fittings of insulated galvanised steel channel sleeper for 52Kg running rails & 52 Kg/90R Guard Rail as per RDSO drawing no. RDSO/T-5197 to 5200 with up-to-date correction slips and specifications from RDSO approved sources with all contractor's lead, lift, labour, tools, plant, transportation etc. complete and instructions of Engineer in-charge.	Set	5961.11
201080	Supplying of Zero toe load fixtures for H Beam sleepers of 52/60Kg Rails procured from RDSO approved firms as per RDSO approved drawing with up-to-date correction slips and specifications with all contractor's lead, lift, labour, tools, plant, transportation etc. complete as per instructions of Engineer in-charge. Note: Complete fixture for 1 sleeper shall constitute 1 set.	Set	25169.12
202000	L-Xing Indicator Boards, Engineering Indicators, Curve Boards etc :		
202010	Manufacturing, fabricating and supplying retro-reflective Level Crossing Indicator boards, made of 2mm thick aluminium sheet or 3mm thick aluminium composite sheet, face to be fully covered with high intensity encapsulated type heat activated retro-reflective sheeting conforming to type-IV of ASTM-D4956-01 in yellow & black or other colour combination including subject matter, message, symbols, borders etc. as approved by Engineer In-charge or as per IRPWM guidelines, 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 25mm x 25mm x 3mm provided all along the edges of board with theft resistant measures, back side of board shall be with non-peelable weather-proof paint, consisting of one coat of zinc chromate primer and two coats of epoxy paint. Vertical post shall have black & white anti-corrosive paint or powder coating complete, as directed.		
202011	Bilingual Whistle Boards for level crossing of size 600mm x 600mm of each board with back support frame welded to vertical post of MS T section of size 75mm x 75mm x 6mm x 3950mm	Set	8004.87

Item No.	Description of Item	Unit	Rate (₹)
202012	Speed Breaker / Rumble Strips Board of size 900 mm equilateral triangular shape and 600mmx200mm boards with back support frame welded to vertical post of MS T section of size 80mmx80mmx8mmx3650mm	Set	7327.74
202013	Un-manned Level Crossing Danger Stop Board of size 675mmx525mm with back support frame welded to vertical post of MS angle of size 50mmx50mmx6mmx3650mm	Set	4722.95
202014	Manned Level Crossing Indicator Board of size 900 mm equilateral triangular shape with back support frame welded to vertical post of MS T section of size 80mmx80mmx8mmx3650mm	Set	6728.58
202015	Single Strip / Double Strip Level Crossing Road Warning Board of size 900 mm equilateral triangular shape and 900x300 board with back support frame welded to vertical post of MS T section of size 80mmx80mmx8mmx3650mm	Set	7737.78
202016	Manufacturing and supply of circular STOP Disc of 600mm dia for fixing on emergency chains at level crossings as given in IRPWM including providing Retro reflective sheet fully covered over board confirming to type-IV of ASTM-D4956 in red back ground colour and text "STOP" of white colour over back ground. The circular board shall consists of 2mm thick Aluminium sheet fixed to 1.5mm thick MS Sheet of 600mm dia with suitable sized aluminium alloy rivets @ 20 cm c/c to back-support .Retro reflective sheet is to be 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.A vertical holding stand of 1000 mm length x15mm thick to be jointed to back side of board along with a hook for fixing emergency chain as directed by Engineer In charge.	Each	4245.92
202020	Manufacturing, fabricating and supplying retro-reflective Engineering Indicator boards, made of 2mm thick aluminium sheet or 3mm thick aluminium composite sheet, face to be fully covered with high intensity encapsulated type heat activated retro-reflective sheeting conforming to type-IV of ASTM-D4956-01 in yellow & black or other colour combination including subject matter, message, symbols, borders etc. as approved by Engineer In-charge or as per IRPWM guidelines, 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 25mm x25mm x 3mmprovided all along the edges of board with theft resistant measures back side of board shall be with non-peelable weatherproof paint, consisting of one coat of zinc chromate primer and two coats of epoxy paint. Vertical post shall have black & white anti-corrosive paint or powder coating complete, as directed.		
202021	Caution Indicator Board of size 1400mmx400mm with back support frame fixed to vertical post of MS angle of size 50mmx50mmx6mm of 3650 mm long	Each	6677.49
202022	Speed Indicator Board of equilateral triangular shape having each side of 1000mm with back support frame fixed to vertical post of MS angle of size 50mmx50mmx6mm of 3650 mm long	Each	5715.38
202023	Stop Indicator Board of size 1400mmx400mm with back support frame fixed to vertical post of MS angle of size 50mmx50mmx6mm of 3650 mm long	Each	6677.49

Item No.	Description of Item	Unit	Rate (₹)
202024	Termination Indicator Board of Circular shape having diameter of 1000mm with back support frame welded to vertical post of MS angle of size 50mmx50mmx6mm of 3950 mm long	Each	8078.45
202030	Manufacturing, supplying and fixing Curve Indicator / Point Indicator / SEJ Boards to be provided at various locations on formation, made out of MS sheet 2mm thick of size 450mm x 300mm duly fixed with MS frame of 25mm x 25mm x 3mm angle welded to 50mm x 50mm x 3mm MS angle, 1000mm long post split and bent 100mm at bottom end with all lead & lift as per specification and including painting of details with enamel paint, as directed by Engineer in-charge (Earthwork & concreting will be paid separately)	Each	1181.15
203000	Small Track Machines		
203010	Manufacture and supply of Drill Twist, made of High Speed Steel (HSS) of various sizes of Addison / I.T. make or equivalent, as directed by the Engineer in-charge.		
203011	7.2 mm dia.	Each	396.74
203012	16 mm dia.	Each	1458.48
203013	18 mm dia.	Each	1733.69
203014	26.5 mm dia.	Each	4313.52
203015	28.75 mm dia.	Each	4868.57
203016	31.75 mm dia.	Each	5675.86
204000	Welding Equipments		
204010	Manufacture & supply of rail file approximate size 15" long for filing AT welds from Railway approved firm	Each	741.83
204020	Manufacture & supply of Welding Equipments, as directed by Engineer in-charge.		
204021	Welding Cable Copper (50mm2)	Metre	483.51
204022	Pressure Regulator for Oxygen Multi-stage cylinder	Each	2634.48
204023	Pressure Regulator for Acetylene gas cylinder	Each	2634.48
204024	500amp Arc Welding Electrode Holder	Each	437.15
204025	Gas Cutting Torch Blow Pipe	Each	1631.03
204026	Hand Gloves Leather (Left Hand & Right Hand)	Set	99.02
204027	Hose Rubber for Oxygen 6mm dia.	Metre	99.35
204028	Hose Rubber for Dissolved Acetylene (D.A.) 6mm dia.	Metre	99.35
204029	Welding Screen (approximate size 4" x 3")	Each	247.28
204030	Manufacture & supply of wire brush 25mm long, as directed by Engineer in-charge.	Each	79.48
204040	Supply of Used Lubricating Oil of approved quality	Litre	76.17

Item No.	Description of Item	Unit	Rate (₹)

CHAPTER - 21 : Miscellaneous Items

Item No.	Description of Item	Unit	Rate (₹)
211000	Miscellaneous Items		
211010	Painting and fixing MS Indicator Boards of curves, SEJs, Points & Crossings, Gang/section jurisdiction and similar as per standard design including excavation, refilling, concreting in foundation and painting two coats with enamel and luminous paints as directed by Engineer in-charge. Note: Excavation, concrete work and lettering shall be paid separately.		
211011	Boards with single post	Each	171.96
211012	Boards with two posts	Each	183.67
211020	Erection or removal of temporary Engineering Indicator Board or any other board at specified locations without causing infringement to track etc. complete and as directed.		
211021	For erection	Each	282.20
211022	For removal	Each	232.13
211030	Fabricating of check rails of 52Kg and 90R sections for providing to curves by cutting web of rail horizontally by gas, grinding for smoothening the cut edge and drilling of parabolic shaped holes to the web of check rails as per drawing and specification and as per directions of engineer in-charge with all contractor's labour, tools and materials complete. Note: 1. Rails shall be supplied by Railways 2.The both ends of head of check rails are to bent/cut as per drawing. 3. The released rail scrap shall be stacked neatly with in a lead of 500m. 4.Drilling of holes shall be paid under relevant item.	RM	266.83
211040	Dismantling Check Rail on curves on track of all rail sections, duly removing fish plates and bolts including removing chairs from sleepers, leading and stacking released materials away from track clear of infringements, complete and as directed.	RM	70.53
211050	Fixing of check rails on curves on track of all rail sections as per drawing and to correct alignment and level with Railways fastenings including leading of rails and fittings, crossing of tracks, greasing of plate screws with approved grease etc., as per drawing and directions of Engineer in charge with all contractors labour, tools, plants, machinery, consumables etc., complete. Note: Required P.Way fittings will be supplied at SSE/P.Way stores.	RM	80.82
211060	Supply and fixing in position pre-cast cement concrete Fouling Mark as per approved drawing at station yard, duly painting the top surface and slopes with white enamel paint in two coats and inscribed letters with black of Fouling Mark, complete in all respects with all labour, materials including cement, tools and plants etc.	Each	563.39
211070	Providing and erecting water proof Gypsy Tent of size 3m x 3m for a specific period of time and removal of the same after completion of work or as directed by Engineer in-charge.	Day	3677.10
211080	Providing furniture temporarily at site work in good condition at different locations as per direction of Engineer In-charge and removing the same after completion of work.		
211081	Office Table of size 1.2m x 0.9m per day	Each	123.20
211082	Office Chairs with cushioned seat, back and arms per day	Each	43.51

Item No.	Description of Item	Unit	Rate (₹)
211100	Removing /Re-erecting existing Gradient Post / Kilometre Post, duly demolishing concrete foundation, fixing the post in cement concrete foundation as per drawing with 1:3:6 mix using 20mm hard aggregate, as directed (Cost of concrete work will be paid under relevant item separately).		
211101	For Removing	Each	258.67
211102	For Fixing / Re-erecting	Each	258.67
211110	Breaking the damaged PSC sleepers including dragging, if required duly removing inserts safely and handing over inserts to Railways at Stores or Depot of SSE/P.Way, including disposing the broken concrete pieces, as directed by Engineer in-charge. Released HTS wire shall be the property of Contractor.	Each	-416.41
211120	Fixing vertically the unserviceable PSC sleepers at locations of tress-passing, railway boundary or to make temporary store by excavating trench, fixing PSC sleeper in trench and filling back open trench.	Each	167.22
211130	Providing and fixing Trolley Refuge of size 3.0m x3.0m on cess, placing with released unserviceable PSC sleepers and keeping them at all four sides of refuge and also placing as matting inside the refuge by keeping them in upside down position with a minimum of 14 sleepers including levelling with earth, excavation, all lead and lift, crossing of tracks, leading the sleepers with in a free lead and lift, handling etc., with all contractor's men material complete and as directed by the Engineer-in-charge. Note: Earth-work will to be paid separately under relevant item.	Each	4998.70
211140	Supplying and spraying in specified proportion Weedicide Chemical, capable to kill entire weed on track / cess / embankment with all labour, material, tools & plants etc. complete job in all respect. Scientific name of the chemical is Isopropylamine Salt of Glyphosate, in which active ingredient is Glyphosate (41%), colour is light amber to brownish, very low in toxicity and has favourable environmental characteristics. It will be ensured that no weed growth occurs up to six months period, otherwise re-spraying shall be done by the contractor free of cost.	Sqm	1.09
211150	Supplying & applying single liquid solution in 250ml pack, having break loose torque of 400Nm to 540Nm, as per ISO:10123 norms with shear strength of liquid solutions as 25 to 35 N/mm2, viscosity 1500 to 3000 (Centipoise) & specific gravity of 1.1 ± 0.05. for tightening of nuts & bolts at important locations, such as Bridges, SEJs, Turnouts, Fish Plates, Steel Channel Sleepers etc. Work includes opening of bolts, cleaning of bolts with suitable cleaner and tightening of bolts after applying liquid solution as directed by Engineer in-charge.		
211151	Bolts dia. 20mm to 25mm	Each	33.35
211152	Bolts dia. 26mm to 30mm	Each	37.67
211153	Bolts dia. 31mm to 40mm	Each	46.08
211160	Supplying & applying of Poly Chloroprene rubber-based Solvent (toulene free, i.e. not harmful to human body) to prevent working out of rubber pads, having density 0.85±0.01 gm/cm3, viscosity of solvent as 1500 to 1900 (centipoise) at 30 degree centigrade & shear strength 8 to 12 Kg/Sq.In. for bonding rubber pads / GR Sole Plates on PSC sleepers complete job, as directed by Engineer in-charge.		
211161	PSC Line sleepers	Each	13.87
211162	1 in 8½ Turnout Set	Set	2890.90

Item No.	Description of Item	Unit	Rate (₹)
211163	1 in 12 Turnout Set	Set	4239.70
211164	1 in 8½ Switch Assembly	Set	834.86
211165	1 in 12 Switch Assembly	Set	1175.02
211166	1 in 8½ Crossing Assembly	Set	558.53
211167	1 in 12 Crossing Assembly	Set	770.47
211170	Galvanisation of Railway's Chequered Plates, Channels, Plates, Angles, and I-Section by hot dip process with Zinc Coating and mass of Zinc coating shall not be less than 705 g/sqm and galvanisation thickness shall not be less than 100 microns including necessary surface preparation as per Clause-4 of IS:2629-1985. Galvanisation shall be done as per IS:2629-1985 and IS:4759-1996 with Zinc conforming to IS:209-1992, duly taking all the measures for safeguarding against embrittlement of hot-dip galvanised iron and steel products as per IS:6158-1984 with all contractor's labour, material, tools, plant, all lead, lift and crossing of tracks etc. complete and as directed by the Engineer in-charge.	MT	20279.64
211180	Galvanisation of Railway's stretcher bars, M.S.Liners, ERCs and Plate screws by hot dip process with Zinc Coating and mass of Zinc coating shall not be less than 705 g/sqm and galvanisation thickness shall not be less than 100 microns including necessary surface preparation as per Clause-4 of IS:2629-1985. Galvanisation shall be done as per IS:2629-1985 and IS:4759-1996 with Zinc conforming to IS:209-1992, duly taking all the measures for safeguarding against embrittlement of hot-dip galvanised iron and steel products as per IS:6158-1984 with all contractor's labour, material, tools, plant, all lead, lift and crossing of tracks etc. complete and as directed by the Engineer in-charge.	MT	24335.57
211200	Hiring of machinery for minor miscellaneous works for short duration including operator/driver, fuel, lubricants and consumable. The contractor shall arrange all statutory permits as required by rules and regulations prevailing in the area of work. Payment shall be made for actual working hours at site.		
211201	JCB Backhoe Loaders 3DX Plus or similar with minimum 1.10 cum bucket capacity	Hour	867.49
211202	Hydra or similar tyre mounted Pick-n-Carry crane of 12T capacity for misc. works of handling of material	Hour	1459.19
211203	Tractor with Trolley for local transportation or other misc. works.	Hour	641.10
211210	Arranging labour as and when required by the Engineer in charge, for various works under SSE/P.Way, with contractor's T&P, equipments, hand signal flags, etc. as per specifications, special conditions and detailed scope of work as furnished in the tender and as directed by the Engineer in charge. Note: Item shall be operated with prior approval of concerned Sr. DEN / DEN in charge.	Day	782.69
211220	Supplying and filling 50 kg size empty cement polythene bags with Rly. Ballast/moorum/earth/Sand/quarry dust etc. placing the filled bags on the high banks /bridge approaches/nominated place etc. dumping and spreading at the nominated locations to profile under block period with all contractor's labour, tools, plants, loading, unloading, filling, spreading including all lead/lift etc. complete and as directed by the Engineer in charge at site including crossing of track where necessary.	Each	17.90

Item No.	Description of Item	Unit	Rate (₹)
211230	Supply, filling and stacking of sand bags layer by layer filled with Railway Sand/railway quarry dust in Contractor's empty polythene cement bags of 50 kg bags with all contractors labour, tools, plants, lead, lift etc., including stitching the same with machine using polythene thread complete as directed by Engineer-in charge at site.	Each	16.66
211240	Loading of sand/quarry dust filled bags from Railway stacks in to Railway Wagons with all contractor's empty polythene cement bag, tools & plants, machinery, labour, lead and lift, crossing of track wherever necessary etc., complete as directed by the Engineer In charge.	Each	15.50
211250	Manufacturing and fixing buffer stop with Railway supplied rails, cutting, including bending of rails as per plan ,with all contractor's labour, materials, tools, plants etc. and all lead and lift including crossing of track where necessary and as directed by Engineer in charge at site. Note: Excavation, fixing rails in cement concrete, drilling of holes will be paid separately.	Each	17110.32
211260	Manufacture and supply of Precast Kilometer Posts of size 1.15 x 0.50 x 0.075 m in RCC 1:2:4 mix, engraving letters and leading to work spot, fixing in position with CC 1:3:6 concrete duly making pits of size as required, painting the post, writing the letters on both sides of the post with 2 coats of enamel paint of approved quality to the Railways drawings/IRPWM with contractor's materials, cement, steel, labour, tools, plant, with all lead and lifts etc., complete as per specifications and as directed by the Engineer-in-charge. Note: Excavation, Concrete and steel work will be paid under relevant items.	Each	575.82
211270	Manufacture and supply of Precast gradient Posts of size 1.65 x 0.60 x 0.075 m in RCC 1:2:4 mix, engraving letters and leading to work spot, fixing in position with CC 1:3:6 concrete duly making pits of size as required, painting the post, writing the letters on both sides of posts in 2 coats with enamel paint of approved quality to the Railways drawings/IRPWM with contractor's materials, cement, steel, labour, tools, plant, with all lead and lifts etc., complete as per specifications and as directed by the Engineer-in-charge. Note: Excavation, Concrete and steel work will be paid under relevant items.	Each	753.01
211280	Manufacture and supply of Precast Hectometer/TP Repeater posts of size 0.90Mx0.30 mx0.30Mx0.30M Triangular size in RCC 1:2:4 mix, engraving letters, leading to work spot, and fixing in position with CC 1:3:6 concrete, duly making pits of size as required, painting the post with two coats, letters on the both sides of posts with enamel paint of approved quality as per IRPWM/Railways drawings complete with contractor's materials, cement, steel, labour, tools, plant, with all lead and lifts etc., complete as per specifications and as directed by the Engineer-in-charge. Note: Excavation, Concrete and steel work will be paid under relevant items.	Each	247.80