



**भारत सरकार**  
GOVERNMENT OF INDIA  
**रेल मंत्रालय**  
MINISTRY OF RAILWAYS

**भारतीय रेल एकीकृत मानक दर अनुसूची**  
(फॉर्मेशन कार्य, पुल कार्य एवं पी. वे कार्य)

**Indian Railways**  
**Unified Standard Schedule Of Rates**  
(Formation Works, Bridge Works and P.Way Works)

दर अनुसूची  
**Schedule Of Rates**

इंजीनियरिंग विभाग  
Engineering Department

**2019**



## **General and Operating Instructions**

### **1. General Instructions:**

- 1.1. These instructions & guidelines are applicable for all items included in all Chapters for Railway Formation Works, Bridge Works and P. Way Works.
- 1.2. The IRUSSOR-2019 has been prepared, duly incorporating the representative rates of different components required to confirm consistency in 'Analysis of Rates (AOR)'.
- 1.3. Cost of cement is not included in any item except where specifically mentioned in the item.
- 1.4. Cost of carriage of materials up to the site of work is included in the input cost of basic items.
- 1.5. In Rate Analysis, misc. expenditure has been taken care of under the heading 'Sundries' (indicated by Item Code 9901 in the Basic Rates Sheet). Rate for 'Sundries' has been taken as 1.00 and will remain constant for all Zonal Railways. This shall be increased @ 5% per annum, i.e. rate after one year shall be changed from 1.00 to 1.05.
- 1.6. Design Mix Cement Concrete of all grades from M-15 to M-40 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.
- 1.7. 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.
- 1.8. Cost of Admixture (plasticiser / super-plasticiser) is included in the item of design mix concrete.
- 1.9. 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 and for nominal mix and other misc. items, it shall be as per standard consumption enclosed separately with this USSOR.
- 1.10. 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.
- 1.11. Rates include all freight charges, lead and lift upto the site of the work for all materials used in the work unless specified otherwise.

## 2. Operating Instructions

### 2.1 Numbering System Of SOR Items –

- (i) 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 -
- (ii) First 2 digits (left side) indicate Chapter no. from 01 to 21.
- (iii) Next one digit indicates Sub-Group within the Chapter. It can value from 1 to 9 only.
- (iv) Next 2 digits are Main Item nos., varying from 01 to 99. Item nos. are continuous within one Sub-group; but restart from 01 with change of Sub-group.
- (v) Next one digit, i.e. right-most digit indicates Sub-item within the main item. It can vary from 0 to 9. It will have value 0, if there is no Sub-item. Also, it will be 0 for main item with Sub-items, but in this case this item will not have any unit or rate, since unit & rate are associated with Sub-item.

### 2.2 Procedure To Finalise ‘Standard Schedule Of Rates’ of all Zonal railway –

- (i) The IRUSSOR-2019 software including Basic Data Input, Analysis of Rate & Schedule of Rates has been prepared in Excel file named ‘IRUSSOR-2019.xlsx’ and uploaded on Railway Board Civil Engineering Directorate webpage.
- (ii) The rates reflected in ‘IRUSSOR-2019.xlsx’ are representative rates of different components to confirm consistency in ‘Analysis of Rates (AOR)’. Zonal railways shall prepare their SOR by updating the rates of all components in ‘Basic Rates’ sheet of IRUSSOR-2019.xlsx file in consultation with associate finance. **These rates shall be Exclusive of GST.** Basic Rates shall be updated once in two years by respective Zonal railway with concurrence of associate finance, so as to have duly updated USSOR of each zonal railway every two year.

### 2.3 Procedure For Banning 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. A letter under the signature of PCE informing list of items which shall not be operated by field units shall be issued to all concerned on the Railway with a copy to EDCE(G), Railway Board for examination and its incorporation in IRUSSOR.xlsx as well as IREPS database.

### 2.4 Operating Procedure of Preparation Of ‘SOR’ –

- (i) The ‘Schedule of Rates’ (SOR) and ‘Analysis of Rates’ (AOR) are given in one excel file named ‘IRUSSOR-2019.xlsx’. This file contains 43 Sheets; containing 1 Sheet for Basic Rate (Basic Rates), 21 Sheets of AOR (A-1, A-2, ....., A21) and 21 Sheets of SOR(S-1, S-2, ....., S21).

- (ii) 'Nomenclature', 'Item', 'Rate Code', Unit and Rates of 'Basic Items' have been given in one separate sheet, named 'Basic Rates'. This sheet is non-editable except the cells containing Rates. Editing in these cells shall be password protected.
- (iii) SOR Sheets are in non-editable form and corrections to these can be done by Railway Board only duly considering the suggestion of Zonal Railways etc.
- (iv) The AORs are editable except for Item and Unit of the Item. Zonal Railways may finalise the analysis with the concurrence of associate finance. However in case Railway makes any change in analysis due to any reasons, whatsoever, the same shall be communicated to Railway Board.
- (v) Since, all the sheets are mutually linked within the workbook; any attempt to modify any sheet except editable cells may distort other files. Therefore, only the competent and authorised person allowed to access the soft file shall prepare the Railway USSOR without adding or deleting any sheet as well as without any change in non-editable cell.

#### 2.5 Procedure for initial preparation & subsequent updation of SOR -

- (i) Open 'IRUSSOR-2019.xlsx'. The initial password is *IRUSSOR-2019*.
- (ii) Make the changes in the rate column of the "Basic Rates" Sheet. It will ask for a password for making changes. This is the most important stage and Railways must ensure that password is suitably secured. The initial password to allow editing in rate column is *Basic Rates*.
- (iii) **Both the passwords shall be changed by the competent authority before commencing any work for development of SOR to ensure authorized changes and correctness of such changes.**
- (iv) As soon as change in rate of any item in 'Basic Rates' Sheet is made, the rates of items of SOR stands updated automatically. Changes in SOR will be effective only when 'IRUSSOR-2019.xlsx' file is saved & closed properly.
- (v) AOR sheets are editable. However, normally AOR sheets shall not require any change.



# IR Unified Standard Schedule of Rates 2019

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<b>CHAPTER - 1 : Earth Work</b>			
<b>Item No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate (Rs)</b>
	<b>Earthwork in New Lines, Doubling Projects Etc.</b>		
011010	Earthwork in cutting (classified) 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, machine & materials and removing & leading all cut spoils either to make spoil dumps beyond 10m from cutting edge or for filling in embankment with leads within 2 km on either side of cutting edge, lifts, ascent, descent, loading, unloading, all taxes / royalty, clearance of site and all incidental charges, bailing & pumping out water, if required, etc. complete as per directions of the Engineer-in-Charge. The work is to be executed as per latest / updated edition of "Guidelines for Earthwork in Railway Projects" issued by RDSO, Lucknow. Cut trees shall be property of Railways and to be deposited in the railway godown unless specified otherwise in the Special Conditions of Contract. {Note - (i) All usable earth arising from cut spoils shall be led into bank formation and Unusable spoils shall be dumped / stacked (ii) All hard rock /and boulders not fit for filling will be stacked by the contractor and will be property of the Railways.}		
011011	In all conditions and classifications of soil except rock	Cum	137.57
011012	Soft rock not requiring blasting in all conditions	Cum	308.07
011013	In hard rock requiring blasting with explosives and blasting/drilling equipment Including all incidental work in all conditions. Rate includes cost of all explosive material.	Cum	488.48
011014	In rock and very 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 work in all conditions	Cum	1069.01
011015	In any other type of soil not covered above where classification is not possible	Cum	137.57
011016	Extra for leading of Cut spoil every one km beyond original lead of 2 km over item no. 011010	Cum	6.24
012010	Earthwork in filling in embankment , guide bunds, around buried type abutments, bridge gaps, trolley refuges, rain bunds, if provided, platforms etc. with earth, suitable for embankment as per RDSO latest Specifications and guidelines GE: G-14 of Soil Quality Class SQ1, excavated from outside railway boundary entirely arranged by the contractor at his own cost including all leads, lifts, ascents, descents, crossing of nallahs or any other obstructions. The item shall include demarcation and setting out of profile, site clearance, removing of shrubs, roots of vegetations growth, heavy grass, benching of existing slope of old bank, all handling/re-handling, 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 a complete job. The payment shall be made as per finished profile and the rate shall include all costs including taxes, octroi, royalty etc. except for mechanical compaction which shall be paid extra under relevant item. Cut trees shall be property of railways and to be deposited in the railway godown unless specified otherwise in the Special Conditions of Contract.	Cum	275.11

Item No.	Description	Unit	Rate (Rs)
012020	<p>Earthwork in filling in embankment , guide bunds, around buried type abutments, bridge gaps, trolley refuges, rain bunds, if provided, platforms etc. with earth, suitable for embankment as per RDSO latest Specifications and guidelines GE: G-14 of Soil Quality Class SQ2, excavated from outside railway boundary entirely arranged by the contractor at his own cost including all leads, lifts, ascents, descents, crossing of nallahs or any other obstructions. The item shall include demarcation and setting out of profile, site clearance, removing of shrubs, roots of vegetations growth, heavy grass, benching of existing slope of old bank, all handling/re-handling, 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 a complete job. The payment shall be made as per finished profile and the rate shall include all costs including taxes, octroi, royalty etc. except for mechanical compaction which shall be paid extra under relevant item. Cut trees shall be property of railways and to be deposited in the railway godown unless specified otherwise in the Special Conditions of Contract.</p> <p>Note: Payment under this item shall be made only upto the thickness as approved by Engineer-in-Charge. Any additional thickness executed shall be paid under the item of Earthwork in filling in embankment for Soil Quality Class SQ1.</p>	Cum	296.55
012030	<p>Earthwork in filling in embankment, guide bunds, around buried type abutments, bridge gaps, trolley refuges, rain bunds, if provided, platforms etc. with earth, suitable for embankment as per RDSO latest Specifications and guidelines GE: G-14 of Soil Quality Class SQ3, excavated from outside railway boundary entirely arranged by the contractor at his own cost including all leads, lifts, ascents, descents, crossing of nallahs or any other obstructions. The item shall include demarcation and setting out of profile, site clearance, removing of shrubs, roots of vegetations growth, heavy grass, benching of existing slope of old bank, all handling/re-handling, 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 a complete job. The payment shall be made as per finished profile and the rate shall include all costs including taxes, octroi, royalty etc. except for mechanical compaction which shall be paid extra under relevant item. Cut trees shall be property of railways and to be deposited in the railway godown unless specified otherwise in the Special Conditions of Contract.</p> <p>Note: Payment under this item shall be made only upto the thickness as approved by Engineer-in-Charge. Any additional thickness executed shall be paid under the item of Earthwork in filling in embankment for Soil Quality Class SQ1.</p>	Cum	310.84
012040	<p>Extra for mechanical compaction of soil in embankment with contractor's rollers of suitable capacity, type and size to achieve specified density as per specification, testing as per IS codes including cost of water, T&amp;P, consumable and all labour as a complete job. The work is to be executed as per Latest edition of "Guidelines for Earthwork in Railway Projects" issued by RDSO, Lucknow.</p>	Cum	18.12

Item No.	Description	Unit	Rate (Rs)
012050	<p>Providing of Blanketing over finished formation as per latest RDSO specifications and procedures by supplying materials of approved quality, spreading in layers not exceeding in 30cm in thickness in loose conditions and leveling by motor grader and compacting by vibro roller of required capacity upto desired degree of compaction, finishing to correct profile with all lead and lift, complete in all respect to the satisfaction of the Engineer-in-Charge. Rate includes all labour, material, tools, plants, machinery, testing equipment, testing charges, taxes, Royalties, Octroi etc. and all other incidental charges including compaction.</p> <p>Note:( i) The work shall be carried out as per RDSO Guidelines and specifications for Design of Formation for Heavy Axle Load (Report No. RDSO/2007/GE: 0014 of November, 2009) for mechanically produced blanketing material for Railway Formation.</p> <p>(ii) The Quality Control tests as prescribed vide RDSO/2007/ GE:0014 with up to date ammendment shall be arranged at site by the Contractor, for which no separate payment will be made. (iii) The tenderer is requested to go through specifications of blanketing material as per GE-0014 RDSO specifications. The blanketing material is expected to be manufactured in quarry/ site with pug mill type blender from stone crushed material of required quality as per specification with the grading falling in the enveloping curve. The rate includes the CBR tests, Los Angels Abrasion test, Impact tests, Atterberg limits, Grain size analysis, MDD and all quality tests as per specifications to be carried as per the laid down frequency on blanketing material/ compacted finished blanket surface. (iv) Measurement will be made on finished profile after compaction.</p>	Cum	1730.93
	MISCELLANEOUS :		
013010	Dressing surface (average excavation or filling upto 15 cm) including removing vegetation in all kind of soil. Payment against this item is to be made only if it is not included in earth work item.	10 sqm	186.51
013020	<p>Earthwork for repairing to cess by cutting or raising of existing cess upto 4 metre from centre of track on both sides of embankment with Railway's earth including cutting of earth, leading, benching, filling, dressing including cutting of grass / shrubs / trees etc.; watering, compaction by ramming and leveling of earth for required longitudinal &amp; cross-sectional profile, as directed</p> <p>Note: [Rate also includes repairs of trolley refuges including pulling ballast back upto formation level to avoid impounding of ballast and there after putting the pulled ballast back after cess repairs etc.]</p>	100 m	306.39
013030	<p>Felling trees of girth (measured at a height of 1m above ground level) including lead and stacking of material within 100m.</p> <p>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.</p>		
013031	Girth over 30 cm and upto 60 cm	Each	306.39
013032	Girth over 60 cm and upto 1.5m	Each	845.84
013033	Girth over 1.5m upto 3 m	Each	1685.00
013034	Girth over 3 m	Each	2823.85
013040	Benching slopes, cuts 30 cm in height and approximately 60 cm wide	Sqm	21.05
013050	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 only after 3 months of maintenance period, if the turfing is properly rooted.		

Item No.	Description	Unit	Rate (Rs)
013051	Turfing with sods, 10cm thick and 20cm square closely laid	100 Sqm	5872.21
013052	Turfing with planted doob grass	100 Sqm	5726.37
013053	Planting Sarkanda / sarpat or any other suitable species approved by the engineer	100 Sqm	6638.85
013070	Cleaning out silt from bed of reservoir/canals including 50m lead and lift upto 1.5m	Cum	181.16
013080	Earth work in filling in embankment from Railway land for repairing of cess/formation/level crossing, rain cuts etc. to make the surface to the desired level and slope to the entire satisfaction of Engineer-in-charge. The rate will include free lead upto 200m, all lifts, descends, ascends, crossing of track/road/nallah etc. including breaking of clods etc and compaction by rollers/rammers etc. <i>Note - This item is only to be paid when specially ordered in writing if situation so demands.</i>	Cum	193.14
013090	Extra rate for quantities of works executed. <i>Note - The extra percentage rate is applicable in respect of each item, but limited to quantities of work executed in these difficult conditions.</i>		
013091	In or under water and/or liquid mud, including pumping out water as required. <i>Note - In or under water means locations/levels where there is continuous ingress of water.</i>	Cum	20%
013092	In or under foul position, including pumping out water as required. <i>Note - Foul position means filthy and unhygienic conditions where physical movements are hampered such as soil mixed with sewage or night-soil.</i>	Cum	25%
013100	Providing and removing barricading with the help of portable fencing along running track where work is to be done in close vicinity of track. 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 to be paid separately}		
013101	With provision of one 50mm wide retro-reflective tape in horizontal direction, duly secured/tight with vertical posts	Metre	205.31
013102	With provision of painting verticals & horizontals with red luminous paints / strips of 30cm each with a gap of 30 cm	Metre	96.51
013110	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	185.22
013120	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 site of work}	Metre	98.74
013130	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	809.91
013140	Supplying and fixing bitumen drum sheet by nailing to wooden piles 125 mm dia., supplied and driven by contractor complete with nails/hooks to prevent earth against slippage, as per approved drawing & as directed.	Sqm	399.91

Item No.	Description	Unit	Rate (Rs)
014010	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 $\leq 85$ microns and elongation at failure $> 50\%$ in both directions including transportation labour, lead & lift complete as directed by Engineer in-charge.		
014011	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	151.25
014012	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	268.99
014020	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 Enginner-in-Charge.	Sqm	681.07

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<b>CHAPTER - 2 : Bridge Works Substructure</b>			
<b>Item No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate (Rs)</b>
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	1065.00
021012	10m to 20m	Metre	1118.52
021013	20m to 30m	Metre	1177.39
021014	30m to 40m	Metre	1277.73
021015	40m to 50m	Metre	1471.73
021016	50m to 60m	Metre	1739.32
021017	60 m to 70 m	Metre	1873.11
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	1278.00
021022	10m to 20m	Metre	1342.22
021023	20m to 30m	Metre	1412.86
021024	30m to 40m	Metre	1533.28
021025	40m to 50m	Metre	1766.08
021026	50m to 60m	Metre	2087.18
021027	60m to 70m	Metre	2247.74
021030	Extra for 150mm dia. bore in hard Rock/large Boulder at all levels	Metre	1992.19
021040	Erection of temporary working platform to drill bore hole through flowing/standing water through river bed upto water depth of 1.5m, and dismantling after completing work and removing from the site to clear the water way.	Cum	2277.24
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	3055.85
021052	10m to 20m	Metre	3209.71
021053	20m to 30m	Metre	3422.44
021054	30m to 40m	Metre	3667.29
021055	40m to 50m	Metre	3793.05
021056	50m to 60m	Metre	4088.74
021057	60m to 70m	Metre	4415.19
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	20069.06
021062	Plate size 45cm x 45cm	Each	24082.88
021063	Plate size 60cm x 60cm	Each	28765.66
021070	Conducting in situ Vane shear test for soil as per IS:4434	Each	2943.46
021080	Conducting SCPT for soil as per IS:4968	Each	46827.82
021090	Conducting DCPT for soil as per IS:4968	Each	38800.19
021100	Conducting determination of California Bearing Ratio as per IS:2720	Each	1337.94

Item No.	Description	Unit	Rate (Rs)
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	137.81
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	147.17
021130	Conducting standard penetration test as per IS:2131 at approximate 1.5m intervals in bore holes, as directed by the Engineer in charge	Each	802.76
021140	Collection of water samples at required intervals	Each	227.45
021150	Conducting laboratory Tests on collected soil samples as per relevant IS code		
021151	Moisture Content/Dry Density	Each	267.59
021152	Atterberg Limits	Each	535.18
021153	Specific Gravity	Each	535.18
021154	Grain size analysis including Hydrometer analysis	Each	735.87
021155	Direct Shear Test	Each	2006.91
021156	Natural Density	Each	602.07
021157	Consolidation Test	Each	6689.69
021158	Unconfined Compression Test	Each	2006.91
021159	Tri-axial Test	Each	2006.91
021160	Conducting Laboratory tests on collected ROCK SAMPLES as per relevant IS code		
021161	Density Test	Each	267.59
021162	Water Absorption & Porosity	Each	267.59
021163	Hardness	Each	133.79
021164	Unconfined Compression Test	Each	2006.91
021165	Point Load Test	Each	1070.35
021166	Modulus of Elasticity	Each	5351.75
021167	Abrasion Testing	Each	602.07
021170	Conducting in-situ Portable Impulse Plate Load Test with 'Light Drop Weight Tester', having plate size of 300mm & weight of 10 Kg at identified locations as per ASTM E2835-11, for measurement of compaction quality of soil {modulus of deformation (Evd) for correlation to Dpr%} and for evaluation of load carrying capacity in stages of formation construction	Each	563.23
021180	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	1337.94
021190	Conducting chemical analysis of soil samples to determine aggressiveness in relation to attack on concrete / reinforcement including determination of pH value	Each	1337.94
021200	Preparation and submission of Final report giving complete and comprehensive record of investigations, laboratory test reports and calculations in approved format	Each	77600.38



Item No.	Description	Unit	Rate (Rs)
	<b>OPEN FOUNDATION</b>		
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 upto a lead of 300m, all types of shoring and strutting with all labour and material complete as per drawing and technical specification as directed by Engineer in charge. 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	174.58
022012	Ordinary rock	Cum	361.79
022013	Hard rock (requiring blasting)	Cum	656.16
022014	Hard rock (blasting prohibited )	Cum	998.22
022020	Extra for the quantity of works, executed in or underwater and/or liquid mud including pumping out water as required	Cum	20% of basic item
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	2375.18
022032	1:2:4 (1 cement : 2 coarse sand (zone-III) : 4 graded stone aggregate 20 mm nominal size)	Cum	2448.55
022033	1:2:4 (1 Cement : 2 coarse sand (zone-III) : 4 graded stone aggregate 40 mm nominal size)	Cum	2380.58
022034	1:3:6 (1 Cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size)	Cum	2507.15
022035	1:3:6 (1 Cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 40 mm nominal size)	Cum	2403.32
022036	1:4:8 (1 Cement : 4coarse sand (zone-III) : 8 graded stone aggregate 40 mm nominal size)	Cum	2432.67
022040	Providing and laying in position machine batched, machine mixed and machine vibrated Design Mix Cement Concrete of specified grade (Cast in-Situ) using 20mm graded crushed stone aggregate and coarse sand of approved quality in RCC raft foundation & Pile cap including finishing, using Admixtures in approved proportions (as per IS:9103), to modify workability & other properties without impairing strength and durability complete as per specifications and direction of the Engineer in charge. Payment for cement, reinforcement and shuttering shall be paid extra.	Cum	2472.32
022050	Providing and laying in position machine batched, machine mixed and machine vibrated Design Mix Cement Concrete of specified grade (Cast in-Situ) using 20mm graded crushed stone aggregate and coarse sand of approved quality for the following Reinforced cement concrete structural elements up to height of 10 m from foundation top level, including finishing, using Admixtures in approved proportions (as per IS:9103), to modify workability & other properties without impairing strength and durability complete as per specifications and direction of the Engineer in charge. Payment for cement, reinforcement, shuttering shall be paid extra.		
022051	Abutment & Pier	Cum	2719.55
022052	Wing wall and Return wall	Cum	2719.55
022053	Abutment cap, Pier Cap, Inspection Platform & Pedestal over Pier cap, Fender wall, Diaphragm wall etc.	Cum	2843.17

Item No.	Description	Unit	Rate (Rs)
022054	Approach slab at formation level, Dirt wall/ ballast wall at formation level	Cum	2595.93
022055	Extra for every increase of 1m or part thereof in the height above 10 m	Cum	78.65
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	2455.77
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	231.65
022080	Providing, Boring and installing 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, excluding the cost of steel Reinforcement, permanent casing pipe and length of pile to be embedded in pile cap etc. complete, 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 with all labour material complete <b>by percussion drilling using Direct Mud Circulation (DMC) or Bailor and Chisel technique by tripod and mechanical Winch machine</b> including crossing of tracks if required, as per approved drawing, specification and direction of the Engineer in charge. Length of the pile for payment shall be measured upto the bottom of RCC pile cap. Payment for cement, permanent casing pipe (if any ) & reinforcement shall be paid extra.		
022081	1500 mm diameter	Metre	7985.57
022082	1200mm diameter	Metre	5397.17
022083	1000mm diameter	Metre	4042.96
022084	800mm diameter	Metre	2477.79
022085	600mm diameter	Metre	1445.38
022090	Providing, driving and installing Bored cast in-situ Reinforced Cement Concrete piles <b>using Hydraulic piling Rig</b> of specified diameter and length below pile cap of specified grade Design Mix Cement Concrete, using 20mm graded crushed stone aggregate and coarse sand of approved quality, to carry a safe working load not less than specified, excluding the cost of permanent casing pipe and length of pile to be embedded in pile cap etc. complete, 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 with all labour material complete including crossing of tracks if required, as per approved drawing, specification and direction of the Engineer in charge. Length of the pile for payment shall be measured upto the bottom of pile cap excluding the mud mat. Payment for cement, permanent casing pipe (if any ) & reinforcement shall be paid extra.		
022091	1500 mm diameter	Metre	12129.31
022092	1200mm diameter	Metre	9002.76
022093	1000mm diameter	Metre	7384.86
022094	800mm diameter	Metre	4738.01
022095	600mm diameter	Metre	3096.51

Item No.	Description	Unit	Rate (Rs)
022100	Providing, fabricating and installing permanent casing pipe for bored piles for all diameters with specified thickness of steel plate including all labour, materials, pumping and bailing out water wherever required, complete as per technical specifications as directed by Engineer in charge. This will include the weight of plate only and no cognizance will be given for the fittings, i.e. rivets and welding etc.	MT	73831.33
022110	Extra for chiselling in addition to boring of piles, if chiselling is resorted to in hard rock or big stone boulders larger than 30cm depth by any means, i.e. by chisel or manual chisel and hammer method		
022111	1200mm diameter pile	Metre	4204.60
022112	1000mm diameter pile	Metre	3214.23
022113	800mm diameter pile	Metre	2430.93
022114	600mm diameter pile	Metre	1578.12
022120	Conducting load testing of a single pile upto following capacity in accordance with IS:2911 (Part-IV) including installation of loading platform and preparation of pile head or construction of test cap and dismantling of test cap after test etc. with all labour, material, tool & plants, equipment, machinery, etc. complete as per drawing and specification, as directed by the Engineer		
022121	Initial load test upto 50 ton capacity pile	Each	54320.27
022122	Initial load test above 50 ton capacity upto 100 ton capacity pile	Each	61344.44
022123	Initial load test above 100 ton capacity upto 250 ton capacity pile	Each	84758.35
022124	Extra for every increase of 50 ton in pile capacity or part thereof over 250 ton	Each	7800.18
022125	Routine Load Test upto 50 ton capacity pile	Each	20537.34
022126	Routine Load Test above 50 ton capacity upto 100 ton capacity pile	Each	31508.43
022127	Routine Load Test above 100 ton capacity upto 250 ton capacity pile	Each	54895.58
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 upto 50 ton	Each	20537.34
022132	Piles with lateral load capacity of above 50 ton	Each	32297.82
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 at site.	Each	3037.12
	<b>WELL FOUNDATION</b>		
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. (compaction of surplus soil when led to the bank will be paid as per relevant item separately)	Cum	261.87
023011	In Ordinary rock	Cum	397.97
023012	Hard rock (blasting prohibited )	Cum	1098.04
023020	Providing and constructing Temporary Earthen Island / coffer dam for construction of well foundations of dia. upto 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 upto 1.00m	Each	66217.75
023022	Extra for every 1.00m additional depth and part thereof over item 023021 upto water depth of 4.00m.	Each	95770.11

Item No.	Description	Unit	Rate (Rs)
023023	Providing and constructing 10m wide service road to reach island location from one pier location to another pier location.	Running Metre	4877.20
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 plates 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	82766.05
023040	Dry/Wet Sinking of Circular Wells (Other than pneumatic method) in all types of strata except hard rock requiring ballasting, 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 (compaction to be paid separately under the relevant item).		
023041	From initial level of cutting edge & upto 3m depth	Cum	180.78
023042	Above 3m to 10m depth	Cum	283.20
023043	Above 10m to 15m depth	Cum	394.35
023044	Above 15m to 20m depth	Cum	541.65
023045	Above 20m to 25m depth	Cum	777.61
023046	Above 25m to 30m depth	Cum	1200.67
023047	Above 30m to 35m depth	Cum	1933.70
023048	Above 35m to 40m depth	Cum	3347.35
023049	Above 40m to 50m depth	Cum	8450.98
023050	Extra for above 50m for every 1m or part thereof over item no 023049	Cum	1056.37
023060	Dry/Wet Sinking of Twin D type Wells (Other than pneumatic method) in all types of strata except hard rock requiring ballasting, 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 & upto 3m depth	Cum	261.59
023062	Above 3m to 10m depth	Cum	348.97
023063	Above 10m to 15m depth	Cum	485.93
023064	Above 15m to 20m depth	Cum	667.44
023065	Above 20m to 25m depth	Cum	958.19
023066	Above 25m to 30m depth	Cum	1479.51
023067	Above 30m to 35m depth	Cum	2382.76
023068	Above 35m to 40m depth	Cum	4124.70
023069	Above 40m to 50m depth	Cum	10413.53
023070	Extra for above 50m for every 1m or part thereof over item no 023069	Cum	1301.69
023080	Extra for sinking of wells in hard rock requiring controlled blasting including cost of explosive, detonators, chiselling including all other ancillary works	Cum	776.07

Item No.	Description	Unit	Rate (Rs)
023090	Providing and laying in position machine batched, machine mixed and machine vibrated Design Mix Cement Concrete of specified grade (Cast in-Situ) using 20mm graded crushed stone aggregate and coarse sand of approved quality in the following elements of well including finishing, using Admixtures in approved proportions (as per IS:9103), to modify workability & other properties without impairing strength and durability complete as per drawings and technical specifications as directed by Engineer. Payment for cement, reinforcement and shuttering shall be made extra.		
023091	In well Curb	Cum	2719.55
023092	In Steining of wells	Cum	2719.55
023093	In Bottom plug for wells including arrangements for placing concrete under water with tremie or bottom opening skips.	Cum	2719.55
023094	In Intermediate/top plug without shuttering	Cum	2595.93
023095	In Intermediate/Top plug with internal shuttering	Cum	2595.93
023096	In Well cap and corbel, if provided	Cum	2595.93
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. Sand should be simultaneously filled with water for three days to achieve full compaction so that further chances of shrinkage due to voids are eliminated.		
023101	Using Sand from River Bed if suitable for filling	Cum	261.87
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	1952.67
	<b>RCC BOX</b>		
024010	Providing and laying in position machine batched, machine mixed and machine vibrated Design Mix Cement Concrete of specified grade (Cast in-Situ/Pre-cast) in bottom/top slab, side walls, toe wall and sumps haunch filling head walls or any other component using 20mm graded crushed stone aggregate and coarse sand of approved quality of RCC box of any size including finishing, Admixtures in approved proportions (as per IS:9103), to modify workability & other properties without impairing strength and durability, complete as per drawings and technical specifications as directed by Engineer in charge. Payment for cement, reinforcement and shuttering shall be made extra.	Cum	2719.55
024020	Providing and laying in position machine batched, machine mixed and machine vibrated Design Mix Cement Concrete 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, including centering, shuttering and finishing complete as per drawings and technical specifications as directed by Engineer. Payment for cement, reinforcement and shuttering shall be made extra.	Cum	2472.32

Item No.	Description	Unit	Rate (Rs)
024030	<p>Excavation in formation / foundation for insertion of precast RCC box, having linear waterway upto 3m for single line, including dismantling of existing bridge, built with stone masonry / cement concrete in foundation &amp; superstructure, rock/stone below or above bed level, removing existing ballast and filling with Railway's Moorum / Earth / Sand over top and beside the box after launching of precast Box on new alignment during block period and / or under traffic conditions and underneath the R.H. Girder, if required with contractor's three Excavators of 200 HP capacity or above (2 working + 1 spare); Hammer Drill - 1 No.; Tippers - 2 Nos. and Tractors - 2 Nos. with all contractor's labour, tools/plants, machinery, consumables etc. including all lead, lift, loading, unloading and stacking of all serviceable materials at nominated locations, disposing of un-serviceable materials and clearing debris away from the vent way for free flow of water including making approaches for movement of machinery &amp; materials and as directed by Engineer in-charge.</p> <p>{Conditions : (1) Unit of 'Each' means bridge of span(s) with a total linear waterway upto 3m across one track; (2) The contractor shall arrange minimum necessary machineries, e.g. 'Excavator' of 200 HP capacity or above - 3 nos. (2 working + 1 spare), Stone Breaker - 1 no., Tippers - 2 nos., Tractors - 2 nos. and all other required machineries etc. in good working condition at site of work; (3) Rate shall include transportation of all machineries at site of work including oils, other consumables, tools/plants, driver batta etc. (4) During excavation at site, if rock / boulders are met with, contractor shall break / demolish rock / boulders of any size &amp; quantity and dispose it at nominated place for proper insertion of box and Railway will not pay extra cost for this work; (5) Work shall be carried out under offered traffic block. If due to any reason, traffic block is not granted, no extra payment shall be made. Contractor shall keep his labour, machinery, equipments etc. at site till completion of work and as per instruction of Engineer in-charge.}</p>		
024031	Surcharge upto 1 metre	Each	127837.27
024032	Extra over Item no. 024031 for additional surcharge of every one metre or part thereof	Each	17658.10
024040	<p>Launching of precast RCC Box of any thickness and height, having linear water- way upto 3.0 metre for single track, consisting of precast units of 1.0 to 4.0 metres length in stages as per approved drawing, depending upon requirement at site to correct alignment including shifting of precast RCC Box units from casting location to bridge site with all leads before launching, with contractor's 100 MT capacity road cranes (2 working + 1 spare) and one road trailer of 20 MT carrying capacity including dismantling, laying and packing of track after launching of Box and till allowing the first train to move at non-stop 20 kmph speed. Work shall be carried out with all contractor's men, materials, crane, tools, lead &amp; lift etc. including bringing these to site of work, making approach road to bridge &amp; crossing of tracks wherever necessary, complete and as directed by Engineer in-charge</p> <p>{Conditions : (1) Contractor shall keep cranes, trailer etc. in good working condition and shall be in readiness before grant of block;</p> <p>(2) Work shall be carried out under offered traffic block and if due to any reason, traffic block is not granted; no extra payment will be made. Contractor shall keep his labour, machinery, equipments etc. at the site till completion of work and as per instructions of Engineer in-charge.}</p>	Each	414750.64

Item No.	Description	Unit	Rate (Rs)
	<b>MISCELLANEOUS</b>		
025010	Deduct if 40mm graded stone aggregate is used in place of 20mm graded stone aggregate in any grade of concrete. (deduction to be made for quantity of concrete)	Cum	133.79
025020	Providing and applying two coats of coal tar or bitumen conforming 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	163.63
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. upto 5m above ground level	sqm	602.78
025032	All types of bridge super-structures, e.g. slabs, I-girders, T-girders, Box girders etc. upto 5m above ground level	Sqm	783.89
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	97.26
025040	Providing and laying in position machine batched, machine mixed and machine vibrated Design Mix Cement Concrete of specified grade (Cast in-Situ) using 20mm graded crushed stone aggregate and coarse sand of approved quality in jacketing of piers and abutments from bottom of foundation upto a height of 10m including finishing for designed thickness of jacketing. Payment for reinforcement, cement, wire mesh, shuttering, drilling of holes and insertion of rods will be made extra.	Cum	4263.87
025041	Extra for drilling 32mm dia. holes for jacketing / anchoring	metre	146.80
025042	Extra for inserting of dowel bars of specified dia. (cost of rods to be paid extra)	metre	12.90
025050	Supplying, spreading and compacting well graded hard stone of 63mm average size (maximum upto 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	1332.13
025060	Supply and using Cement at Worksite		
025061	Ordinary Portland Cement 43 grade	MT	6609.41
025062	Ordinary Portland Cement 53 grade	MT	6689.69
025063	Pozzolana Portland Cement	MT	6288.31
025064	Sulphate Resisting Cement	MT	8696.59
025070	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete		
025071	Mild steel and Medium Tensile steel bars	kg	65.93
025072	Thermo-Mechanically Treated bars of grade Fe-500D or more.	kg	70.35

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<b>CHAPTER - 3 : Bridge Works Super Structure- RCC</b>			
<b>Item No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate (Rs)</b>
031010	Providing and laying in position machine batched, machine mixed and machine vibrated Design Mix Cement Concrete of specified grade using 20mm graded crushed stone aggregate and coarse sand of approved quality for cast in-situ Prestressed (Post tensioned) concrete girder / Box girders for different spans including finishing, using Admixtures in approved proportions (as per IS:9103), to modify workability & other properties without impairing strength and durability complete as per drawings, specifications and direction of the Engineer in-charge. Payment for Shuttering, Cement, reinforcement, HTS cables, sheathing, anchorage cones, stressing of cables and grouting of the ducts will be done extra under relevant items.		
031011	With Soffit level upto 9m above Bed level	Cum	2550.96
031012	With Soffit level From 9m above Bed Level to 12m above Bed Level	Cum	2786.90
031013	With Soffit level From 12m above Bed Level to 15m above Bed Level	Cum	2865.55
031014	Extra over USSOR Item no. 031013 for Soffit level beyond 15m above Bed Level for every 1m or part thereof	Cum	120.18
031015	Deduct for casting of Slab in place of Girders (for any heights)	Cum	39.32
031020	Providing and laying in position machine batched, machine mixed and machine vibrated Design Mix Cement Concrete of specified grade using 20mm graded crushed stone aggregate and coarse sand of approved quality for the Precast Prestressed (Post tensioned) concrete girder/Box (spans upto 30.5m) in contractor's casting yard, including finishing, using Admixtures in approved proportions (as per IS:9103), to modify workability & other properties without impairing strength and durability, complete as per drawings, specifications and direction of the Engineer. Payment for Shuttering, Cement, reinforcement, HTS cables, anchorage cones, stressing of cables and grouting of the ducts will be done extra. Launching of girder/slab in position is not included in this item.	Cum	2472.32
031021	Deduct from 0310220 for casting of Slab in place of Girder/Box	Cum	39.32
031030	Providing and laying in position machine batched, machine mixed and machine vibrated Design Mix Cement Concrete of specified grade using 20mm graded crushed stone aggregate and coarse sand of approved quality for the Precast Prestressed (Pre tensioned) concrete girder (spans upto 9.1m) in contractor's casting yard, including finishing, using Admixtures in approved proportions (as per IS:9103), to modify workability & other properties without impairing strength and durability, complete as per specifications and direction of the Engineer. Payment for Shuttering, Cement, reinforcement, HTS cables, anchorage cones, stressing of cables will be done extra. Launching of girder/slab in position is not included in this item and shall be paid extra under relevant item.	Cum	2472.32
031031	Deduct from 031030 for casting of Slab in place of Girder	Cum	39.32

Item No.	Description	Unit	Rate (Rs)
031040	Providing, fabricating & fixing in position to exact design profiles, prestressing H.T.S. cables of all classification made from Low Relaxation strands conforming to IS:14268– 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	173298.99
031050	Providing, fabricating & fixing in position to exact design profiles, prestressing H.T.S. cables of all classification made from Low Relaxation strands conforming to IS:14268– 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	114073.84
031060	Extra for using HDPE sheathing in place of CRCA sheathing	Metre	147.17
031070	Making suitable designed staging for cast in-situ PSC girders/slabs upto 10.5m height from bed level upto 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. The payment for staging shall be made on the cubical quantity of main Girders/slabs.	Cum	1962.01
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	2472.32
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 given in the drawing and no deduction shall be made for inserted steel plates etc.)	Cu Cm	1.47

Item No.	Description	Unit	Rate (Rs)
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 MOST/IRC specifications. The rates are inclusive of supplying, fixing with contractor's own materials, e.g. inserts, bolts, socket tubes, Neoprene sheet/cap etc., equipments, machineries, labour, all taxes, royalty, all lead & lifts, transport, testing, surface preparations, complete		
031101	For 40mm expansion	Metre	6144.97
031102	For 80mm expansion	Metre	8445.15
031103	For 120mm expansion	Metre	10054.69
031104	For 160mm expansion	Metre	12392.47
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, recoding and analyzing the load testing results including all lead & lift, etc. complete as required. The rates are all inclusive and will be paid after load test is finished and girder is cleared of the kentledges/loading material etc. The load shall be 1.25 times the stipulated design load.		
031111	For Span design load upto 100 MT	Each	76146.71
031112	Extra for every increase 1 MT or part thereof in the span design load capacity upto 800 MT	MT	750.93
031120	Design and casting of precast single/twin RCC box with or without common web section including thrust bed for RUB/ROB/Canal works with weigh batching/using RMC of Specified grade controlled concrete and pushing in correct position and alignment below Railway track/Road by jacking by "Box pushing technique" as per approved drawing for vent way of any size with or without surcharge in all types of soils including shoring/strutting whenever required and disposal of surplus earth away from vent way upto a maximum lead of 1 Km including de-watering if required, under traffic conditions of Electrified/Non-Electrified sections, fixing of drag sheets, wearing coat as per approved drawing of M 20 Grade or above concrete, including footpaths/cable ducts with kerbs/crash barriers if required, parapet walls on both sides, including cast in-situ plaques for inscribing particulars of bridge foundation of size 450X450X50mm on bridge abutments/returns, casting of bridge number plaques in situ of overall size 750X720X400mm, drainage arrangements in box portion as per approved drawing/scheme, provision of cutting edges, providing and fixing electrical conduit pipes, junction boxes of approved dimension and quality, all fittings wherever required, mobilization operations, generator of required capacity for power supply, lighting, arrangements, other safety measures like protection of track/road traffic etc., during execution of work if required, with all contractors material, cement, Ready Mixed Concrete (if required), reinforcement steel, structural steel, shuttering, labour, tools and plants, machinery, 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. 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 and (ii) Thrust Bed only which shall be paid extra under relevant item of USSOR. (2) If soft rock or hard rock is encountered in place of soil, difference between the respective rates of excavation for quantity of soft rock or hard rock and soil shall be paid extra under relevant items	Sqm per RM	9796.21

Item No.	Description	Unit	Rate (Rs)
031130	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	483.92
031140	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		
031141	50mm dia. Drainage Spouts	Metre	531.10
031142	100mm dia. Drainage Spouts	Metre	1142.42
031150	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	309.87
031160	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	524.77

<b>CHAPTER - 4 : Bridge Works : Super Structure- Steel</b>			
<b>Item No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate (Rs)</b>
041010	<p>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.</p> <p>Note:</p> <ol style="list-style-type: none"> <li>Detailed fabrication and erection drawings &amp; launching methodology will be prepared by the contractor and got approved from Railway.</li> <li>The item includes fabrication of all types of battens, bracings, ties, stiffeners, packing, diaphragms, shop rivets / welding, T&amp;F bolts, drifts, SAW, templates, jigs, fixtures, accessories, transporting various components from fabrication shop to site including loading &amp; unloading, assembly of girders with drifts/bolts, field riveting /welding /HSFG Bolting, assembling of temporary support for side slewing, raising of girders to the bed block level, providing sliding arrangements and slewing the girder in position, lowering of girder on bearings and bed plates with all temporary arrangements or any other method of launching complete.</li> <li>The bearing sets to be provided with the girders will be paid separately as per relevant item.</li> <li>Payment for addition in weight for rivets / welds shall be made as per clause 45 of IRS B-1-2001.</li> <li>In case of composite work ( welding and HSFG bolts ), addition in weight shall be 1% for welding and HSFG bolts shall be paid separately under relevant item.</li> <li>Painting of girders will be paid separately under relevant item.</li> <li>Payment Schedule:               <ol style="list-style-type: none"> <li>Receipt of material at site: 40%</li> <li>Fabrication of girders: 20%</li> <li>Erection/Launching: 20%</li> <li>Completion in all respects: 20%</li> </ol> </li> </ol>		
041011	Plate Girder/Semi Through Girder	MT	95711.07
041012	Open web Girder Upto 45.7m clear span	MT	139750.47
041013	Open Web Girder above 45.7m clear Span	MT	148265.06
041014	Extra over above items for launching girders under traffic block	MT	10%
041015	Extra for using steel conforming to Grade Designation E350 instead of Grade Designation E250 of Quality "B0" as per IS: 2062	MT	2675.88
041016	Deduct for using steel conforming to Quality "BR" instead of Quality "B0" of Grade designation E250 as per IS:2062.	MT	2675.88
041017	Extra for using steel conforming to Quality "C" Grade Designation E250 instead of Quality "B0" Grade Designation E250 of as per IS: 2062	MT	1337.94

Item No.	Description	Unit	Rate (Rs)
041020	<p>Supplying, fabrication, assembling of all types of steel Composite 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 on sub-structure including provision of stud bolts / shear connectors, complete as per approved QAP and drawings conforming to IRS-B1-2001 and other relevant codes and specifications.</p> <p>Note:</p> <ol style="list-style-type: none"> <li>Detailed fabrication and erection drawings &amp; launching methodology will be prepared by the contractor and got approved from Railway.</li> <li>Rate includes fabrication of all types of battens, bracings, ties, stiffeners, packing, diaphragms, shop rivets / welding, T&amp;F bolts, drifts, SAW, templates, jigs, fixtures, accessories, transporting various components from fabrication shop to site including loading &amp; unloading, assembly of girders with drifts/bolts, field riveting /welding /HSFG Bolting, assembling of temporary support for side slewing, raising of girders to the bed block level, providing sliding arrangements and slewing the girder in position, lowering of girder on bearings and bed plates with all temporary arrangements or any other method of launching complete.</li> <li>The bearing sets to be provided with the girders will be paid separately as per relevant item.</li> <li>Payment for addition in weight for rivets / welds shall be made as per clause 45 of IRS B-1-2001.</li> <li>In case of composite work ( welding and HSFG bolts ), addition in weight shall be 1% for welding and HSFG bolts shall be paid separately under relevant item.</li> <li>Painting of girders will be paid separately under relevant item.</li> <li>Payment Schedule: <ol style="list-style-type: none"> <li>Receipt of material at site: 40%</li> <li>Fabrication of girders: 20%</li> <li>Erection/Launching: 20%</li> <li>Completion in all respects: 20%</li> </ol> </li> </ol>		
041021	Composite steel girder of span length up to 36.0m	MT	107552.11
041022	Composite steel girder of span length above 36.0m	MT	114672.66
041030	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	310.95
041040	<p>Assembling and erection of fabricated Steel girders on bearings with crane/derrick / any other approved means at site on sub structure with labour, equipment, T&amp;P including site riveting/welding/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 field rivets / welding, drifts, service bolts etc. as per drawings.</p> <p>Note: Payment for HSFG bolts used if any will be made separately under relevant item.</p>		
041041	Plate Girder/Semi Through Girder	MT	18105.52
041042	Open web Girder Upto 45.7m clear span	MT	34558.00
041043	Open web Girder above 45.7m clear span	MT	43197.50
041044	Extra over above items for launching girders under traffic block	MT	10%

Item No.	Description	Unit	Rate (Rs)
041050	Metalizing 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 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.	Sqm	818.55
041051	Extra over item 041050 for working under running traffic	Sqm	20%
041060	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.	Kg	86.71
041061	Extra over item 041060 for working under running traffic	Kg	10%
041070	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	73.58
041080	Providing and fixing various size HTS holding down bolts conforming to IS:1364 in concrete column or in other structures with proper nuts, bolts, washers/plates, grouting of holes with all material, labour, T&P as a complete job. Note: Cement used in grouting will be paid separately under relevant item.	Kg	138.61
041090	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.	MT	72703.18
041091	Extra over item 041090 for working under running traffic/ traffic block	MT	10%
041100	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	633.23

Item No.	Description	Unit	Rate (Rs)
041101	Extra over item 041100 for working under running traffic/ traffic block	MT	10%
041110	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	689.30
041111	Extra over item 041110 for working under running traffic/ traffic block	MT	10%
041120	Supplying, fitting and fixing in position true to line and level sliding plate bearing of different load bearing capacity with PTFE Surface sliding on stainless steel as per BS:3784, BS 5400, complete 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	1776.52
041130	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.		
041131	POT-cum -PTFE Bearing (Free end)	Each	86500.96
041132	POT Bearing-Fixed Type	Each	121527.03
041133	POT-cum -PTFE Guided (L)Bearing	Each	146775.31
041134	POT-cum -PTFE Guided (T)Bearing	Each	140658.10
041140	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.		
041141	POT-cum -PTFE Bearing (Free end)	Each	71585.46
041142	POT Bearing-Fixed Type	Each	91997.03
041143	POT-cum -PTFE Guided (L)Bearing	Each	113355.07
041144	POT-cum -PTFE Guided (T)Bearing	Each	106820.30



Item No.	Description	Unit	Rate (Rs)
041150	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.		
041151	POT-cum -PTFE Bearing (Free end)	Each	56356.78
041152	POT Bearing-Fixed Type	Each	68006.62
041153	POT-cum -PTFE Guided (L)Bearing	Each	84868.96
041154	POT-cum -PTFE Guided (T)Bearing	Each	78835.26
041160	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.		
041161	POT-cum -PTFE Bearing (Free end)	Each	40279.07
041162	POT Bearing-Fixed Type	Each	46772.09
041163	POT-cum -PTFE Guided (L)Bearing	Each	58964.75
041164	POT-cum -PTFE Guided (T)Bearing	Each	54810.06
041170	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.		
041171	POT-cum -PTFE Bearing (Free end)	Each	27493.11
041172	POT Bearing-Fixed Type	Each	28933.68
041173	POT-cum -PTFE Guided (L)Bearing	Each	40402.58
041174	POT-cum -PTFE Guided (T)Bearing	Each	37236.10

Item No.	Description	Unit	Rate (Rs)
041180	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 baseplate 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 polytetrafluoroethalyne (PTFE) Or Ultra High Molecular weight Polythylene (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.Hard chromium plated surface shall be entire curved surface of the convex steel plate mating with hard chromium plated concave sliding surface .The thickness of the hard chromium plating shall be at least 100 microns and the final surface roughness of the plated surface shall not exceed 3 microns.Bearing manufacturer shall give the guarantee for satisfactory performance of bearing for period specified.		
041181	Spherical Fixed Bearing	Each	96668.47
041182	Spherical Free Float Bearing	Each	83689.41
041183	Spherical Slide Guide (L) Bearing	Each	116453.72
041184	Spherical Slide Guide (T) Bearing	Each	111108.99
041190	Extra over items 041130 to 041180 for working under running traffic/traffic block	Each	10%
041200	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	162.33
041210	Providing road crane of specified lifting capacity with specified jib length revolving type for material handling, assembly & erection of girders/slab/RCC Box etc.		
041211	12 MT capacity	Day	8268.45
041212	20 MT capacity	Day	9646.53
041213	50 MT capacity	Day	11713.64
041214	80 MT capacity	Day	20671.14
041215	100 MT capacity	Day	44098.43
041216	150 MT capacity	Day	137807.58
041217	Extra for increase in road crane capacity over Item 041216 for every additional 1 MT capacity or part there of	MT	1337.94

Item No.	Description	Unit	Rate (Rs)
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. Rate includes cost of labour, consumables, brushes, tools & plants, ladders, scaffoldings, jhoola, hanging scaffolding staging etc.	Sqm	45.23
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.	Sqm	67.84
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	22.27
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 {Rate includes cost of labour, consumables, tools & plants, scaffolding, jhoola, ladder etc.}	Sqm	33.40
041260	Painting cleaned bridge plate/composite girders including all scaffolding, shuttering and strutting 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	86.37
041262	With two cover coats of ready-mixed paint conforming to IS:13607 with colour/shades, as decided by Engineer-incharge Note: DFT of each coat shall be 20-25 microns	Sqm	115.46
041263	With two coats Aluminium paints in dual containers conforming to IS:2339 with DFT of 12 - 14 Microns for each coat.	Sqm	99.71
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	196.74
041265	With one coat Aluminium paint in dual containers conforming to IS:2339 with DFT of 12 - 14 Microns .	Sqm	55.43
041270	Painting cleaned bridge triangulated girders including all scaffolding, shuttering and strutting 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	91.88
041272	With two cover coats of ready-mixed paint conforming to IS:13607 with colour/shades, as decided by Engineer-incharge Note: DFT of each coat shall be 20-25 microns	Sqm	120.97

Item No.	Description	Unit	Rate (Rs)
041273	With two coats Aluminium paint in dual containers conforming to IS:2339 with DFT of 12-14 Microns for each coat.	Sqm	105.22
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	202.25
041280	Extra for working under traffic conditions over items 041220 to 041274	Sqm	10%
041290	Supplying and applying Zinc Film Galvanization on Steel Girder Bridges for corrosion protection with Zinc Rich High Performance Coating System loaded with fine, lamellar and spherical zinc particles having diameter, length and breadth in the range of 5 to 15 microns, blended in neutral resins for long life protection against corrosion of steel, as per RDSO specification no. M&C/PCN/125-2009 alongwith inspection and all the mentioned tests on the product with coating of Zinc Rich Paint and Zinc Solvent of required DFT (Dry Film Thickness) including surface preparation (mechanical cleaning) by sand / grit blasting to Sa 2.5 of ISO specification no. 8501-88 and application by spray / brush painting on the prepared surface with all labour, material including scaffolding, shuttering and strutting alongwith provision of Jhoola/hanging scaffolding wherever required and T&P etc. as a complete job for -		
041291	Film Thickness Coating of 80 micron for Rural & Arid environment	Sqm	2252.28
041292	Extra over Item no. 041291 for Film Thickness Coating of 120 micron for Medium Industrial & Marine environment	Sqm	804.94
041293	Extra over Item no. 041291 for Film Thickness Coating of 200 micron for Severe Industrial & Marine environment	Sqm	2424.56
041294	Extra for working under traffic conditions over item numbers 041291 to 041293	Sqm	10%
041300	Supply, fabrication and erection of bed plate of approved sizes in exact position over bed block on 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 HD bolts of suitable sizes alongwith nuts, washers etc., drilling holes of required size, grouting of holes by epoxy mortar after fixing HD bolts. Total work to be done during traffic block.		
041301	Upto 12.2m clear span	Kg	241.02
041302	More than 12.2m and upto 18.3m clear span	Kg	253.07
041303	More than 18.3m and upto 30.5m clear span	Kg	265.12
041310	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	7176.03
041311	Extra over item no 041310, if the work is to be executed under traffic or power block	MT	1109.32
041320	Cleaning and greasing of free end and fixed end of steel girder Bridge bearing 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		
041321	Girder of clear span upto 12.2m	Each	8359.47
041322	Girder of clear span above 12.20m & upto 24.40m	Each	10358.55
041323	Girder of clear span above 24.40m & upto 30.5m	Each	15049.43
041324	Girder of clear span above 30.5m	Each	23178.10

Item No.	Description	Unit	Rate (Rs)
041330	Launching & fixing in specified Bridge location all types of Steel Plate girders / PSC girders / Slabs including loading/unloading and transport to the site of launching with a lead of five kilometres & lifting to any height as per site requirement, provision of approaches for leading, cleaning of bed block and minor repairs to bed block with epoxy if required, as directed by Engineer in charge with all labour, tools and plant, equipment etc., complete		
041331	PSC girders / slabs	MT	5343.39
041332	Structural steel plate girders	MT	3086.06
041333	Extra over item no. 041330 if the work is to be executed under traffic/power block.	MT	10%
041340	DeLaunching & shifting from Bridges all types of Steel girders, PSC girders/Slabs including loading/unloading and transport to the desired location with a lead of five kilometres, provision of approaches for leading, as directed by Engineer in charge with all labour, tools and plant, equipment etc., complete		
041341	PSC girders / slabs	MT	3702.01
041342	Structural steel plate girders	MT	2263.32
041343	Extra over item no. 041340 if the work is to be executed under traffic/power block.	MT	10%
041350	Delaunching of existing and Launching & fixing of new girder in exact location of all type of steel/PSC girders/Slabs, during block, complete job including lead within five kilometres& lifting to any high as per site requirement, provision of approaches, cleaning/repairs to bed blocks etc. Note: Payment under this item shall be made for the total weight of girder removed and newly launched girder.		
041351	Delaunching of existing PSC girders / slabs and Launching New PSC girders / slabs	MT	3618.16
041352	Delaunching of existing PSC girders / slabs and Launching New Structural steel plate girders	MT	2715.23
041353	Delaunching of existing Structural steel plate girders / slabs and Launching New Structural steel plate girders	MT	2139.75
041354	Delaunching of existing Structural steel plate girders / slabs and Launching New PSC girders / slabs	MT	3042.68
041355	Extra over item no. 041350 if the work is to be executed under traffic/power block.	MT	10%
041360	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.		
041361	For Span 12.2M to 18.3M	Each	24030.70
041362	For Span above 18.3 M to 24.4 M	Each	26433.77

Item No.	Description	Unit	Rate (Rs)
041370	<p>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 struck 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 during passage of several trains and after ensuring the pool proof leakage, the Railways supplied oil servo mesh SP 460 BP or equivalent lubricant to be filled up in the oil bath tank and all bolts to be tightened firmly and undulations or uneven surfaces of the pier cap to be made level with cement concrete as directed by the Engineer in charge at site .</p> <p>NOTE: 1)Oil removed from the bearings should be filled in tins and handed over to SSE/BR concerned, 2)After opening, removal of all existing plates and oil, bearings should be inspected by Engineer in charge for its confirmation of cut blocks and cleaning in all respects 3)Empty tins are to be handed over to SSE/BR/ concerned</p>	Each	17485.51
'041380	<p>Fabricating ,supplying and fixing of helical compression spring 630mm long and 100mm mean dia of helix with 28 numbers of spring coils ,conforming to IS 7906(PART-1) -1997 made of 20mm dia spring rod of spring steel conforming to grade 2 of IS .4454 (part-1)-2001 and suitable rubber washers on either side to suit the horizontal beam of height gauges for heavy traffic ,shown in the SCR drawign No. GM(W)/SC/BR/2729/2010(ALT-2) at any location specified by railway with all contractors materials ,consumables ,tools ,men ,machinery ,cranes,including all lead and lift ,transportation etc and as directed by the Engineer in charge at site.This includes arrangements for protection of road traffic and including night working if required -Note one height gauge consists of Two Springs</p>	Each	15732.14
'041390	<p>Supplying fabricating and erecting welded and/or bolted and/or riveted steel work in built up sections, trusses and framed work, staging, racks 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 &amp; plants, lead &amp; lift including crossing of tracks if required etc., complete as per specification and as directed by Engineer-in-charge.</p>	MT	76366.68

<b>CHAPTER - 5 : Bridge Works- Misc.</b>			
<b>Item No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate (Rs)</b>
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	1623.11
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	801.59
051030	Supplying of stone boulders weighing not less than 35 kg each at specified bridge locations	Cum	1003.45
051040	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	382.51
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	2373.89
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	2114.26
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	3648.34
051080	Providing and laying Filter Material as per RDSO Specifications underneath pitching in slopes complete as per drawing and Technical Specification	Cum	2769.26
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, with maximum lead upto 150m	Cum	500.58
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 with maximum lead upto 150m (filter media to be paid under relevant item)	Cum	390.17
051110	Insertion and removal of Railway's Steel Cribs (CC Cribs) of nominal size 0.6m x 0.6m x 1.8m with hard wood packing for temporary arrangements / scaffolding, steel crib clamps including handling from and to stacks at nominated locations at site with all labour, tools, plant, machinery lead upto 250m and all lift etc., complete and as directed by Engineer in-charge	Each	272.83
051120	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	35.92

Item No.	Description	Unit	Rate (Rs)
051130	Cleaning Surface of Abutment and Piers upto bed level under water with brush or any other tools to remove all traces of moss, loose materials, fungus, algae, vegetational growth etc. Cleaning shall be carried out with contractor's trained staff, tools & plants, safety equipments etc. complete job including arranging safe approach	Sqm	112.17
051140	Inspecting Sub-structure and Foundation in and around piers & abutments, using trained and qualified staff, under-water cameras, monitoring sensors & safety equipments, recording observed defects, e.g. cracks, cavities, bulging, leaning spalling and other defects noticed in the structure on DVD/Pen drives & photographs and submitting detailed inspection report to Engineer in-charge. Payment shall be made on hourly basis of videography & photography. The work shall be executed as per BS-96.	Hour	1109.82
<b>Flooring in Bridges</b>			
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. (Base concrete to be paid extra)	Cum	2441.98
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	1860.51
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	1019.66
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	1342.10
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	1143.96
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	64.72
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 admixutre. (Cement wil be paid extra)		
052071	Neat Cement Grout with 20% anti shrinkage compound w.r.t. cement.	Kg	296.59
052072	Cement Sand Mortar (1:1) Grout with 20% anti-shrinkage compound w.r.t. cement	Kg	411.08
052073	Epoxy Grout	Kg	1187.93
052080	Patching of damaged concrete surface with Pre-packed polymer concrete with average thickness of 25mm.Curing compounds, initiator and promoter, available in the formulations, to be applied as per instructions of manufacturer and as approved by the Engineer in charge.	Sqm	548.67



Item No.	Description	Unit	Rate (Rs)
052090	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	1260.44
052100	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	1237.62
052110	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	461.15
052120	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	761.22
052130	Providing & fixing 12 mm rabbit wire mesh at the junction of RCC where specifically ordered or as shown in the drawing	Sqm	130.25
052140	Providing / fixing / grouting various size HTS holding down bolt in concrete column or in other structural steel member using epoxy concrete including drilling holes of required size, bolts threaded at both ends shall be fixed with proper size nuts bolts, plates, washers complete including all labour and material	Kg	195.69
052150	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	505.21
052160	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	335.83
052170	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	2535.92
052180	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 (upto 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. Cost of cement & inforcement to be paid separately.		
052181	20mm thick polymer mortar	Sqm	1698.89
052182	20mm-50mm thick polymer concrete	Sqm	1259.08

Item No.	Description	Unit	Rate (Rs)
052190	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.	MT	201552.70
052200	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.		
052201	For Rivets of size upto 25mm dia.	Each	270.88
052202	For Rivets of size more than 25mm dia.	Each	441.23
052210	Dismantling of existing bed plate from existing bed block by cutting & removal of Holding down bolts and nuts with all tools, plants, machinery scaffolding, labour and other materials and shifting it at one end of the bridge during traffic block.	Each	9805.97
052220	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	248.72
052230	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	735.87
052240	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	971.74
052250	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).		
052251	300mm dia.	Metre	1840.98
052252	450mm dia.	Metre	2160.69
052253	600mm dia.	Metre	2567.45
052254	900mm dia.	Metre	3463.55
052255	1000mm dia.	Metre	4143.08
052256	1200mm dia.	Metre	6372.68
052257	1800mm dia.	Metre	9557.42

Item No.	Description	Unit	Rate (Rs)
052260	Supplying, spreading and filling coarse sand (no cohesive materials to be used) of approved quality including watering and ramming in foundation, plinth, 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	1465.95
052270	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	454.35
052280	Dewatering of natural or accumulated water from any location. Payment to be done for Horse power of pump multiplied by pumping hours.	HP Hour	40.58
052290	Supplying & fixing Galvanised Steel Wire Ropenet, made of 9mm dia. steel wire rope having aperture size of 45cm x 60cm with 6m long hangs for top anchoring and 5m wide alongwith chain-link mesh-netting of 80mm x 80mm mesh size made from 2.4mm dia galvanised wire, joining of chain-link mesh & steel wire ropenet and joining of adjacent nets with galvanised spiral lock springs of steel wire dia 2.2mm; inner dia. of springs 18mm; total length 50mm $\pm$ 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 ropenet 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/fastners of 10mm dia. including drilling of holes upto a depth of 110mm in rock; cleaning of holes; fixing of fastners with nut & epoxy coated washer plates; applying torque 65 to 70 N/mm for fixing of ropenet for intermediate anchoring on the surface of cutting, bottom anchoring upto 1m depth by using 16mm dia. HYSD steel bolts, threaded upto 200mm on top and fixing epoxy coated washer plate, fabrication & fixing of U-pin on top of cutting for top anchoring and joining of adjacent nets with spiral spring and fixing at the ratio of 1 no. per 0.6m in longitudinal direction of net portion and additional locks for lacing chain link netting with ropenet with contractor's materials, machinery, tools & plants, cement, steel, labour, lead, lift, transportation, ascent, descent, taxes, royalty etc. complete as per directions of engineer-in-charge. Note: Concrete will be paid separately under relevant item.	Sqm	1212.31
052300	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	3159.30

Item No.	Description	Unit	Rate (Rs)
052310	Supplying & placing partly or fully underwater of Polypropylene Tared 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	3029.41
<b>SURFACE PROTECTION OF BRIDGES</b>			
053010	Surface protection of Piers, Substructure, Box bridges and culverts in river bed by cleaning & preparing the surfaces by acid etching; treating surface with a two-layer plaster; first layer of 7mm (5mm in case of sidewalk) thick with cement (OPC or slag) admixed with an octadecanoic acid based cementitious waterproofing compound (Max. bulk density 0.5 gm/cc), in the weight ratio of 50:3 for cement and waterproofing compound and second layer of 12mm thick cement-sand (1:2.5) plaster, enriched with polyester fibre (to be paid separately) and curing the plastered surface. Treatment shall be impermeable under a water head of 20m. Rate is excluding cost of cement which shall be paid extra. (Note : In lieu of etching with acid the surface can be roughened or bond improved by other appropriate means) complete as per specification.		
053011	Piers, substructure, Box bridges and culverts in river bed	Sqm	770.20
053012	Side walks	Sqm	703.73
053020	Surface protection of Underside of Bridge Decks, Girders, Inside of Box Girders, Railings etc. of Bridges and Piers and Substructures which are not in River Bed by cleaning and drying the surface; repairing local defects, e.g. honeycombs with a paste of cement admixed with 5% by weight of cement of Polymer bonding agent, applying (@ 0.30 litre/sqm) a coat (DFT of 100-150 micron) of a translucent brown coloured modified phenolic resin based single component high performance polymeric waterproofing compound (sp. gr. 0.87, resin content nil and a solid content of minimum 0.47%), applying (@ 0.25 litre/sqm) a top coat of a modified phenolic resin based single component waterproofing compound of grey or other shades (sp. gr. 0.85) before the base coat becomes tack-free; permitting the coatings to cure and dry naturally; the 2-coat system shall be impermeable under a water head of 20m, complete as per specification.	Sqm	440.25
053030	Surface protection of Bridge Deck by cleaning and preparing the surface by acid etching; treating the surface with a two-layer plaster; first layer of 5mm thick with cement (OPC or slag), admixed with an octadecanoic acid based cementitious waterproofing compound (bulk density not greater than 0.5 gm/cc) in the weight ratio of 50:3 for cement and waterproofing compound, further enriched with specially fabricated deformed galvanized steel fibre @ 150 gm/sqm of treated surface and second layer of 12mm thick cement-sand (1:2.5) plaster, enriched with polyester fibre (to be paid separately) and curing the plastered surface. Treatment shall be impermeable under a water head of 20m complete as per specifications. Rate is excluding cost of cement which shall be paid extra.	Sqm	713.90

Item No.	Description	Unit	Rate (Rs)
053040	Shotcreting in two layers (each layer of 38mm thickness) with cement concrete mortar 1:1:2 (1 cement : 1 coarse sand : 2 coarse aggregate) mixing epoxy & fixing welded wire mesh 50mm x 50mm x 3mm in between two layers including cost and conveyance of all materials, labour charges, leads, lifts, centering, scaffolding, machine mixing, laying concrete with shotcrete machine etc. complete as per specification and as directed by Engineer in-charge. Rate is excluding cost of cement which shall be paid extra.	Sqm	1839.10
053050	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.		
053051	Open / Pile / Well Fondation for piers/abutments	Set	24417.36
053052	RCC Bed Block	Set	7592.80
053053	Foundation and sub-structure for RCC retaining wall, abutment and approach slab	Set	23748.39
053060	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	535.18

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<b>CHAPTER - 6 : Rails, Sleepers, Fittings and Renewals</b>			
<b>Item No.</b>	<b>Description of Item</b>	<b>Unit</b>	<b>Rate (Rs)</b>
	<b>1. Rails :</b>		
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	Upto 40 m long rail panel	Running Metre	8.57
061012	More than 40 m long rail panel	Running Metre	12.88
061013	Extra to Item no. 061011 for working on bridge	Running Metre	5.04
061014	Extra to Item no. 061012 for working on bridge	Running Metre	6.53
061020	Removing rail of all types & length from track, laid on any type & density of sleeper by removing fish plates, fastenings & fish bolts and other materials alongwith keeping released rail and all materials safely on cess, as directed by Engineer in-charge. (cutting & drilling of rail shall be paid separately and work to be done under traffic block & Railway's supervision)		
061021	BG Track – For Through Renewal work	Running Metre	28.40
061022	MG Track – For Through Renewal work	Running Metre	22.38
061023	BG Track – For Casual/Scattered Renewal work	Running Metre	42.84
061024	MG Track – For Casual/Scattered Renewal work	Running Metre	37.49
061030	Insertion of rails of all types & length in track, laid on any type & density of sleeper to the specified gauge. 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. (drilling and cutting of rail to be paid separately)		
061031	BG Track – For Through Renewal work	Track Metre	59.35
061032	MG Track – For Through Renewal work	Track Metre	46.76
061033	BG Track – For Casual/Scattered Renewal work	Running Metre	54.40
061034	MG Track – For Casual/Scattered Renewal work	Running Metre	40.80
	<b>2. Sleepers :</b>		
061040	Removing from track existing Wooden / Metal sleepers with fittings in running track conditions for TSR (Through Sleeper Renewal) / ISD (Increasing Sleeper Density) works & stacking the same neatly at specified places with contractor's tools & labour, as directed by Engineer in-charge. (For ISD work only identified unserviceable sleepers to be covered)		
061041	For location of work not involving deep screening	Each	110.87
061042	For location of work involving deep screening (deep screening to be paid separately)	Each	93.52
061050	Inserting in track Metal / Wooden sleeper lying along the cess / formation / slope / toe with all fittings complete for TSR / ISD work to specified gauge with contractor's tools including one packing to make track fit for 20 kmph speed and dressing of ballast, as directed by Engineer in-charge		
061051	For location of work not involving deep screening	Each	189.14
061052	For location of work involving deep screening (deep screening to be paid separately)	Each	157.62
061053	Extra to item no. 061051 and 061052 for sleepers lying on slope / toe of bank beyond initial height of 5 metres	Each	24.08

Item No.	Description of Item	Unit	Rate (Rs)
061060	Removing from track the existing PSC sleepers with fittings in running track conditions for TSR / ISD works & stacking the same neatly at specified places with contractor's tools & labour, as directed by Engineer in-charge. (For ISD work only identified unserviceable sleepers to be covered)		
061061	For location of work not involving deep screening	Each	191.07
061062	For location of work involving deep screening (deep screening to be paid separately)	Each	122.92
061070	Inserting in track the PSC sleepers lying along the cess / formation / slope / toe with all fittings complete for TSR / ISD work to specified gauge with contractor's tools including one packing to make track fit for 20 kmph speed and dressing of ballast, as directed by Engineer in-charge		
061071	For location of work not involving deep screening	Each	244.79
061072	For location of work involving deep screening (deep screening to be paid separately)	Each	201.85
061073	Extra to item no. 061071 and 061072 for sleepers lying on slope / toe of bank beyond initial height of 5 metres	Each	60.21
061080	Re-spacing of existing PSC sleepers carefully for Increasing Sleeper Density (ISD) work in track including fixing all fastenings and initial packing, as directed (Scope also includes pre-marking of sleeper spacing as per required sleeper density). NOTE: "Insertion of new sleeper will be paid extra" under relevant item		
061081	For location of work not involving deep screening	Track metre	186.30
061082	For location of work involving deep screening (deep screening to be paid separately)	Track metre	119.07
061090	Replacement of sleepers in track with sleepers lying on cess 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.		
061091	BG Track (PSC to PSC sleepers)	Each	502.70
061092	BG Track (Wooden / Metal to PSC sleepers)	Each	431.46
061093	BG Track (Wooden / Metal to Wooden / Metal sleepers)	Each	315.24
061094	MG Track (PSC to PSC sleepers)	Each	355.83
061095	MG Track (Wooden / Metal to PSC sleepers)	Each	311.39
061096	MG Track (Wooden / Metal to Wooden / Metal sleepers)	Each	216.88
061100	Replacement of CST-9 plate in track for casual renewal at isolated locations with all fittings complete to specified gauge and cross level with contractor's tools including packing and dressing of ballast, as directed by Engineer-in - charge. Carting of new CST9 plates and fittings from nearest station/store/ level crossing to site and trucking back the released materials and stacking are included.	Each	107.58
	<b>3. Fittings / Lubrication Works :</b>		
061110	Fixing of fish plates and fish bolts (of 4 fish bolts) on a joint created in rail of 90R, 52Kg or 60Kg of all UTS, duly lubricating fish plates/bolts with contractor grease graphite in running track condition including transportation of fish plates and fish bolts from nearest station / store / level crossing. (rail cutting & drilling to be paid separately)	Each	156.06
061111	Extra to Item no. 061110 for using fish plates of 6 bolts	Each	53.34
061120	Through renewal of Metal / GFN liners in running track condition 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	Each	16.24
061121	Extra to item no. 061120 for lubrication of metal liner and rail foot at liner seat	Each	7.01



Item No.	Description of Item	Unit	Rate (Rs)
061130	Through Fitting Renewal (TFR) on PSC track, comprising of renewal of Grooved Rubber Pads, Liners and ERCs (excluding seized ERCs) without damaging PSC sleepers. Scope includes cleaning rail seat on sleeper, ERC and eye of Inserts with wire brushes and applying grease to eye of insert and central leg of ERC with contractor's grease of Railway's specification, cleaning rail flange at liner seats, putting-back liners in correct position & squaring of sleepers and sealing liner edges with grease. [Rate includes lead upto 500m)	Each	30.22
061140	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, refixing the liner and ERC after lubrication of ERCs, liners and Liner contact area with 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, transportation of GRSP etc .complete and as directed by Engineer in charge. NOTE: GRSP will be supplied at at SSE/stores/depot	Each	33.23
061150	Lubrication of Elastic Rail Clips on PSC sleepers with contractor's grease, conforming to Railway's specifications, labour etc. complete as per Para 1411 (5)(b) of IR P.Way Manual	Each	3.20
061151	Lubrication of Elastic Rail Clips on PSC sleepers with Railway's grease, conforming to Railway's specifications, labour etc. complete as per Para 1411 (5)(b) of IR P.Way Manual	Each	1.59
061160	Recoupmnt & replacement of missing / worn-out fittings of channel sleeper on Bridge with railway's fittings -		
061161	Involving Rubber Pad	Each	56.05
061162	Not involving Rubber Pad	Each	28.08
061170	Milling of Railways MS liners (T-3740) with a leg thickness of 5.5mm to 2.5mm to provide in curves for obtaining slack gauge including all contractors equipment, tools, labour machinery , consumables etc., including loading and unloading charges as per the specifications as directed by the Engineer-in-charge at site.	Each	12.82
<b>4. Drilling and Cutting Works :</b>			
061180	Cutting / cropping of rail of 90R / 52Kg or lighter section – 72 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.		
061181	On Cess	Each	234.25
061182	In-situ situation	Each	426.30
061190	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.		
061191	On Cess	Each	281.10
061192	In-situ situation	Each	426.30

Item No.	Description of Item	Unit	Rate (Rs)
061200	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.		
061201	On Cess	Each	351.38
061202	In-situ situation	Each	550.56
061203	Extra to item no. 061201 for cutting 110 UTS rail (30% of relevant item rate)	Each	105.41
061204	Extra to item no. 061202 for cutting 110 UTS rail (30% of relevant item rate)	Each	165.17
061210	Drilling of hole in rail of any section and any UTS, manually (in emergencies only) with contractor's labours, tools & plants, consumables etc. for -		
061211	Hole of dia. 25mm and above	Each	221.61
061212	Hole of dia. below 25mm	Each	136.17
061220	Gas cutting of rail of various sections with contractor's tools & plants, as directed by engineer in-charge :		
061221	Rail section of 90R and below	Each	121.24
061222	Rail section of 52Kg and above	Each	145.49
061230	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	108.03
061240	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	86.87
	<b>5. Laying of Switch Expansion Joints (SEJs) :</b>		
061250	Renewal with insertion of IRS Switch Expansion Joint (SEJ) with PSC / Wooden special size sleepers, as per approved drawing including fixing of special size bearing plate, rubber pad and other sleeper / rail fittings. Work includes providing temporary connection till the time welding of SEJ is done. Sleepers shall be given initial packing to make track fit for 20 kmph speed.(Rail cutting and Holes drilling shall be paid separately)	Set	7535.26
061260	Renewal with insertion of improved SEJ with PSC / Wooden special size sleepers as per approved drawing including fixing of special size bearing plate, rubber pad and other sleeper / rail fittings. Work includes providing temporary connection till the time welding of SEJ is done. Sleepers shall be given initial packing to make track fit for 20 kmph speed. (Rail cutting and Holes drilling shall be paid separately)	Set	10333.76
061270	Renewal of existing SEJ (in running line & yard) on PSC / Wooden sleepers with cutting of rails, as required and lubrication, gauging & aligning rails, providing temporary connection with adequate welding gap with adjoining rail and ensuring proper track geometry for 30 kmph speed, as directed by Engineer in-charge. (Rail cutting and Holes drilling shall be paid separately)	Set	5548.43

<b>CHAPTER - 7 : Turnouts And Renewal</b>			
<b>Item No.</b>	<b>Description of Item</b>	<b>Unit</b>	<b>Rate (Rs)</b>
	<b>1. Assembling Works :</b>		
071010	Assembling complete MG turnout etc. on staging or on formation / ballast bed to correct gauge and alignment as per standard drawing, duly leading all types of special size sleepers, switches, crossings, fittings, fastenings etc. with maximum lead of 250m & all lift and testing points with S&T staff for throw of switch etc. at station yard complete and as directed by Engineer in-Charge.		
071011	1 in 8½ Turnout	Set	26480.46
071012	1 in 12 Turnout	Set	31374.64
071013	1 in 16 Turnout	Set	35181.07
071014	Diamond Crossing	Set	40599.72
071015	Derailing Switch	Set	5387.87
071020	Assembling complete BG Turnout including symmetrical split on staging or on formation / ballast bed to correct gauge and alignment as per standard drawing on all types of rails over PSC sleepers at specified locations, duly leading special size sleepers, switches, crossings, fittings, fastenings etc. with maximum lead of 250m & all lift and testing points with S&T staff for throw of switch etc. at station yard after levelling surface complete and as directed by engineer in-charge. Note: (Rail cutting and Drilling shall be paid separately)		
071021	1 in 8½ Turnout	Set	40817.80
071022	1 in 12 Turnout	Set	45034.98
071023	1 in 16 Turnout	Set	49246.81
071024	1 in 20 Turnout	Set	58133.39
071025	Diamond crossing	Set	59484.71
071026	Derailing switch	Set	7836.30
	<b>2. Dismantling Works :</b>		
071030	Dismantling of existing BG turnouts and trap switches with all types of rails on other than PSC sleeper layout, removing fish plates & 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 & countable manner, as directed by Engineer in-charge :		
	<b>Under Traffic Block Conditions -</b>		
071031	1 in 8½ Turnout	Set	36709.40
071032	1 in 12 Turnout	Set	42215.14
071033	1 in 16 Turnout	Set	47513.38
071034	1 in 20 Turnout	Set	52811.61
071035	Diamond Crossing	Set	55460.73
071036	Derailing Switch	Set	7573.53
	<b>Under Conditions not requiring Traffic Block -</b>		
071037	1 in 8½ Turnout	Set	28560.96
071038	1 in 12 Turnout	Set	32362.04
071039	1 in 16 Turnout	Set	35974.47
071040	1 in 20 Turnout	Set	39586.90
071041	Diamond Crossing	Set	46018.37
071042	Derailing Switch	Set	5682.22
071043	Extra over Items 071031 to 071035 and 071037 to 071041 for PSC sleeper layout	Set	12737.84
071044	Extra over Items 071036 and 071042 for PSC sleeper layout	Set	3358.56

Item No.	Description of Item	Unit	Rate (Rs)
071050	Removing & stacking all types of rails, crossing & fastenings of existing turnout excluding switch portion during traffic block, laid on any type of sleeper with contractor's labour, tools, plants etc. for -		
071051	1 in 8½ Turnout	Set	13745.97
071052	1 in 12 Turnout	Set	17719.65
071053	1 in 16 Turnout	Set	21693.32
071054	1 in 20 Turnout	Set	24342.44
071060	Removing existing Wooden / ST sleepers of Turnouts excluding switch portion, collecting all released sleepers, fittings etc. at indicated place with contractor's labour, tools & equipments etc. complete. Work shall be carried out in stages under traffic including supporting and maintaining track as directed by Engineer in-charge for safe passage of trains at 20 kmph speed for -		
071061	1 in 8½ Turnout	Set	19310.45
071062	1 in 12 Turnout	Set	24127.03
071063	1 in 16 Turnout	Set	30280.87
071064	1 in 20 Turnout	Set	35563.72
071065	Diamond Crossing	Set	39447.75
071066	Extra over Items 071061 to 071065 for PSC sleeper layout	Set	10629.25
071070	Dismantling, removing & dressing the area of existing switch portion on Wooden / ST sleepers including removing rails, sleepers, fastenings etc. during traffic block with all contractor's tools, plants, equipments etc. complete and as directed for -		
071071	1 in 8½ Turnout	Set	19044.20
071072	1 in 12 Turnout	Set	21031.04
071073	1 in 16 Turnout	Set	23017.88
071074	1 in 20 Turnout	Set	26475.71
071075	Derailing Switch	Set	15147.06
071076	Extra over Items 071071 to 071075 for PSC sleeper layout	Set	20%
071080	Dismantling of existing BG / Mixed Gauge Scissor Cross-Over in yard on Wooden / Metal sleepers and leveling of ballast to correct profile, leading sleepers, fittings, rails etc. to nearby place including segregating & stacking the same in a neat & countable manner within the lead of 250m & all lift, clear of infringements, crossing of track, if any complete, as directed. {One set means four sets of 1 in 8½ points & crossings and two sets of each acute & obtuse crossings} :		
071081	Under Traffic Block Conditions	Set	103736.46
071082	Under Conditions not requiring Traffic Block	Set	91908.29
071090	Dismantling of existing MG points and crossings / snag dead ends / trap switches of any rail section on wooden / steel sleepers layout, removing fish plates & fastenings, leveling of ballast to correct profile including segregation & stacking of all released materials at specified location in a countable manner with contractor's vehicles, consumables, stores, labour etc. complete, as directed by engineer in-charge for -		
071091	1 in 8½ Turnout	Set	26152.67
071092	1 in 12 Turnout	Set	32173.39
071093	Snag Dead End	Set	17723.66
071094	Derailing Switches	Set	4985.82
071095	Diamond Crossing	Set	59396.40
071096	Extra to Item no. 071091 for working under Traffic Block (15% of relevant item rate)	Set	3922.90
071097	Extra to Item no. 071092 for working under Traffic Block (15% of relevant item rate)	Set	4826.01
071098	Extra to Item no. 071094 for working under Traffic Block (15% of relevant item rate)	Set	747.87
071099	Extra to Item no. 071095 for working under Traffic Block (25% of relevant item rate)	Set	14849.10

Item No.	Description of Item	Unit	Rate (Rs)
	<b>3. Insertion &amp; Linking Works :</b>		
071100	Insertion of concrete sleepers in Turnouts in lead and crossing portions (excluding switch portion) as per standard drawing under traffic; carrying out required ballasting with available ballast, stacking of released materials and boxing, packing & supporting track and maintaining track parameters, as directed by engineer in-charge for passing trains safely at 20 kmph speed for -		
071101	1 in 8½ Turnout	Set	26472.43
071102	1 in 12 Turnout	Set	32493.15
071103	1 in 16 Turnout	Set	37309.73
071104	1 in 20 Turnout	Set	42126.31
071110	Laying 52Kg / 60Kg rails during traffic block on existing PSC Turnout, excluding switch portion, i.e. laying lead & crossing portions including cutting, drilling etc. and fixing all components - lead rails, crossing, check rail etc. alongwith re-spacing of sleepers as per standard drawing and making turnout fit for safe passage of traffic at 20 kmph speed for -		
071111	1 in 8½ Turnout	Set	23136.35
071112	1 in 12 Turnout	Set	26170.33
071113	1 in 16 Turnout	Set	29011.87
071114	1 in 20 Turnout	Set	32045.85
071120	Assembling & insertion of all types of Switch Assembly on Broad Gauge with 52Kg / 60Kg rails & PSC sleepers on temporary staging, built with railway's sleepers, rails etc. at indicated location including 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 & inserting Switch portion during traffic block by removing all ballast, muck etc. upto required level, attending track parameters including lifting, spreading of deficient ballast from adjoining track, if required, packing etc. complete as directed by engineer in-charge, so as to make track fit for 20 kmph speed for -		
071121	1 in 8½ Turnouts	Set	31448.69
071122	1 in 12 Turnouts	Set	35721.13
071123	1 in 16 Turnouts	Set	38370.25
071124	1 in 20 Turnouts	Set	41680.17
071125	Derailing Switch	Set	12330.35
071130	Insertion and linking with track, the already assembled BG PSC turnout by slewing with the help of manual labour or by cranes including crossing of one track in traffic block without any damage to track components including preparing ballast bed and providing one round of kutcha packing of ballast under bottom of sleepers to make track fit for 20 kmph speed to required alignment and longitudinal level, as directed by engineer in-charge for -		
071131	1 in 8½ Turnout	Set	37735.19
071132	1 in 12 Turnout	Set	43033.43
071133	1 in 16 Turnout	Set	47754.74
071134	1 in 20 Turnout	Set	51938.87
071135	Diamond Crossing	Set	59886.22
071136	Derailing Switch	Set	7687.96

Item No.	Description of Item	Unit	Rate (Rs)
071140	Under Traffic block period - Laying / Insertion of already assembled MG Turnout on staging, available alongside of track manually including approach sleepers & connecting newly laid points & crossing with approach track by making necessary cutting & providing closures / cut rails as required and subsequently renewing approach rails with suitable length of cut rails, as required and fixing joints with fish plates, bolts, nuts etc., providing kutchka packing, levelling, aligning, gauging, ensuring proper housing of switch etc. to allow traffic with all leads, lifts etc. complete and as directed by engineer in-charge. (Rate include Rail cutting and hole drilling)		
071141	1 in 8½ Points & Crossing	Set	33584.91
071142	1 in 12 Points & Crossing	Set	39694.80
071143	Diamond Crossing	Set	46317.60
071144	Derailing Switch	Set	6702.45
	<b>4. Lifting Works</b>		
071150	Lifting of points & crossing layouts on all types of sleepers upto 75mm or part thereof including approach and exit sleepers including one round of packing, adjustment to sleeper spacing, tightening of fittings 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 25mm or more}		
071151	1 in 8½ Points & Crossing	Set	16506.14
071152	1 in 12 Points & Crossing	Set	18914.42
071153	1 in 16 Points & Crossing	Set	23195.83
071154	1 in 20 Points & Crossing	Set	26808.26
071155	Diamond Crossing	Set	29216.54
071156	Derailing Switch	Set	3405.72
071157	Extra over item nos. 071151 to 071156 for additional lift beyond 75mm for every 25mm or part thereof upto 225mm for each set	Each	10%
	<b>5. Casual Renewal Works :</b>		
071160	Casual renewal of sleepers in points and crossing portion of Metal / Wooden layout, including taking out existing sleepers & stacking and inserting new / serviceable sleepers with all fittings including packing under new sleeper for -		
071161	Sleepers upto 3.5m length	Each	427.56
071162	Sleepers of more than 3.5m length	Each	507.84
071170	Casual renewal of sleepers in points and crossing portion of PSC layout, including taking out existing sleepers & stacking and inserting new / serviceable sleepers with all fittings including packing under new sleeper for -		
071171	Sleepers upto 3.5m length	Each	747.77
071172	Sleepers of more than 3.5m length	Each	968.00
071180	Renewal of CMS Crossing of all rail sections complete with fittings & fastenings including removal of existing crossing and stacking, as directed by engineer in-charge (work also involves replacement of worn-out rubber pads, liners and ERC, if required) for -		
071181	1 in 8½ Turnout	Set	3967.96
071182	1 in 12 Turnout	Set	4284.04
071183	1 in 16 Turnout	Set	4951.34
071184	1 in 20 Turnout	Set	5267.43

Item No.	Description of Item	Unit	Rate (Rs)
071190	Renewal of Tongue rails & Stock rails (straight or curved) complete with fittings & fastenings, ensuring proper housing & changing of stretcher bars, if required; but excluding sleepers. Work also includes drilling of hole, if any required and fixing of fish plates. Released rails shall be stacked at indicated place. {Note : 1).One set means Two Tongue rails and Two Stock rails (2) In case when only one tongue & stock rail are replaced, only 50% of the quantity shall be payable. (3) If only one tongue rail is replaced, only 25% of the quantity of switch assembly shall be payable} for respective item.		
071191	1 in 8½ Switch Assembly	Set	14416.64
071192	1 in 12 Switch Assembly	Set	18384.43
071193	1 in 16 Switch Assembly	Set	19779.41
071194	1 in 20 Switch Assembly	Set	19785.29
071200	Through Fitting Renewal (TFR) on PSC Turnouts, comprising of renewal of Grooved Rubber Pads, Liners and ERCs (excluding seized ERCs) without damaging PSC sleepers. Scope includes cleaning Rail Seat on sleeper, ERC and Eye of Inserts with wire brushes and applying grease to eye of Insert and Central Leg of ERC with contractor's grease of Railway's specification, cleaning rail flange at liner seats, putting back liners in correct position & spacing of sleepers and sealing liner edges with grease {Rate includes lead upto 500m} for -		
071201	1 in 8½ Turnout	Set	5199.89
071202	1 in 12 Turnout	Set	7022.39
071203	1 in 16 Turnout	Set	7892.05
071204	1 in 20 Turnout	Set	8672.51
071205	Derailing Switch	Set	1111.32
071210	Through Switches Renewals of existing curved/Thick web switches with Thick Web Switches on 60Kg 1 in 12 Points and crossings including approach rails, removal and laying of same section rails, on sleepers of any type, removing and re-fixing fittings, fastenings, stretcher bar, blocks etc., including stacking of released materials within a lead of 50m and packing of any disturbed sleepers and boxing, picking of slacks of track at switch portion, crossing of track wherever necessary as directed by Engineer in charge at site. (Note: Rail cutting and Hole Drilling shall be paid extra)	Set	45242.50
071211	Extra to item No 071210 for 1 in 16 Turnouts (20% of Relevant Item)	Set	9048.50
071212	Deduct to Item No 071210 for 1 in 8.5 Turnouts (20% of Relevant Item)	Set	9048.50
071220	Lubrication of Plate/Rail screws of Points and crossings, SEJs, Bridges, Curves etc, including removal of plate/rail screw carefully without breaking the screw, cleaning with wire brush etc both screws and dowel hole applying railways grease graphite, refixing the screw with spring washer and sealing the top and sides of screw with Railway's grease graphite to prevent ingress of moisture and corrosion with contractors labour, tools all lead and lift complete.	Each	29.98
071230	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	16507.47

Item No.	Description of Item	Unit	Rate (Rs)
071240	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	1172.97



<b>CHAPTER - 8 : Manual / Mechanised Screening &amp; Ballast Related Activities</b>			
<b>Item No.</b>	<b>Description of Item</b>	<b>Unit</b>	<b>Rate (Rs)</b>
	<b>1. Deep Screening Works :</b>		
081010	Deep screening of track in terms of Para-238 of Indian Railways Permanent Way Manual in other than PSC sleepers of any density and screening of complete ballast section. It includes opening of ballast, digging down to specified depth below bottom of sleeper to provide formation slope of 1:40 towards drain or any prescribed direction, taking out caked ballast, muck etc. from entire ballast section, putting back clean ballast as per required ballast profile, 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 upto 3m deep or alternatively carting it upto 50m for disposing it off beyond cutting or platforms) as per direction of Engineer in-charge, including cutting cess, if required for effective drainage upto a distance of 3.5m from centre line of track on both sides and including one round of kutcha packing with screened ballast including attending to track parameter to make track fit for 20 kmph speed. Necessary wooden blocks shall be brought by the contractor. {Note : Cess cutting beyond 3.5m from centre line of track shall be paid extra as per relevant item for earthwork}		
	<b>For BG Track :</b>		
081011	Depth of 150 mm below bottom of sleeper	Track Metre	312.38
081012	Depth of 200 mm below bottom of sleeper	Track Metre	340.52
081013	Depth of 250 mm below bottom of sleeper	Track Metre	367.77
081014	Depth of 300 mm below bottom of sleeper	Track Metre	404.13
081015	Extra to item no. 081011 for deep screening of Turnout (60% of relevant item rate)	Track Metre	187.43
081016	Extra to item no. 081012 for deep screening of Turnout (60% of relevant item rate)	Track Metre	204.31
081017	Extra to item no. 081013 for deep screening of Turnout (60% of relevant item rate)	Track Metre	220.66
081018	Extra to item no. 081014 for deep screening of Turnout (60% of relevant item rate)	Track Metre	242.48
	<b>For MG Track :</b>		
081019	Depth of 150 mm below bottom of sleeper	Track Metre	191.73
081020	Depth of 200 mm below bottom of sleeper	Track Metre	210.90
081021	Extra to item no. 081019 for deep screening of Turnout (60% of relevant item rate)	Track Metre	115.04
081022	Extra to item no. 081020 for deep screening of Turnout (60% of relevant item rate)	Track Metre	126.54

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Chapter 8 Manual/Mechanised Screening and Ballast Related Activities

Item No.	Description of Item	Unit	Rate (Rs)
081030	Deep screening of track in terms of Para-238 of Indian Railways Permanent Way Manual on PSC sleepers of any density and screening of complete ballast section. It includes opening of ballast, digging down to specified depth below bottom of sleeper to provide formation slope of 1:40 towards drain or any prescribed direction, taking out caked ballast, muck etc. from entire ballast section, putting back clean ballast as per required ballast profile, 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 upto 3m deep or alternatively carting it upto 50m for disposing it off beyond cutting or platforms) as per direction of Engineer in-charge, including cutting cess, if required for effective drainage upto a distance of 3.5m from centre line of track on both sides and including one round of kutcha packing with screened ballast including attending to track parameters to make track fit for 20 kmph speed. Necessary wooden blocks shall be brought by the contractor. {Note : Cess cutting beyond 3.5m from centre line of track shall be paid extra as per relevant item for earthwork}		
081031	Depth of 150 mm below bottom of sleeper	Track Metre	377.37
081032	Depth of 200 mm below bottom of sleeper	Track Metre	414.56
081033	Depth of 250 mm below bottom of sleeper	Track Metre	457.07
081034	Depth of 300 mm below bottom of sleeper	Track Metre	514.65
081035	Extra to item no. 081031 for deep screening of Turnout (60% of relevant item rate)	Track Metre	226.42
081036	Extra to item no. 081032 for deep screening of Turnout (60% of relevant item rate)	Track Metre	248.74
081037	Extra to item no. 081033 for deep screening of Turnout (60% of relevant item rate)	Track Metre	274.24
081038	Extra to item no. 081034 for deep screening of Turnout (60% of relevant item rate)	Track Metre	308.79
	<b>For MG Track :</b>		
081039	Depth of 200 mm below bottom of sleeper	Track Metre	234.33
081040	Depth of 250 mm below bottom of sleeper	Track Metre	263.63
081041	Extra to item no. 081039 for deep screening of Turnout (60% of relevant item rate)	Track Metre	140.60
081042	Extra to item no. 081040 for deep screening of Turnout (60% of relevant item rate)	Track Metre	158.18
081043	Extra to item nos. from 081011 to 081022 and from 081031 to 081042 for disposal of muck at a distance beyond 50m for every additional lead of 50 metres or part thereof upto 500 metres for 1 TM.	Each	4.82
081044	Extra to item nos. from 081011 to 081022 and from 081031 to 081042 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 for 1 TM	Each	10.03

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Chapter 8 Manual/Mechanised Screening and Ballast Related Activities

Item No.	Description of Item	Unit	Rate (Rs)
<b>2. Spreading of Ballast :</b>			
081050	Running out / Putting of railway's stone ballast from existing stacks available along alignment either on top of cutting or on formation or at toe of bank by head leads or by any other means and spreading to the required profile with contractor's labour, tools & plants, as directed by Engineer in-charge. {Payment shall be made based on ballast stack measurement}		
081051	For lead upto 50m and lift up to 5m	Cum	113.22
081052	Extra over item no. 081051 for each additional lead of 50m or part thereof when total lead exceeds 50m, but upto 250m for each Cum.	Each	32.08
081053	Extra to item no. 081051 for each additional lift of 2m or part thereof when total lift exceeds 5m for each Cum.	Each	26.75
<b>3. Lifting, Packing &amp; Boxing Works :</b>			
081060	Lifting and packing for regrading the existing BG 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 posts, tiebars at every 30m interval. {Note : Lifting of track shall be done in stages as per procedure laid down in Para 233 of IRPWM to get the proposed final level as per approved working profile, as directed by engineer in-charge}		
081061	In PSC sleeper track	Track Metre	160.29
081062	In other than PSC sleeper track	Track Metre	129.86
081063	Extra for additional lift over 75mm for every 50mm lift or part thereof upto 275mm for item nos. 081061 and 081062 for each TM.	Each	24.08
081070	Lifting and packing for regrading the existing MG 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 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 posts, tiebars at every 30m interval. {Note : Lifting of track shall be done in stages as per procedure laid down in Para 233 of IRPWM to get the proposed final level as per approved working profile, as directed by engineer in-charge} -		
081071	In PSC sleeper track	Track Metre	125.82
081072	In other than PSC sleeper track	Track Metre	108.54
081073	Extra for additional lift over 75mm for every 50mm lift or part thereof upto 275mm for item nos. 081071 and 081072 for each TM.	Each	17.71
081080	Regrading the existing BG track by lowering upto required depth in stages, 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 Para 234 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, tiebars at every 30m interval. as directed by engineer in-charge	Track Metre	215.49

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**Chapter 8 Manual/Mechanised Screening and Ballast Related Activities**

<b>Item No.</b>	<b>Description of Item</b>	<b>Unit</b>	<b>Rate (Rs)</b>
081090	Regrading of existing MG track by lowering upto the required depth in stages not exceeding 75mm or part thereof under traffic condition and providing permissible slopes as per IRPWM for the formation, including one round of through packing with beaters & rammers to attain safe approved gradient & gauge to allow train at 30 kmph speed duly fixing, marking, painting rail level posts, tiebars at every 30m interval.	Track Metre	126.90
081100	Boxing of ballast as per profile mentioned in IR's LWR Manual 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	Track Metre	26.08
081110	Screening of rejected / old ballast stacks so as to remove all fines smaller than 20mm and neatly stacking at slightly shifted location within lead of 50 metre with minor dressing / leveling of ground, as directed by engineer in-charge {measurement shall be on gross quantity}	Cum	275.37
<b>4. Loading &amp; Unloading of Ballast :</b>			
081120	Leading and loading Railway's ballast, collected at yard / depot / mid-section into Railway's BOB / BKH / any other type of open wagon, using JCB or any other approved mechanised method with all ascents, descents, taxes etc. with lead of 250m & all lifts complete as per specifications and as directed by Engineer in-charge	Cum	39.10
081130	Leading and loading Railway's Ballast collected at yard / depot / mid-section into Railway's covered wagon, using any approved method with all ascents, descents, taxes etc. with lead of 250m & all lifts complete, as per specifications and as directed by Engineer in-charge	Cum	140.08
081140	Leading and loading Railway's Sand collected at yard / depot into Railway's covered wagon, using any approved method with all ascents, descents, taxes etc. with lead of 250m & all lifts complete, as per specifications and as directed by Engineer in-charge	Cum	77.64
081150	Unloading of ballast from Railway's Hopper Wagons and distributing the unloaded ballast uniformly over the track and profiling and boxing {it also includes taking out jammed ballast}	Cum	71.83
081160	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 and profiling and boxing as per P.Way manual {it also includes taking out jammed ballast}	Cum	114.16
081170	Unloading of sand / quarry dust from Railway's wagons other than Hopper wagons by opening the doors of boxes and pulling & pushing down sand with rake irons / phowrahs and distributing unloaded sand uniformly over the track {it also includes taking out jammed sand}	Cum	102.09

<b>CHAPTER - 9 : Welding Activities</b>			
(NOTE: Items of this chapter shall be executed only through special tender)			
Item No.	Description of Item	Unit	Rate (Rs)
	<b>1. Alumino Thermic Welding Works :</b>		
091010	<p>Supply of Alumino thermic welding portions 52/60 Kg as approved by RDSO for welding of rails 52/60 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-19-2012 up to date correction slips with Single shot crucible fitted with Automatic Tapping Thimble Technology, 3 pieces Mould (Zircon washed) manually pressed for execution of welding of rail joint and compressed air petrol heating techniques including consumable stores complete and as directed by the engineer in charge at site. The following accessories shall be supplied.</p> <p>1.Alumino Thermic welding Portion (60/52 kg)as per IRS T-19-2012 2.3 piece Pre-fabricated Dry Mould (60/52 Kg)as per IRS T-19-2012 3.Luting Sand 4.Ignition Match 5.Single shot Crucible fitted with auto tapping thimble 6. Mould shoes (1 set for 50 weld portions)</p> <p>The following accessories shall be supplied 10% extra by the contractor at free of cost. Single shot Crucible fitted with auto tapping thimble, Three piece pre fabricated dry moulds, Luting sand and Ignition matches.</p> <p><b>Note:</b> Rate is inclusive of transportation of above to SSE/P.Way stores</p>		
091011	For 60 Kg Rail, 3-piece Mould and Compressed Air Petrol heating technique	Each	3127.56
091012	For 52 Kg - 90 UTS Rail, 3-piece Mould and Compressed Air Petrol heating technique	Each	2942.93
091013	For 52 Kg - 72 UTS Rail, 3-piece Mould and Compressed Air Petrol heating technique	Each	2782.38
091020	<p>Supply of Alumino thermic welding portions 52Kg/90R as approved by RDSO for welding of rails 52Kg/90R 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-19-2012 up to date correction slips , 2 pieces pre fabricated dry Mould manually pressed for execution of welding of rail joint and air petrol heating techniques including consumable stores complete and as directed by the engineer in charge at site. The following accessories shall be supplied.</p> <p>1.Alumino Thermic welding Portion (52Kg/90R)as per IRS T-19-2012 2.2 piece Pre-fabricated Dry Mould (52Kg/90R)as per IRS T-19-2012 3.Luting Sand 4.Ignition Match 5.Closing Pins. 6. asbestos powder. 7. Mould shoes 52Kg/90R ( 1set for 50 weld portions) 8. Sodium Silicate 9.Magnesite powder 10.Crucible charger (1 for 50 Portions)</p> <p>The following accessories shall be supplied 10% extra by the contractor at free of cost. Two piece pre fabricated dry moulds, Luting sand and Ignition matches.</p> <p><b>Note:</b> Rate is inclusive of transportation of above to SSE/P.Way stores</p>		
091021	For 52 Kg - 72 UTS Rail, 2-piece Mould and Air Petrol heating technique	Each	1911.91
091022	For 90R Rail, 2-piece Mould and Air Petrol heating technique	Each	1671.54

Item No.	Description of Item	Unit	Rate (Rs)
091030	25mm gap 'in-situ' welding and finishing of rail joints as per IR's AT Welding Manual with latest correction slips, RDSO approved welding portion and competent welder, labour, tools, equipments complete during traffic block. {Item includes use of weld trimming machine and grinding of weld finished to meet the weld tolerances and also anti corrosive painting to weld & marking of welded joint, as directed by Engineer in charge} -		
091031	For 60 Kg Rail, Single shot crucible fitted with Automatic Tapping Thimble Technology, 3 pieces Mould (Zircon washed) and Compressed Air Petrol heating technique	Each	6371.29
091032	For 52 Kg - 90 UTS Rail, Single shot crucible fitted with Automatic Tapping Thimble Technology, 3 pieces Mould (Zircon washed) and Compressed Air Petrol heating technique	Each	6168.19
091033	For 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	5983.34
091034	For 52 Kg - 72 UTS Rail, 2-piece Mould and Air Petrol heating technique	Each	5035.76
091035	For 90R Rail, 2-piece Mould and Air Petrol heating technique (Without Weld Trimmer)	Each	3845.53
091040	25mm gap 'in-situ' welding and finishing of rail joints as per IR's AT Welding Manual under traffic block with Railway's welding portion under Railway's supervision by contractor's competent welder and other skilled labour, including consumables tools & equipments. Item includes use of weld trimmer and & grinding of weld, finished to meet the weld tolerances . Only welding portion and related consumables, e.g. Single shot crucible/Conventional Crucible, mould shoes, pre-fabricated dry mould, luting sand, closing pin, asbestos powder, igniter, thimble and magnesite powder as per method of welding will be supplied by Railways. All other tools, equipments etc. including fuel for pre-heating will be arranged by contractor. Item also includes anti corrosive painting to weld & marking of weld joint, as directed by engineer in-charge		
091041	For 60 Kg Rail, Single shot crucible fitted with Automatic Tapping Thimble Technology, 3 pieces Mould (Zircon washed) and Compressed Air Petrol heating technique	Each	2638.31
091042	For 52 Kg - 90 UTS Rail, Single shot crucible fitted with Automatic Tapping Thimble Technology, 3 pieces Mould (Zircon washed) and Compressed Air Petrol heating technique	Each	2506.45
091043	For 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	2506.01
091044	For 52 Kg - 72 UTS Rail, 2-piece Mould and Air Petrol heating technique	Each	1851.50
091045	For 90R Rail, 2-piece Mould and Air Petrol heating technique (Without Weld Trimmer)	Each	1774.76
091050	25mm gap Cess Welding and finishing of rail joints as per IR's AT Welding Manual with RDSO approved welding portion and competent welder, labour, tools, equipments complete. Item also includes use of weld trimming machine and grinding of weld finished to meet the weld tolerances and also anti corrosive painting & marking of welded joint, as directed by engineer in-charge :		
091051	For 60 Kg Rail, Single shot crucible fitted with Automatic Tapping Thimble Technology, 3 pieces Mould (Zircon washed) and Compressed Air Petrol heating technique	Each	4676.00
091052	For 52 Kg - 90 UTS Rail, Single shot crucible fitted with Automatic Tapping Thimble Technology, 3 pieces Mould (Zircon washed) and Compressed Air Petrol heating technique	Each	4428.08
091053	For 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	4164.43

Item No.	Description of Item	Unit	Rate (Rs)
091054	For 52 Kg - 72 UTS Rail, 2-piece Mould and Air Petrol heating technique	Each	3225.58
091055	For 90R Rail, 2-piece Mould and Air Petrol heating technique (Without Weld Trimmer)	Each	2872.28
091060	25mm gap Cess Welding and finishing of rail joints as per IR's AT Welding Manual with Railway's welding portion under Railway's supervision by contractor's competent welder and other skilled labour including consumables, tools & equipments. Item includes trimming & grinding by machines. Only welding portion and related consumables, e.g. Single shot crucible/conventional crucible as per method of welding ,pre-fabricated dry mould, mould shoes, luting sand, closing pin, asbestos powder, igniter, thimble and magnesite powder will be supplied by Railways. All other tools, equipments etc. including fuel for pre-heating will be arranged by contractor. Item also includes anti corrosive painting to weld & marking of welded joint, as directed by engineer in-charge :		
091061	For 60 Kg Rail, Single shot crucible fitted with Automatic Tapping Thimble Technology, 3 pieces Mould (Zircon washed) and Compressed Air Petrol heating technique	Each	1432.03
091062	For 52 Kg - 90 UTS Rail, Single shot crucible fitted with Automatic Tapping Thimble Technology, 3 pieces Mould (Zircon washed) and Compressed Air Petrol heating technique	Each	1352.70
091063	For 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	1324.11
091064	For 52 Kg - 72 UTS Rail, 2-piece Mould and Air Petrol heating technique	Each	1220.90
091065	For 90R Rail, 2-piece Mould and Air Petrol heating technique (Without Weld Trimmer)	Each	1062.36
091070	75mm gap 'in-situ' welding and finishing of rail joints as per IR's AT Welding Manual with latest correction slips, RDSO approved welding portion and competent welder, labour, tools, equipments complete during traffic block. {Item includes use of weld trimming machine and grinding of finished weld to meet the weld tolerances and also anti corrosive painting to weld & marking of welded joint, as directed by Engineer in charge} -		
091071	52 Kg 90 UTS rail	Each	9782.97
091072	60 Kg 90 UTS rail	Each	10601.25
091080	Welding and finishing of rail joints connecting rail sections of 60kg on one end and 52kg on other end as per IR's AT Welding Manual by 50mm wide gap with contractor's RDSO approved welding portion and competent welder, labour, tools, equipments and all materials (Note : Item also includes grinding of weld finished to meet the weld tolerances and also anti corrosive painting & marking of welded joint, as directed by engineer in-charge)		
091081	On Cess condition	Each	6720.64
091082	In-situ condition under traffic block	Each	8255.14
	<b>2. Flash Butt Welding Works :</b>		
091090	Flash Butt Welding of 90 UTS rails, conforming to IR's Manual for Flash Butt Welding of Rail, using contractor's self-propelled rail cum road / Mobile FBW Plants, tools, equipments and consumables. Item also includes painting and marking of welded joints, pre-straightening & post-straightening of panels and USFD testing of finished weld as directed by engineer in-charge for -		
091091	52 Kg on Cess	Each	3242.53
091092	60 Kg on Cess	Each	3705.74
091093	52 Kg 'in-situ' under traffic block	Each	4348.38
091094	60 Kg 'in-situ' under traffic block	Each	5219.23

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<b>CHAPTER - 10 : Reconditioning of Points &amp; Crossings</b>			
<b>Item No.</b>	<b>Description of Item</b>	<b>Unit</b>	<b>Rate (Rs)</b>
<b>1. Built-Up Crossing :</b>			
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 H <sub>3</sub> electrodes	Each	3872.44
101012	Using H <sub>3</sub> A electrodes	Each	4675.20
101013	Using H <sub>3</sub> B electrodes	Each	5477.96
101014	Using H <sub>3</sub> C electrodes	Each	6280.73
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 H <sub>3</sub> electrodes	Each	4206.92
101022	Using H <sub>3</sub> A electrodes	Each	5210.38
101023	Using H <sub>3</sub> B electrodes	Each	6213.83
101024	Using H <sub>3</sub> C electrodes	Each	7217.28
<b>2. CMS Crossing :</b>			
101030	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} :		
101031	Using H <sub>3</sub> electrodes	Each	4215.84
101032	Using H <sub>3</sub> A electrodes	Each	5219.29
101033	Using H <sub>3</sub> B electrodes	Each	6222.75
101034	Using H <sub>3</sub> C electrodes	Each	7226.20
101040	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 :		
101041	Using H <sub>3</sub> electrodes	Each	4750.12
101042	Using H <sub>3</sub> A electrodes	Each	5954.27
101043	Using H <sub>3</sub> B electrodes	Each	7158.41
101044	Using H <sub>3</sub> C electrodes	Each	8362.56

Item No.	Description of Item	Unit	Rate (Rs)
101050	Reconditioning of worn-out all types of CMS (Cast Manganese Steel) crossings on all types of rail sections 'in-situ' under traffic conditions using RDSO approved Translamic Robotic Welding technology alongwith 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 give a service life of minimum 80 GMT. In case of pre-mature reconditioning, it shall be done by the contractor free of cost	Each	31838.90
<b>3. Switches / Tongue Rails :</b>			
101060	In-situ reconditioning of worn out 1:8½ tongue rail (only one tongue rail alongwith 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		
101061	Using H <sub>3</sub> electrodes	Each	1235.70
101062	Using H <sub>3</sub> A electrodes	Each	1596.94
101063	Using H <sub>3</sub> B electrodes	Each	1958.18
101064	Using H <sub>3</sub> C electrodes	Each	2319.43
101070	In-situ reconditioning of worn out 1:12 or flatter tongue rail (only one tongue rail alongwith 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 :		
101071	Using H <sub>3</sub> electrodes	Each	1572.25
101072	Using H <sub>3</sub> A electrodes	Each	2013.77
101073	Using H <sub>3</sub> B electrodes	Each	2455.29
101074	Using H <sub>3</sub> C electrodes	Each	2896.81
101080	Reconditioning of worn out 1:8½ tongue rail (only one tongue rail alongwith 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 :		
101081	Using H <sub>3</sub> electrodes	Each	1052.71
101082	Using H <sub>3</sub> A electrodes	Each	1373.81
101083	Using H <sub>3</sub> B electrodes	Each	1694.92
101084	Using H <sub>3</sub> C electrodes	Each	2016.02
101090	Reconditioning of worn out 1:12 or flatter tongue rail (only one tongue rail alongwith 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 :		
101091	Using H <sub>3</sub> electrodes	Each	1193.54
101092	Using H <sub>3</sub> A electrodes	Each	1554.78
101093	Using H <sub>3</sub> B electrodes	Each	1916.02
101094	Using H <sub>3</sub> C electrodes	Each	2277.27

Item No.	Description of Item	Unit	Rate (Rs)
	<b>4. SEJ (Switch Expansion Joint), Weld And Rail :</b>		
101100	Re-conditioning of worn out all types of SEJs of all rail sections to the standard profile as per RDSO drawing and prescribed in 'IR's Reconditioning of Points & Crossings Manual' including grinding etc. complete. {Note : Two stock rails + Two tongue rails will constitute one set of SEJ}		
101101	On Cess condition	Set	5547.42
101102	In-situ under traffic condition	Set	6506.52
101110	Re-conditioning of cupped welded joints 'in-situ' under traffic conditions as per RDSO's guidelines for 'IR's Reconditioning Of Scabs, Wheel Burns Of Rail And Cupped AT Welded Joint'	Each	328.46
101120	Re-conditioning of Wheel Burns / Scabs on rail under in-situ and traffic conditions as per RDSO's guidelines for 'Reconditioning Of Scabs, Wheel Burns Of Rail And Cupped AT Welded Joint'	Sq cm	9.85

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<b>CHAPTER - 11 : Formation Rehabilitation</b>			
(These items shall be used only for Rehabilitation of poor formation under running line)			
Item No.	Description of Item	UNIT	Rate (Rs)
	<b>1. Earth-Work :</b>		
111010	Removing existing ballast neatly from shoulder, crib and below sleepers under traffic so as to completely expose formation top for formation treatment / repairs and training out the same after completion of formation treatment work including dressing as per IRPWM standard profile.	Track Metre	460.28
111020	Insertion & spreading of blanketing material, conforming to RDSO's specifications, uniformly under the existing BG track in layers of maximum 75mm thickness at a time upto the proposed formation level as per approved drawing by duly lifting the existing track in stages under the running conditions, consolidating every layer of blanketing material manually or mechanically in stages from stacks collected on either side of track and packing the track for safe running of trains at speed of 30 kmph, achieving desired track geometry, as directed by engineer in-charge under - (Notes: 1. Supply of blanketing material shall be paid separately). 2) Payment will be done as per pre-recorded stack measurement with deduction for voids. 3) Any damage to the side drain/retaining wall during dumping should be made good by the contractor, failing which recovery for TWICE the cost of repair will be made from contractor. 4) Prior permission of Engineer-in-charge shall be obtained for dumping - STACK WISE. No payment will be made in case no such prior approval is obtained by contractor. Uniformity in dumping is to be ensured throughout the length in proportionate to regrading.		
111021	Without Traffic Block condition	Cum	1257.88
111022	During Traffic Block condition	Cum	1460.50
111030	Excavation, loading, leading, unloading of excavated earth / muck / dismantled rubbish of CC / masonry in foundation from platform in-between running / adjacent to track and by manual or any other suitable means or descent/ascent, crossing of tracks, signal wires, OHE wires, passenger crowds or any other obstructions etc. upto a lead of 1 Km.	Cum	736.74
111040	Dressing and levelling the formation top surface in cutting or embankment, removing vegetation / shrubs / any debris, duly making good the isolated undulations etc. of upto 300mm depth with Railway's blanketing material, disposal of surplus soil on slopes by spreading uniformly, rolling formation top in between or adjacent to running track with 10MT roller for 5 to 8 passes including watering while rolling to obtain uniform desired formation top, as directed by engineer in-charge Note: 1) No payment will be made for any stretch attended without prior approval of Engineer-in-charge. Prior approval of Engineer-in-charge shall be obtained for undertaking the dressing work for each stretch of formation. 2) 50% of payment will be made on dressing of formation to plane surface 3) Balance 50% of payment will be made on rolling of formation to desired number of passes.	Sqm	12.87

Item No.	Description of Item	UNIT	Rate (Rs)
<b>2. Soil Testing :</b>			
111050	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 job. :		
111051	Embankment	Each	483.26
111052	Cutting	Each	577.05
<b>3. Miscellaneous Works :</b>			
111060	Excavation in all types of soil for formation treatment below track under speed restriction of 20 kmph upto specified depth & width including making up the cess as per standard profile or spreading earth on bank, if the same is not required for cess making and leveling the excavated bed to slope of 1 in 40 towards cess. The rate also includes working during traffic block for excavation, removal and insertion of Railway's Aluminum Alloy Girders or Rail Clusters on C.C. crib for making temporary arrangement alongwith erection and removal of cribs, all wooden packing required and loading, unloading, shifting operations including carriage of girders including carting of materials back to store etc. complete and maintaining the track parameters, as directed by engineer in-charge		
111061	With Railway's Aluminum Alloy Girders	Cum	3295.77
111062	With Rail Clusters, fabricated by contractor with rails supplied by Railways	Cum	4111.72
111070	Laying and spreading blanketing material from stacks by the side of track after removing ballast and filling the same in 15cm thick layer in track, levelling, watering, ramming with hand rammers upto the formation top during formation treatment, putting back ballast and packing in running traffic condition at speed restriction of 20 kmph for lead upto 250m and lift upto 5m.	Cum	1336.93
111071	Extra to item no. 111070 for every 50 metres lead or part thereof when the lead exceeds the initial 250 metres per Cum.	Each	60.21
111072	Extra to item no. 111070, for every 1 metres height / lift or part thereof, when the lift exceeds initial 5 metres per Cum.	Each	100.35
111080	Earthwork for repairing to cess by cutting or raising of existing cess upto 4 metre from centre of track with Railway's earth including cutting of earth, leading, benching, filling, dressing including cutting of grass / shrubs / trees etc.; watering, compaction by ramming and leveling of earth for required longitudinal & cross-sectional profile, as directed Note: [Rate also includes repairs of trolley refuges including pulling ballast back upto formation level to avoid impounding of ballast and there after putting the pulled ballast back after cess repairs etc.]	Running Metre	97.27
111090	Repairing of embankment with contractor's own earth including , excavation / loading into contractor's vehicle with soil quality class SQ1 in cess / formation / level crossing, rain cuts etc. in running line to make surface to the desired level and slope to entire satisfaction of Engineer in-charge. Rate shall include sectioning to profile, all lift, descends, ascends, crossing of track / road / nallah etc. including breaking of clods etc. and compaction by rollers / rammers / tamping rods etc.	Cum	364.59

Item No.	Description of Item	UNIT	Rate (Rs)
111100	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 upto 1000m and all lifts including crossing of track, wherever necessary	Cum	514.87
111110	Extra over item no. 111100 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 other than black cotton soil, 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	36.46

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<b>CHAPTER - 12 : Activities at Construction Sites</b>			
<b>Item. No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate (Rs)</b>
<b>1. Dismantling Works :</b>			
121010	Dismantling of existing MG track, gas cutting of rails into free rails of length, as directed; removing fish plates & fastenings, levelling of ballast to correct profile, so as to form a level bed for laying BG track including segregation and stacking at specified location in countable manner	Track Metre	120.66
121020	Dismantling existing middle rail of 52Kg / 90R track, serving for MG track in Mixed Gauge track portion and check rail (on inside of curved track) of 52Kg / 90R / 75R rails duly removing fish plates and bolts including removing chairs from sleepers, stacking released rails, fittings & fastenings, as directed by engineer in-charge	Track Metre	114.02
121030	Dismantling & removing existing SEJ (Switch Expansion Joint) assembly during line block and its replacement with plain track as of adjoining section with all fittings and stacking the released materials, including rail cutting and drilling of holes, as directed and aligning rails, providing temporary connection with adequate welding gap with adjoining rail and ensuring proper track geometry for 30 kmph speed Note: 1.Except rails, sleepers and P.Way fittings to be supplied by Railway. 2.Welding will be paid separately. 3.This item includes Rail cutting and hole drilling	Set	9391.49
121040	Dismantling of existing rail / metal fencing, fixed adjoining running lines of track, duly excavating and levelling the foundation by hand compaction, removing connections and transporting the released material by suitable means and stacking the same, as directed by engineer in-charge Note:1.The released materials shall be handed over duly stacking the same in measurable fashion.	MT	1460.58
121050	Removing, screening and salvaging ballast from track, duly digging / scarifying ballast by beaters / wire brushes, leveling formation after salvaging ballast, separating muck by screening the salvaged ballast with contractor's 20mm size sieve, stacking of sieved ballast for measurement on or outside the formation along track, disposing off muck at specified locations under non-traffic conditions with all ascents, descents, as directed by Engineer in-charge	Cum	444.66
121060	Dismantling existing sand humps in yards including brick / stone masonry on either sides of track, removing sand and earth to the required level including clearing site and stacking released materials clear of infringement, complete and as directed for -		
121061	Broad Gauge	Each	12872.30
121062	Metre Gauge	Each	10469.36
<b>2. Barricading Works :</b>			
121070	Provision of barricading with contractor's bamboos / balli vertical post of 75 to 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 completely removed when no longer required by engineer in-charge. (60% payment shall be made on provision of barricading at work-site)		
121071	With 3 horizontal bamboo / balli members of minimum 50mm dia. spaced equally	Running Metre	149.82
121072	Joining with strong nylon rope in one cross and one horizontal pattern of minimum 5mm dia.	Running Metre	94.69

Item. No.	Description	Unit	Rate (Rs)
121080	Providing Rail Barricading with rails supplied by Railways with verticals provided at every 1.5m interval, height of barricade being upto 1.5m above ground / termination level and one 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 (excavation and concrete work will be paid separately)	MT	1597.05
<b>3. Shifting &amp; Pairing Works :</b>			
121090	Shifting & pairing of rails / panels unloaded alongside existing running track to adjoining formation including crossing of 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 disturbed rail barricading should be restored to its original condition by the agency including re-fixing & concreting as required.		
121091	Rail length upto 13m.	Running Metre	32.35
121092	For rails/panels of more than 13m and upto 40m length	Running Metre	38.97
121093	For rails/panels of more than 40m length	Running Metre	49.04
<b>4. Laying &amp; Linking Works :</b>			
121100	Providing Centre Line / Rail Level 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 (rails & tie bar pegs of suitable size will be supplied by Railways) [Note: (1) Rails/tie bar shall be supplied by the Railways within free lead of 250m Stores Depot. In case of hard wood peg, the hard wood will be supplied by the contractor. (2) Excavation and concrete work will be paid separately.]		
121101	With Rail pegs	Each	121.04
121102	With Tie bar pegs	Each	79.89
121103	With contractor's hard wood pegs	Each	110.03
121110	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 , protected by surrounding concrete of size 30cm x 30cm x 45cm of nominal mix 1:3:6, including painting to pegs, as directed by Engineer In charge. NOTE(Earth work and Cement concrete will be paid under relevant items)	Each	427.86
121120	Compaction of ballast in 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 100mm - 150mm thickness to a width of 3.5m to 4.5m symmetrical to centre line of proposed track, to suit finished formation to correct line & level with all ascents & descents, as directed by Engineer in-charge. {Note : (1) Rate 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; (2) 1.6 times to linear length of turnout shall be paid for work on turnout}	Track Metre	34.23

Item. No.	Description	Unit	Rate (Rs)
121130	Linking of BG track on prepared formation to correct gauge & alignment with Railway's track materials including spreading sleepers at specified spacing, squaring, pairing & fixing rails to sleepers with all types of rail fittings & fastenings including their lubrication as per IRPWM standards. Rate is inclusive of kutchha packing to make track fit for 20 kmph speed : (NOTE: Rail cutting and Hole drilling shall be paid separately)		
121131	(a) For sleeper density of 1660 sleepers per km	Track Metre	251.23
121132	(b) For sleeper density of 1540 sleepers per km	Track Metre	233.44
121140	Laying of BG new IRS SEJ (Switch Expansion Joint) on PSC / Wooden sleepers with cutting of rails, as required and lubrication including gauging, aligning rails, providing temporary connection with adequate welding gap with adjoining rail and ensuring proper track geometry for 30 kmph speed Note:[The rates will include leading of SEJ sleepers, SEJ fittings for a free lead of 250 metres and providing reference posts with kachcha and first packing and making ballast profile as per IRPWM, Welding, Cutting of rails & Drilling of holes will be paid separately.]	Set	6250.84
121150	Linking of BG track on prepared formation at Level Crossing locations with fixing of level crossing blocks, plate screws, check rails, drilling of holes, as necessary to correct gauge & alignment with Railway's track materials including spreading sleepers at specified spacing, squaring, pairing & fixing rails to sleepers with all types of rail fittings & fastenings including their lubrication as per IRPWM standards. Rate is inclusive of kutchha packing to make track fit for 20 kmph speed and also for anti-corrosive painting of rails. Note1.: Rate includes greasing of pandrol clips with contractors grease of approved quality. 2. Drilling of holes shall be paid separately]	Track Metre	664.22
121160	Manual linking of BG track over bridges & its approaches with rails / rail panels of any length and guard rails including leading of Wooden / PSC sleepers and rails from stacks available alongside the alignment to site of work with fixing of all fittings, aligning & levelling correctly to make track fit for normal sectional speed including ballasting at approaches of bridge.		
121161	With other than PSC Sleeper	Track Metre	395.66
121162	With PSC Sleeper	Track Metre	488.38
121170	Carrying out cut & connection to the existing PSC sleeper track under line block 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 packing to make track fit for 20 kmph speed	Each	59159.92
121180	Shifting / Slewing the existing or newly assembled track under line block to correct locations & alignment and attending to one round kutchha packing during line block or non-block period, as directed by Engineer in-charge		

Item. No.	Description	Unit	Rate (Rs)
	<b>PSC Sleepers -</b>		
121181	Maximum Shifting / Slewing upto 1 metre	Track Metre	264.78
121182	Maximum Shifting / Slewing for more than 1 metre & upto 2 metres	Track Metre	332.92
	<b>Other than PSC Sleepers -</b>		
121183	Maximum Shifting / Slewing upto 1 metre	Track Metre	234.67
121184	Maximum Shifting / Slewing for more than 1 metre & upto 2 metres	Track Metre	282.84
121190	Linking of Mixed Gauge track on prepared formation to correct gauge & alignment with Railway's track materials including spreading sleepers at specified spacing, squaring, pairing & fixing rails to sleepers with all types of rail fittings & fastenings including their lubrication as per IRPWM standards. Rate is inclusive of kutcha packing to make track fit for 20 kmph speed :		
121191	For sleeper density of 1660 sleepers per km	Track Metre	433.87
121192	For sleeper density of 1540 sleepers per km	Track Metre	401.62
121200	Linking of Metre Gauge track on prepared formation to correct gauge & alignment with Railway's track materials including spreading sleepers at specified spacing, squaring, pairing & fixing rails to sleepers with all types of rail fittings & fastenings including their lubrication as per IRPWM standards. Rate is inclusive of kutcha packing to make track fit for 20 kmph speed : Note:[ 1.Rates shall include Kuchcha packing and surfacing to meet longitudinal level, alignment etc. with all contractor's labour, machines, tools, plant, consumables and oiling and greasing of all the fittings like Fish plates, F/bolts etc.] 2."Rail cutting and hole drilling shall be paid seperately"		
121201	For sleeper density of 1340 sleepers per km	Track Metre	199.02
121202	For sleeper density of 1540 sleepers per km	Track Metre	221.21
121210	Manual linking of Metre Gauge track over bridges & its approaches with rails / rail panels of any length alongwith guard rails including leading of Wooden / PSC sleepers and rails from stacks available alongside the alignment to site of work with fixing of all fittings, including ballasting at approaches of bridge, aligning & levelling correctly to make track fit for normal sectional speed : NOTE: (Rail cutting and drilling of holes shall be paid seperately)		
121211	With other than PSC Sleeper	Track Metre	337.72
121212	With PSC Sleeper	Track Metre	411.90
121220	Assembling, laying and linking of Broad Gauge track over Inspection Pit, 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, fixing reference pillars, lubrication of fittings & fastenings, as required}	Track Metre	193.01
121230	Extra over item 121220 when ACB Plates are also required to be fixed	Track Metre	47.60

Item. No.	Description	Unit	Rate (Rs)
121240	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.	Track Metre	138.40
<b>5. Miscellaneous Works :</b>			
121250	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 (Cost of brick and sand will be paid separately)	Each	10038.55
121260	Working of the Railway Push Trolley by arranging required semi-skilled manpower 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 capable of pushing trolley in all gradients, and levels duly observing all safety precautions as per the manual. 2) The labour engaged should be strong and literate 3) Minimum of one head Trolley man along with 3 assistant men shall be engaged at each time of Trolley run.]		
121261	For Full day	Each	2884.59
121262	For Half day (upto 4 hours)	Each	1510.53
121270	Providing Caution Watchman at a rate of one caution watchman per 8 hours shift with prescribed protection equipments from contractor at location where caution order is imposed; (Detonators, Banner Flags / HS Flags will be supplied by Railways) watchman to be on continuous vigil and exhibit necessary hand signals to the trains for their passage over caution spot : [ NOTE: 1) The above rate is for one location per day for 3 shifts of 8 hours each. 2) Banner flags and HS flags will be supplied by Railways. Contractor has to arrange 3 cell electric torch and tricolor light. 3) If Contractor fails to post watchman at any time during one day, penalty at double the accepted rates will be levied 4) The watchman nominated by the contractor will be screened for suitability as per Railway norms.]		
121271	For One Shift	Each	626.15
121272	For Half Shift (upto 6 hours)	Each	313.08
121280	Preparation & submission of completion drawings of yard, showing all the details, such as circulating area, approach road, platform shelter, platform, FOB etc. with computer, 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%}		
121281	Completion drawing of yard at junction station	Each	16744.29
121282	Completion drawing of building	Each	20771.48
121283	Completion drawing of land plan	Km	8689.91
121284	Completion drawing of way side station	Each	5350.41

Item. No.	Description	Unit	Rate (Rs)
121290	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	63.79

<b>CHAPTER - 13 : Maintenance Activities</b>			
<b>Item No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate (Rs)</b>
	<b>1. Through Packing Works :</b>		
131010	Through packing of track, as described in Para-224 of Indian Railways Permanent Way Manual -		
	<b>For PSC sleeper Track (BG) :</b>		
131011	For Sleeper Density of 1540 Sleepers/Km or more	Track Metre	94.93
131012	For Sleeper Density of less than 1540 Sleepers/Km	Track Metre	82.28
	<b>For other than PSC Sleeper Track (BG) :</b>		
131013	For Sleeper Density of 1540 Sleepers/Km (M+7) or more	Track Metre	77.11
131014	For Sleeper Density of 1340 Sleepers/Km (M+4)	Track Metre	66.83
	<b>For PSC sleeper Track (MG) :</b>		
131015	For Sleeper Density 1540 Sleepers/Km (M+7) or more	Track Metre	71.20
131016	For Sleeper Density of 1340 Sleepers/Km (M+4) or less	Track Metre	61.71
	<b>For other than PSC Sleeper Track (MG) :</b>		
131017	For Sleeper Density of (M+7)	Track Metre	53.98
131018	For Sleeper Density of (M+4) or less	Track Metre	46.16
131020	Picking up of slacks in track, as directed by Engineer in-charge without damaging sleepers & fittings, duly opening up ballast, gauging, alignment, correcting longitudinal & cross levels, packing, boxing of ballast and dressing the same under traffic conditions (as per Indian Railways Permanent Way Manual Para-229) :		
131021	For PSC Sleeper (BG)	Track Metre	81.37
131022	For other than PSC Sleeper (BG)	Track Metre	70.69
131023	For PSC Sleeper (MG)	Track Metre	71.20
131024	For other than PSC Sleeper (MG)	Track Metre	54.45
131030	First or Second Through Packing of track for all sleeper density including giving a general lift, as desired to eliminate sag after Deep Screening work, as described in Para-238 of Indian Railways Permanent Way Manual {Notes : (1) Rate is for track laid to 1540 sleepers/km density; (2) 10% extra to the rate shall be paid in case of 1660 sleepers/km density; (3) Only 80% of the rate shall be paid in case of 1340 sleepers/km density} - 4) General lift is normally 25 mm and isolated lift may be upto 50 mm.		
131031	For PSC Sleeper Track (BG)	Track Metre	113.92
131032	For other than PSC Sleeper Track (BG)	Track Metre	94.25
131033	For PSC Sleeper Track (MG)	Track Metre	81.37
131034	For other than PSC Sleeper Track (MG)	Track Metre	67.47

Item No.	Description	Unit	Rate (Rs)
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 described in Para-238 of Indian Railways Permanent Way Manual <b>Notes :</b> (1) Rate is for track laid to 1540 sleepers/km density; (2) 10% extra to the rate shall be paid in case of 1660 sleepers/km density; (3) Only 80% of the rate shall be paid in case of 1340 sleepers/km density} - (4) General lift is normally 25 mm and isolated lift may be upto 50 mm.		
131041	For PSC Sleeper Track (BG)	Track Metre	87.63
131042	For other than PSC Sleeper Track (BG)	Track Metre	75.40
131043	For PSC Sleeper Track (MG)	Track Metre	67.01
131044	For other than PSC Sleeper Track (MG)	Track Metre	56.82
131050	Through packing of Mixed Gauge track, as described in Para-224 of Indian Railways Permanent Way Manual <b>Notes :</b> (1) Rate is for track laid to 1540 sleepers/km density; (2) 10% extra to the rate shall be paid in case of 1660 sleepers/km density; (3) Only 80% of the rate shall be paid in case of 1340 sleepers/km density - (4) General lift is normally 50 mm and isolated lift may be upto 100 mm.		
131051	For PSC Sleeper Track	Track Metre	103.56
131052	For other than PSC Sleeper Track	Track Metre	87.00
131060	First or Second Through Packing of Mixed Gauge Track for all sleeper density including giving a general lift, as directed to eliminate sag after deep screening work, as described in Para-238 of Indian Railways Permanent Way Manual {Notes : (1) Rate is for track laid to 1540 sleepers/km density; (2) 10% extra to the rate shall be paid in case of 1660 sleepers/km density; (3) Only 80% of the rate shall be paid in case of 1340 sleepers/km density} -		
131061	For PSC Sleeper Track	Track Metre	126.58
131062	For other than PSC Sleeper Track	Track Metre	102.82
131070	Third or subsequent Through Packing of Mixed Gauge Track for all sleeper density including picking of slacks, as required after second through packing, subsequent to deep screening work, as described in Para-238 of Indian Railways Permanent Way Manual. <b>Notes :</b> (1) Rate is for track laid to 1540 sleepers/km density; (2) 10% extra to the rate shall be paid in case of 1660 sleepers/km density; (3) Only 80% of the rate shall be paid in case of 1340 sleepers/km density -		
131071	For PSC Sleeper Track	Track Metre	94.93
131072	For other than PSC Sleeper Track	Track Metre	80.78



Item No.	Description	Unit	Rate (Rs)
131080	First and second through packing of points and crossing including gauging, fittings recouplement, elimination of sag and to the required alignment as per provisions of Indian Railways Permanent Way Manual		
131081	1 in 8½ PSC layout	Set	17472.13
131082	1 in 8½ other than PSC layout	Set	16171.65
131083	1 in 12 PSC layout	Set	23807.26
131084	1 in 12 other than PSC layout	Set	21322.71
131085	1 in 16 PSC layout	Set	29304.85
131086	1 in 8½ Derailing Switch	Set	4608.53
131087	1 in 12 Derailing Switch	Set	5812.67
131090	Third or subsequent through packing of points and crossing including gauging, fittings recouplement, elimination of sag and to the required alignment as per provisions of Indian Railways Permanent Way Manual -		
131091	1 in 8½ PSC layout	Set	15277.24
131092	1 in 8½ other than PSC layout	Set	13968.74
131093	1 in 12 PSC layout	Set	18880.31
131094	1 in 12 other than PSC layout	Set	17581.17
131095	1 in 16 PSC layout	Set	23241.32
131096	1 in 8½ Derailing Switch	Set	4308.83
131097	1 in 12 Derailing Switch	Set	5512.97
131100	Packing the renewed isolated 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.	Each	47.55
	<b>2. Systematic Overhauling Works :</b>		
131110	Improving track drainage by Shallow Screening of existing ballast under traffic as per Para 227 {2 (a) to (f)} of IRPWM and Para 6.2-IV of LWR Manual, 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 upto 3m deep or alternatively carting it upto 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		
	<b>For PSC sleeper Track (BG) :</b>		
131111	For Sleeper Density of 1540 sleepers/Km or more	Track Metre	210.79
131112	For Sleeper Density less than 1540 sleepers/Km	Track Metre	169.88
	<b>For other than PSC sleeper Track (BG) :</b>		
131113	For Sleeper Density of 1540 sleepers/Km or more (M+7)	Track Metre	190.23
131114	For Sleeper Density of 1340 sleepers/Km (M+4)	Track Metre	155.47
	<b>For PSC sleeper Track (MG) :</b>		
131115	For Sleeper Density of 1540 sleepers/Km or more (M+7)	Track Metre	174.24
131116	For Sleeper Density of 1340 sleepers/Km (M+4) or less	Track Metre	147.95

Item No.	Description	Unit	Rate (Rs)
	<b>For other than PSC sleeper Track (MG) :</b>		
131117	For Sleeper Density of (M+7)	Track Metre	161.45
131118	For Sleeper Density of (M+4) or less	Track Metre	136.49
131119	Extra over Items 131111 to 131118 for working in yards	Track Metre	40.14
131120	Systematic Overhauling (shallow screening) of fish plated / welded joint track sleepers including 3 approach sleepers on either sides upto 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 Para-227 of Indian Railways Permanent Way Manual :		
131121	For Broad Gauge track	Each	1399.22
131122	For Metre Gauge track	Each	1049.28
131130	Slack picking of joint sleepers and 3 approach sleepers on either sides with replacement of fittings and giving required lift to make up general track level, as directed :		
131131	For Broad Gauge track	Each	501.59
131132	For Metre Gauge track	Each	359.20
	<b>3. Pulling Back &amp; End Cropping Works :</b>		
131140	Pulling back of rails / panels on running track for creep adjustment or other incidental activities and re-fixing anchors and all other fittings, including squaring and slack picking of displaced sleepers, as directed :		
131141	For rails of 13 metre length	Running Metre	24.54
131142	For rails from 13 metre & upto 40 metre length	Running Metre	27.55
131143	For rails more than 40 metre length	Running Metre	30.56
131150	Pulling of single rail / 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		
131151	For Rails more than 13m and upto 40m length	Running Metre	33.80
131152	For Rails more than 40m length	Running Metre	42.63
131160	End cropping & pulling back of rails and adjustment of creep by making joints square including cutting & drilling of rails duly providing suitable rail closure and connecting with fish plates & bolts etc. as prescribed in Indian Railways Permanent Way Manual. {Note : (1) The work will be done under traffic block condition, (2) Welding of rail joints, if required, shall be paid separately}		
131161	For Broad Gauge track per joint	Each	1542.60
131162	For Metre Gauge track per joint	Each	1091.86
131170	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. 3.For providing additional pair of Buffer rails on Zones III&IV, 33% of item 131170 to be paid extra	Set	10674.10

Item No.	Description	Unit	Rate (Rs)
	<b>4. Re-Alignment of Curves :</b>		
131180	Slewing and realigning of curves on existing Broad Gauge track under running traffic condition, as directed by Engineer in-charge with contractor labour, tools & plants, as required with general lift upto 25mm including one round of through packing, 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.]		
	<b>Other than PSC Sleeper track -</b>		
131181	Maximum slew upto 50mm	Track Metre	97.68
131182	Maximum slew more than 50mm and upto 100mm	Track Metre	115.58
131183	Maximum slew more than 100mm and upto 150mm	Track Metre	128.38
131184	Maximum slew more than 150mm	Track Metre	143.33
	<b>PSC Sleeper track -</b>		
131185	Maximum slew upto 50mm	Track Metre	117.86
131186	Maximum slew more than 50mm and upto 100mm	Track Metre	144.78
131187	Maximum slew more than 100mm and upto 150mm	Track Metre	166.90
131188	Maximum slew more than 150mm	Track Metre	191.10
131190	Slewing and realigning of curves in existing Metre Gauge track under running traffic conditions, as directed by Engineer in-charge with contractor labour, tools and plants, as required with general lift upto 25mm including one round of through packing, 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.]		
	<b>Other than PSC Sleeper track -</b>		
131191	Maximum slew upto 50mm	Track Metre	69.93
131192	Maximum slew more than 50mm and upto 100mm	Track Metre	80.01
131193	Maximum slew more than 100mm and upto 150mm	Track Metre	85.81
131194	Maximum slew more than 150mm	Track Metre	96.68
	<b>PSC Sleeper track -</b>		
131195	Maximum slew upto 50mm	Track Metre	85.21
131196	Maximum slew more than 50mm and upto 100mm	Track Metre	97.68
131197	Maximum slew more than 100mm and upto 150mm	Track Metre	106.48
131198	Maximum slew more than 150mm	Track Metre	116.63

Item No.	Description	Unit	Rate (Rs)
	<b>5. Destressing Works :</b>		
131200	De-stressing of LWR/CWR with contractor's labours, tools & equipments 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 instructions of LWR manual & CE's Circulars for destrssing of LWR/CWR		
131201	With Railway's Hydraulic Rail tensor	Track Metre	77.03
131202	With Contractor's Hydraulic Rail tensor	Track Metre	79.47
131203	Without Rail tensor	Track Metre	69.81
131210	Extra for carrying out Through Fitting Renewal (TFR of ERC, GRSP, Liners) alongwith de-stressing	Track Metre	14.64
131220	Extra for works of RR / SR / FR / Destressing for Major/Important bridge, having total opening more than 40 metres	Track Metre	98.81
	<b>6. Renewal and Miscellaneous Works :</b>		
131230	Fixing Joggled Fish Plates with bolt / clamp (supplied by Railway) in running track conditions at welds on rail, as directed by engineer in-charge (drilling of holes in rail will be paid separately) :		
131231	With 2 bolts	Set	120.06
131232	With 4 bolts	Set	160.08
131233	With Clamps	Set	175.14
131240	End cutting & grinding of Railway's Metal / GFN liner and providing the same at joints with contractor's tools & plants, labour, consumable etc. complete as directed :		
131241	GFN Liners	Each	14.32
131242	Metal Liners	Each	29.72
131250	Providing wooden blocks at rail joints duly transporting Railway's released wooden sleepers, cutting into blocks, providing bearing plate with rail screw / dog spikes and doing packing, if required, as directed under traffic conditions [Note: Wooden blocks, Bearing plates, rail screws/dog spikes will be supplied free by Railways.]	Each	150.28
131260	Removing the existing wooden blocks under each joint, duly removing fittings, transporting and handing over the wooden blocks & fittings	Each	62.82
131270	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 / LWR Manual for safe running of goods and passenger trains with contractor's tools / labours etc. complete, as directed by Engineer in-charge. {Note : (1) Contractor shall arrange one gang at any point of time comprising of minimum 20 labours with sufficient experience in P.Way working and one P.Way Supervisor. (2) In case, contractor provides less no. of Labour / Supervisor, payment will be deducted @ 10% of the accepted rate per person}	Day	14717.31

Item No.	Description	Unit	Rate (Rs)
131280	Removing extra PSC sleepers, provided at fish plated joints and re-spacing shoulder sleepers to LWR spacing as per IRPWM / LWR Manual, duly removing ballast upto 150mm below bottom of sleepers, packing disturbed sleepers and putting back ballast to normal profile including leading & stacking released sleepers & fittings	Each	836.78
131290	Lubrication of fish plated rail joints under traffic by using Grease Graphite Grade 'O' (IS:408) and Black oil, tools & plants supplied by contractor for all types of rail sections 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.]	Each	116.96
131300	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 & provision of anti-corrosive treatment by application of graphite grease, as prescribed by Railway under side of liners & corresponding area of rail foot & SGCI insert with ERCs and re-fixing the same as per Para-1411(5) of Indian Railways Permanent Way Manual.	Sleeper	23.21
131310	Scattered replacement of Grooved Rubber Pads on PSC / ST sleepers, as directed by Engineer in-charge	Each	18.12
131320	Removing seized ERC from SGCI inserts of existing track by using suitable approved chemicals and / or heavy duty extractor and re-fixing it with lubrication of insert eye and ERC, as directed by engineer in-charge (due care shall be taken to avoid any damage to the sleeper)	Each	42.69
131330	Lubrication of gauge face of rail on sharp curves, cross overs, points & crossings and turn-in curves with contractor's grease graphite of approved quality	Running Metre	4.72
131340	Adjustment of gaps of joints for providing rail end nylon insulation piece, fixing planned fish plate with insulation materials, fixing bolts with nylon bush tightening the same, packing of joints to required level and alignment on running track. All materials shall be supplied by Railway	Each	782.56
131350	Interchanging gauge face of rails of any section in running track 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, if required as per lengths, as directed by engineer in-charge {cutting of rail & drilling of holes shall be paid separately}	Track Metre	106.60
131360	Removing existing glued joints from running track under traffic condition, duly cutting rails, inserting transported cut rails / glued joints of required length by providing gap for carrying out welding or joining rails with fish plates, duly drilling holes in cut rail and approach rail, if required as directed by engineer in-charge NOTE: 1.Drilling holes & rail cutting will be paid separately) (2) Rails, fish plates will be made available within free lead of 250m in yard (3) One set consists of two numbers of two joints	Each	3178.27
131370	Fixing of wooden distance pieces for platforms with contractor's labour, tools and plants of size Wooden Block (size : 1.0m x 0.3m x 0.15m)		
131371	With Railway's wooden block (by cutting Railway's wooden sleepers into blocks by sawing to size)	Each	181.15
131372	With Contractor's hard wood block	Each	1135.01
131380	Casual renewal of tie bars of C.I. Plate sleepers including carrying Tie Bars and stacking released ones including adjustment of gauge & squaring of sleepers and fixing of new cotters after splitting the same where necessary and packing of sleepers	Each	83.51
131390	Conversion of square holes of M.S. bearing plates into round holes of specified diameter with contractor's tools & plants	Each	63.31

Item No.	Description	Unit	Rate (Rs)
131400	Drilling holes of 16mm to 22mm dia. on PSC sleepers including special layout sleepers and fixing the dowels with adhesive of approved quality for fixing check rails & guard rails, as directed by engineer in-charge	Each	257.15
131410	Cleaning & clearing of side drains including disposing of muck beyond Railway boundary as per instructions of Engineer in-charge to keep drains clean and clear in cuttings etc.	Running Metre	29.27
131420	Removal of all types of muck / malba and garbage which includes waste material, animal carcass, cow dung, debris, sweepings etc. from track and dumping / throwing, as directed by engineer in-charge following all rules / regulations of State / Central Govt. and Authorised Bodies :		
131421	In case payment is based on area cleaned	Sqm	38.38
131422	In case of payment on the basis of stack / truck / trolley measurement	Cum	731.92
131430	De-weeding, uprooting of weeds / jungle etc. and dressing including scarifying ballast in entire profile upto toe of ballast on track	Track Metre	34.45
131440	Removing weeds & bushes in ballast section and cess upto 3.5m from centre line of track in section & station yard, as specified by Engineer in-charge including disposal of branches, bushes outside cess/yard	Running Metre	12.92
131450	Trimming of tree branches coming within 4m 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 30 cm will only be considered as tree)	Each	148.27
131460	General cess dressing upto 1m width from toe of ballast including scarifying toe ballast and making good the ballast toe line, including vegetation uprooting	Running Metre	20.64
131470	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	Running Metre	206.59
131480	Patrol man for patrolling during cold / hot weather on track for protecting track with all contractor's labour, tools, plants etc. complete as directed by Engineer In charge [ NOTE:- 1.The person deployed for patrolling must have the following items: • Valid certificate of competency issued by Railways. • Medical certificate issued by Railway fit for A-3 medical category. 2.The following equipment will be supplied by Railways for each patrolman and same to be handed over back to Railways in good condition: • Detonators – 10 nos. if used, bursted detonators to be handed over back and report with reasons for use. • Tri colour Torch – 1no. • Equipment list to be supplied by railway to be mentioned. • Canne –a - boule.(if required) 3.The following equipment to be arranged by contractor for each patrol man. H.S.Flags green-1 No (Std size),H.S Flags -Red-2 Nos(Std size),Torch light 3 cell-1 no, Staff for flags-1no,Whistle Thunder- 1no,Protective clothing to withstand climate, Gum boots,Haver sack		
131481	For a maximum duration of 8 hrs.	Each	646.22
131482	For more than 8 hrs. and upto 12 hrs. duration	Each	952.61

Item No.	Description	Unit	Rate (Rs)
131490	Patrol man for monsoon / security patrolling whenever required for protection of track with all contractor's labour, tools and plants etc. complete and as directed by Engineer in-charge and 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. • Medical certificate issued by Railway fit for A-3 medical category. 2.The following equipment will be supplied by Railways per each patrol man and required to be handed over back to Railways in good condition: '• Detonators – 10nos.(in a tin case), if used, bursted detonators to be handed over back with reasons for use. • Tri Colour Torch - 1no. • Patrol chart. • Patrol book. 3.The following equipment to be arranged by contractor for each patrol man: • H.S.flags green – 1no.(standard size) • H.S. flags red – 2nos. .(standard size) • Torch (3 cell) – 1no. • Staff for flags – 1no. • Whistle thunder – 1no. protective cloth to withstand the climate Gum boots Haver sack 4. Wherever 2 or more tracks are parallel with in track centres 50m. one patrol man will be sufficient. • Wherever the track centers are more than 50m. Separate patrol man to be deputed for each track & extra payment will be made for such case. 5. Route KM means including both UP & DN.]		
131491	For Day shift	Each	646.22
131492	For Night shift	Each	802.76
	<b>7. Marking and Painting Works :</b>		
131500	Painting of rail outside track on rail bottom, web, foot and fishing plane as per requirement with one coat of red oxide / zinc chromate primer to IS : 2074 of reputed make including surface preparation, i.e. cleaning with wire brush / sand paper as a complete job	Running Metre	58.68
131510	Painting of rail on running track on rail, web, foot including liner contact area (excluding bottom of foot) and fishing plane as per requirement with one coat of red oxide / zinc chromate primer to IS : 2074 of reputed make including surface preparation, i.e. cleaning with wire brush / sand paper as a complete job	Running Metre	54.86
131520	Anti-corrosive painting of rail outside track on rail bottom, web, foot and fishing plane as per requirement with two coats of bituminous emulsion without mica (IP No. 56192 and RDSO Specification No. IRS-P-30-1996) of reputed make including surface preparation, i.e. cleaning with wire brush / sand paper as a complete job as per Para 250 of Indian Railways Permanent Way Manual	Running Metre	145.40
131530	Anti-corrosive painting of rail on running track on web, foot etc. including liner contact area (excluding bottom of foot) and fishing plane as per requirement with two coats of bituminous emulsion without mica (IP No. 56192 and RDSO Specification No. IRS-P-30-1996) of reputed make including surface preparation, i.e. cleaning with wire brush / sand paper as a complete job as per Para 250 of Indian Railways Permanent Way Manual. Note : 60% of payment shall be made if painting on one side is done	Running Metre	125.17

Item No.	Description	Unit	Rate (Rs)
131540	Anti-corrosive painting of welds on track or on cess for all rail sections with high build epoxy paint of reputed manufacturer, conforming to RDSO's Specification no. M&C/PCN/123/2012 on welded area upto 10cm on either side including on the underside of rail foot as per Railway's AT Weld Manual including lettering / numbering, as directed NOTE:[ Before painting old paint shall be removed thoroughly by scrapping. All loose rusted and dirt shall be removed thoroughly by wire brushing. Grease and oil shall be removed by use of appropriate solvent confirming to IS Specification 1745-1976. Use of detergent followed by water washing should also be done to ensure removal of oil and grease apart from the greasing compound.]	Each	16.25
131550	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.]		
131551	1 in 16 Turnout	Set	1810.56
131552	1 in 12 Turnout	Set	1208.60
131553	1 in 8½ Turnout	Set	762.62
131554	Derailing Switch	Set	381.31
131560	Painting of P.Way Reference Post, Structures etc. with enamel paint of approved make with different colours & letters, as directed by Engineer in-charge :		
131561	Kilometre & Gradient post	Each	77.87
131562	Hectometre Post	Each	87.23
131563	LWR / SEJ Board	Each	132.59
131564	Level Crossing Boards including Road Sign Boards	Each	149.98
131565	Level Crossing Post	Each	151.27
131566	Curve Post	Each	86.92
131567	Level Crossing Boom including fringe	Metre	142.62
131568	Level Crossing Boom without fringe	Metre	113.86
131569	Curve Board	Each	132.59
131570	Curve details, SE, Versine, Station Nos. etc.	Each	45.12
131580	Painting of Bridge Reference / Boards, Structures etc. along track with enamel paint of approved make with different colours & letters, as directed by Engineer in-charge		
131581	Bridge Board	Each	132.59
131582	Bridge Tablet	Each	38.78
131583	Bridge Height Gauge	Each	2450.43
131584	HFL, FSL & DL on Bridge Pier / Abutment	Each	604.30
131585	Miscellaneous General Boards, Jurisdiction Boards, Structures etc.	Sqm	222.54
131590	Removing existing seized / corroded / broken rail screws/Plate screws in PSC sleepers by using gas ,duly drilling holes in broken screws and removing existing rail screw pieces from the holes alongwith existing dowels and fixing new contractor's dowels (procured from RDSO approved sources) and grouting around dowel with Epoxy materials and refixing new Railway's rail screws duly greasing dowel portion with Railway's grease with all contractor's materials, consumables, tools & plants, labour with all lead, lift, crossing of track etc. complete and as directed by the Engineer in-charge	Each	279.29



<b>CHAPTER - 14 : Testing Of Rails &amp; Other Components</b>			
<b>Item No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate (Rs)</b>
	<b>1. USFD Testing of Rails :</b>		
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.	Each	906.12
141020	Carrying out Through USFD testing of running rails & welds (excluding flange testing) including the full head width portion of SEJ, lead portion of points & crossings of all types of rails using 0° (4 MHz) and 70° (2 MHz) central forward & backward, 70° (2 MHz) gauge face corner forward & backward and 70° (2 MHz) field forward & backward probes 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 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 as directed :		
141021	With Contractor's USFD machine	Track Kilometer	5351.75
141022	With Railway's USFD machine including related T&P and probes	Track Kilometer	4342.28
	<b>2. USFD Testing of A.T.Welds :</b>		
141030	Carrying out USFD testing of Alumino Thermic (AT) welds on all types of rails, using 0° (2 MHz) double crystal; 70° (2 MHz) 20mm x 20mm single crystal probe for head & flange testing; 2 nos. 45° (2 MHz) single crystal with tandom rig for testing from rail top to bottom & for half moon testing and 70° (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 :		
	<b>With Contractor's USFD machine :</b>		
141031	Track having upto 3 rail panels	Each	195.51
141032	Track having more than 3 Rail panels	Each	179.22
	<b>With Railways' USFD machine including related T&amp;P and probes :</b>		
141033	Track having upto 3 rail panels	Each	163.89
141034	Track having more than 3 rail panels	Each	148.00

Item No.	Description	Unit	Rate (Rs)
	<b>3. USFD Testing of Flash Butt Weld :</b>		
141040	Carrying out USFD testing of Flash Butt (FB) & Gas Pressure (GP) welds on all types of rails using 2 single crystal 45° (2 MHz) for head testing and one single crystal 70° (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 :		
	<b>With Contractor's USFD machine :</b>		
141041	Track having upto 3 rail panels	Each	194.24
141042	Track having more than 3 rail panels	Each	189.21
	<b>With Railway's USFD machine including related T&amp;P and probes :</b>		
141043	Track having upto 3 rail panels	Each	174.78
141044	Track having more than 3 rail panels	Each	160.22
	<b>4. USFD Testing of SEJ :</b>		
141050	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 :		
141051	With Contractor's USFD machine	Set	1384.43
141052	With Railway's USFD machine including related T&P and probes	Set	1167.02

<b>CHAPTER - 15 : Heavy Track Machines</b>			
<b>Item No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate (Rs)</b>
	<b>1. PQRS Related Works :</b>		
151010	Unloading of mono-block PSC sleepers in PQRS Depot using crane from Railway 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.		
151011	With Railway's portal crane	Each	3.72
151012	With Contractor's portal crane / mechanical means	Each	5.33
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 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. -		
151021	With Railway's portal crane	Track Metre	22.67
151022	With contractor's portal crane	Track Metre	27.81
151030	Loading pre-assembled panels of PSC sleepers in layers on BFR with 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 :		
151031	With Railway's portal crane	Track Metre	4.93
151032	With contractor's portal crane	Track Metre	10.08
151040	During traffic block with Railway's portal crane : dismantling existing track of all types of rail, sleeper and density; loading released panels on BFRs with portal cranes within stipulated time; levelling disturbed and uneven surface of ballast upto bottom of sleeper, (crib ballast to be pulled out in advance to existing level in case of PSC sleeper track); placing new panels from BFRs by Railway's PQRS portals; linking track with fish plates, bolts & nuts to a neat gauge of 1673mm including pulling back extra ballast towards crib & shoulders (after laying BG track with PSC sleepers) and regulating / boxing with available ballast to allow traffic at restricted speed of 20 kmph, complete with contractor's labour, tools, plants and with all lead & lift involved	Track Metre	73.07

Item No.	Description	Unit	Rate (Rs)
151050	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 :		
151051	With Railway's portal crane for PSC sleeper track	Track Metre	54.85
151052	With Railway's portal crane for other than PSC sleeper track	Track Metre	29.61
151053	With contractor's portal crane for PSC sleeper track	Track Metre	61.71
151054	With contractor's portal crane for other than PSC sleeper track	Track Metre	34.76
151060	Mechanical / Manual loading of all types of rails on BFRs in PQRS Depot, as directed by engineer in-charge :		
151061	Mechanised loading with Railway's cranes	Running Metre	8.77
151062	Mechanised loading with contractor's cranes	Running Metre	13.14
151063	Manual loading by contractor's labours	Running Metre	25.84
	<b>PQRS Cranes (One Set Of Two Portals) :</b>		
151070	Doing various miscellaneous works 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	1212.17
151080	Guarding and watching the Track machine / group of machines, spare parts, oils, grease etc. during day and night time in a shift of 8 hours each, at all locations wherever necessary, as instructed by the machine in-charge	Shift	681.46
	<b>2. Track Relaying Train (TRT) Related Works :</b>		
151090	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 and crib ballast between consecutive sleepers removed upto 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 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 (T-443), joggled fish plates, OHE bonds & other obstructions etc.	Track Metre	16.11
151100	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 B29dunnage (wooden beddings / wedges) between sleepers to cover entire layer of sleepers, complete in such a manner that it may be dispatched in train formation		
151101	Mechanised loading with Railway's cranes	Each	4.89
151102	Mechanised loading with Contractor's cranes	Each	6.50

Item No.	Description	Unit	Rate (Rs)
<b>Track Relaying Train (TRT) :</b>			
151110	Doing various miscellaneous works for proper upkeep of crew rest van / rest room, as directed by the machine in-charge by : (1) Bringing water from nearby source for cleaning machine; (2) Cleaning machine with water jet or any suitable means; (3) Fuelling machine, duly bringing diesel / hydraulic oil from the stacked drums; (4) 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)	Day	1811.57
151120	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	7.95
<b>3. T-28 Machine Related Works :</b>			
151130	Replacement of Turnout by dismantling the existing one, removing and stacking all released materials, removing ballast and muck by excavating upto required depth, preparation of formation bed, laying of Turnout assembly 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 upto free lead after the block working etc. complete for - NOTE: Rate includes making necessary preparation for T-28 machine movement like preparation of approaches, transportation and laying of wooden sleepers/blocks, etc., cutting of rails, if required with contractor's equipment, etc.]		
151131	1 in 8½ Turnout	Each	54727.80
151132	1 in 12 Turnout	Each	63843.71
151133	1 in 16 Turnout	Each	71427.54
151134	1 in 20 Turnout	Each	79522.06
151140	Replacement of switch only of turnout by dismantling existing switch, removing and stacking all released materials, removing ballast and muck by excavating upto 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 for - 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., gas cutting of rails, if required with contractor's equipment, etc.]		
151141	1 in 8½ Switch	Each	21104.63
151142	1 in 12 Switch	Each	24489.61
151143	1 in 16 Switch	Each	27437.49
151144	Derailing Switch	Each	13569.36

Item No.	Description	Unit	Rate (Rs)
	<b>T-28 Cranes (One Set of Two Portal Cranes) :</b>		
151150	Carrying out various miscellaneous works for proper upkeep of crew rest van / rest room, as directed by the machine in-charge (T-28) for - (1) Fuelling machine duly bringing diesel / hydraulic oil from the drums stacked; (2) 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)	Day	1212.17
	<b>4. BCM / FRM Machine Related Works :</b>		
151160	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 alongwith 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.	Track Metre	13.67
151170	Carrying out various works during operation of BCM, like filling up of ballast from available locations (including adjoining tracks), required packing, attending track parameters etc. complete so as to make track fit for 20 kmph speed	Track Metre	68.14
151180	Removal of screened muck discharged by BCM from cuttings, drains, platform etc. (including muck around OHE mast, signal post etc.) and disposing it beyond 5m from edge of cutting which are upto 3m deep or alternatively carting it upto 50m for disposing it off beyond the length of cutting / platform and making up cess wherever low using muck	Running Metre	27.12
151190	Removal of screened muck discharged by FRM / SBCM from cuttings, drains, platform etc. (including muck around OHE mast, signal post etc.) and lifting it beyond 5m from edge of cutting which are upto 3m deep or alternatively carting it upto 50m for disposing it off beyond length of cutting / platform and making up cess wherever low, using muck	Running Metre	18.08
151191	Extra to item nos. from 151180 and 151190 for disposal of muck at a distance beyond 50m for every additional lead of 50 metres or part thereof upto 500 metres	Running Metre	2.41
151192	Extra to item nos. from 151180 and 151190 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	Running Metre	5.02
151200	Ballast equalisation & ballast profiling after completion of deep screening work by BCM and/or 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 TTM packing round and after restoration of normal speed and restoration of complete ballast profile and cess profile.]	Track Metre	32.09
151210	Making cess in deep screened track by using screened muck discharged by BCM where cess is low or cutting cess to required depth upto 4m from centre of track, where cess is high and disposing off extra muck beyond 5m from edge of cutting which are upto 3m deep or alternatively carting it upto 50m for disposing it off beyond cutting or platforms, so as to make cess as per standard profile including providing proper slope	Track Metre	51.67

Item No.	Description	Unit	Rate (Rs)
151220	Carrying out packing of sleepers behind BCM including filling ballast when only lifting is carried out by BCM. Rate includes attending track parameters with required manual packing, so as to make track fit for 30 kmph speed	Track Metre	77.49
151230	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	Track Metre	28.18
	<b>Ballast Cleaning Machine (BCM) :</b>		
151240	Carrying out various miscellaneous works for proper upkeep of crew rest van / rest room, as directed by machine in-charge by (BCM) : (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 the staff rest van or staff rest room, cleaning the 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	1811.57
	<b>Ballast Regulating Machine (BRM) :</b>		
151250	Carrying out various miscellaneous works for proper upkeep of crew rest van / rest room, as directed by machine in-charge (BRM) by : (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; (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) Cooking food for Track Machine staff or bringing food from outside (cost of food shall be borne by the staff concerned)	Day	1212.17
	<b>Shoulder Ballast Cleaning Machine (SBCM) :</b>		
151260	Assisting operator and maintenance engineers in their duties of day-to-day machine maintenance for SBCM at stabling station or at site of working. The activities include : (1) Setting & disconnecting cutter bar; (2) Carrying chain links to connect and disconnect chain; (3) Cutting rail pegs and other obstructions by gas cutting; (4) All gas cutting, welding works & oiling / greasing for machine working & maintenance; (5) Transportation of spares, batteries, trough plates, chain links etc. from site store / BFRs at stabling station during maintenance and at site during block / break down etc.; (6) Assisting in replacement of spares on machine; (7) Rendering assistance to machine staff, as directed by machine in-charge {Payment shall be made for the days which have not been pre-notified as off-days}	Day	6759.26

Item No.	Description	Unit	Rate (Rs)
151270	Doing various miscellaneous works for proper upkeep of crew rest van / rest room, as directed by machine in-charge (SBCM) by : (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 stacked drums; (3) Bringing water to the staff rest van or staff rest room, cleaning the rest van / rest room, cooking the food for Track Machine staff or bringing food from outside (cost of food shall be borne by the staff concerned)	Day	1811.57
151280	Screening of ballast haunch, left out of FRM / SBCM reach and utilising screened ballast in track profile alongwith muck for cess making or throwing away within 50m lead and 3m lift when not required for cess repairs	Running Metre	65.19
151290	Making cess in deep screened track by using screened muck discharged by FRM where cess is low or cutting cess to required depth upto 4m from centre of track, where cess is high and disposing off extra muck beyond 5m from edge of cutting which are upto 3m depth or alternatively carting it upto 50m for disposing it off beyond cutting or platforms so as to make the cess as per standard profile including providing proper slope	Track Metre	36.16
	<b>CSM, Duomatic and 3X Sleeper Tamping Machines :</b>		
151300	Doing various miscellaneous works for proper upkeep of crew rest van, rest room and tamping machine as directed by machine in-charge (CSM/Duomatic/3X) by : (1) Daily cleaning machine with water jet or any suitable means; (2) Fuelling machine duly bringing diesel / hydraulic oil from 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)	Day	1212.17



Item No.	Description	Unit	Rate (Rs)
	<b>5. CSM / DUO / 3X Machine Related Works :</b>		
151310	<p>Carrying out pre-tamping, during tamping and post-tamping work for tamping track with all types of rails, sleepers &amp; sleeper density by various Track Tamping machines, which include :</p> <p>(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 upto lead of 50 m to ensure effective packing;</p> <p>(2) Clearing of ballast on sleepers to make them visible to operator,</p> <p>(3) Clearing of ballast over rail foot to facilitate holding of rail by rollers of TTM;</p> <p>(4) Digging, screening and replenishment of ballast at mud pumping / rounded ballast in sleeper crib location;</p> <p>(5) Tightening of loose fittings immediately before &amp; after tamping;</p> <p>(6) Replacement of broken / missing fittings supplied by Railway;</p> <p>(7) Correcting displaced sleepers to position alongwith squaring;</p> <p>(8) Re-setting of worked-out / fallen fittings;</p> <p>(9) Removing and re-fixing joggled fish plates &amp; wooden blocks, wherever necessary;</p> <p>(10) Manual consolidation of ballast in crib / shoulders;</p> <p>(11) Removing and refixing of traction bonds during the block in electrified sections</p> <p>(12) Dressing of ballast</p> <p>NOTE:</p> <p>1. Contractor to provide minimum 30 men with 2 supervisors for carrying out above work.</p> <p>2. Tamping blocks are not identical &amp; it may be given at any time either during day or night.</p> <p>3. 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.</p> <p>4. Recovery at the rate of twice the above applicable rate will be effected in case contractor fails to carry out pre/during/post operation.</p>		
151311	(a) For day time block working	Track Metre	34.06
151312	(b) For night time block working	Track Metre	41.04
151320	Pre, during & post tamping operations, as mentioned in Item no. 151310 at level crossing portion alongwith opening the road, removing and re-fixing of check rails & fittings, renewal of unserviceable sleepers, painting of running rail & check rail, completing road surface to motorable smooth condition after packing is over, as directed for -		
151321	(a) Level crossing with CC block surface	Each	22727.95
151322	(b) Level crossing with asphalted surface	Each	25377.06
151323	(c) Level crossing with moorum / earth surface	Each	21403.39
151330	Removing and refixing of guard Rails over slab bridges during machine packing with all contractor's men and materials duly removing fittings, leading to bridge approaches, lifting, dragging, positioning and crossing of track etc, and as directed by Engineer In charge	Track Metre	109.67

Item No.	Description	Unit	Rate (Rs)
	<b>Dynamic Track Stabiliser (DGS)</b>		
151340	Carrying out various miscellaneous works for proper upkeep of crew rest van / rest room, as directed by machine in-charge (DGS) by : (1) Daily cleaning machine with water jet or any suitable means; (2) Fuelling machine duly bringing diesel / hydraulic oil from 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 staff concerned)	Day	1212.17
	<b>6. Unimat Machine Related Works :</b>		
151350	Carrying out pre-tamping, during tamping and post-tamping works for tamping track with all types of rails, sleepers & sleeper density by various Track Tamping 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 upto 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 TTM; (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 alongwith 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 for -		
151351	1 in 8½ Turnouts	Set	14481.84
151352	1 in 12 Turnouts	Set	16542.26
151353	1 in 16 Turnouts	Set	22139.26
151354	1 in 20 Turnouts	Set	24788.37
151355	Derailing Switch	Set	10407.35
151356	Extra to Item no. 151351 for night block working (15% of relevant item rate)	Set	2172.28
151357	Extra to Item no. 151352 for night block working (15% of relevant item rate)	Set	2481.34
151358	Extra to Item no. 151353 for night block working (15% of relevant item rate)	Set	3320.89
151359	Extra to Item no. 151354 for night block working (15% of relevant item rate)	Set	3718.26
151360	Extra to Item no. 151355 for night block working (15% of relevant item rate)	Set	1561.10
	<b>UNIMAT (Points &amp; Crossing Tamping Machine) :</b>		
151370	Carrying out various miscellaneous works for proper upkeep of crew rest van, rest room and Unimat as directed by machine in-charge by : (1) Daily cleaning machine with water jet or any suitable means; (2) Fuelling machine duly bringing diesel / hydraulic oil from 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 staff concerned)	Day	1212.17

Item No.	Description	Unit	Rate (Rs)
151380	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.	Shift	1992.72
	<b>7. Miscellaneous</b>		
151390	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 proper 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.	Track Metre	67.57
151400	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 or involving removal of fastenings, carting and stacking released materials. It also includes fastening rails taken from auxiliary track to sleepers to correct gauge with fish plates, bolts & nuts to a neat gauge of 1673 mm 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, as directed -		
151401	For rails upto 13m length	Track Metre	102.65
151402	For rails of more than 13m and upto 40m length	Track Metre	96.22
151403	For rails above 40m length	Track Metre	96.97
151410	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	Track Metre	102.65
151420	Providing lighting arrangements with halogen lamps on and around machine during machine working in night time blocks, with contractors own generator, consumables, all necessary electrical fittings, operators etc. for -		
151421	BCM (7.5 kVA generator and 12x500 W)	Night	6086.28
151422	FRM (7.5 kVA generator and 12x500 W)	Night	6086.28
151423	CSM / DUO / 3X (5 kVA generator and 8x500 W)	Night	3565.60
151424	UNIMAT (7.5 kVA generator and 12x500 W)	Night	6086.28
151425	DGS (2.5 kVA generator and 4x500 W)	Night	2194.89
151426	BRM (5 kVA generator and 8x500 W)	Night	3565.60

Item No.	Description	Unit	Rate (Rs)
151430	<p>Providing lighting arrangement during night traffic block, to be availed as per instructions of engineer in-charge. Scope of work includes contractor's inflatable emergency tower light two nos. of 400 watt, metal halide lamp, 2.5 kVA petrol engine of 3 hp each with two plugs for halogen each for provision of light at work site. Maintenance of complete unit shall be with contractor's men, materials, equipments and consumables. {Payment shall be made only for that day on the basis of hours utilised when Railway's site engineer actually puts up his requirement. Also, standby arrangement shall be ensured by contractor for any eventuality of failure}</p> <p>NOTE: In case of tunnels, specific instructions of ADEN to be taken to operate this item in day light working.</p>	Hour	196.41
151440	<p>Providing lighting arrangements for about 100 meters length for block working during night time involving arranging 2.5 kVA generator, 40 CFL / tube lights of 40 Watts (approx.) each fixed to the bullies at required locations on both sides of track including cost of consumables, such as diesel and engine oil etc. with all contractor's labour, tools, plants, machinery, electric wire, switches and connected materials etc. including shifting of generators after each block, all lead and lift complete and as directed by the Engineer in-charge</p>	Hour	593.88
151450	<p>Recording field data of Existing Track with theodolite / total station for designed mode tamping by track tamping machine</p>	Track Kilometer	1700.07

<b>CHAPTER - 16 : Small Track Machines</b>			
<b>Item No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate (Rs)</b>
	<b>1. Rails :</b>		
161010	Quick cutting with abrasive rail cutter of all types of rail sections including wear resistant, head hardened rails upto 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 2007) with latest status of RDSO; Rail Cutting Wheel Abrasive Disc will be as per RDSO Specification No. TM/SM/2 ( Rev. 01 of 2007) -		
	Outside Track -		
161011	60 Kg - 110 UTS	Each	344.87
161012	60 Kg - 90 UTS	Each	330.50
161013	52 Kg - 90 UTS	Each	317.28
161014	52 Kg - 72 UTS & other rails	Each	305.08
	On Running Line -		
161015	60 Kg - 110 UTS	Each	388.18
161016	60 Kg - 90 UTS	Each	372.00
161017	52 Kg - 90 UTS	Each	357.12
161018	52 Kg - 72 UTS & other rails	Each	343.39
161020	Drilling holes of 16 mm to 32 mm dia. with Rail Drilling machine 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 for -		
161021	Outside Track	Each	69.12
161022	On Running Line	Each	102.32
161030	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 for -		
	Outside Track -		
161031	60 Kg - 110 UTS	Each	356.99
161032	60 Kg - 90 UTS	Each	280.49
161033	52 Kg - 90 UTS	Each	218.16
161034	52 Kg - 72 UTS & other rails	Each	163.62
	On Running Line -		
161035	60 Kg - 110 UTS	Each	502.92
161036	60 Kg - 90 UTS	Each	452.62
161037	52 Kg - 90 UTS	Each	315.66
161038	52 Kg - 72 UTS & other rails	Each	223.64
161040	Bending & De-kinking with Hydraulic rail bender (Jim Crow) heavy duty in all types of rail sections of flat bottom rails maximum upto 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 for -		
161041	Outside Track	Each	76.60
161042	On Running Line	Each	106.57
161050	Chamfering of drilled fish bolt holes in rails of any section and any UTS with chamfering kit and with contractor's tools & plants, equipment, consumable with all lead & lift etc. complete, as directed by Engineer in-charge. Chamfering Kit will be as per RDSO's Specification No. TM-53 Rev. 01 of 2004	Each	14.84

Item No.	Description	Unit	Rate (Rs)
161060	Pulling of rail in LWR track by hydraulic rail tensor (Non-infringing type) 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	1408.05
161070	Trimming of extra weld metal from rail top (top and sides) of A.T. welded joint after welding operation by double action weld trimmer with contractor's tools & plants, equipment, consumable with all lead & lift etc. complete, as directed by Engineer in-charge, Double Action Weld Trimmer will be as per RDSO's Specification No. TM/SM/9, dated 16.08.1991	Each	382.65
161080	Grinding A.T. welded joint of all rail sections after weld trimming operation is completed by Rail Profile Weld Grinder with contractor's tools & plants, equipment, consumable with all lead & lift etc. complete, to confirm weld tolerances as laid down in AT weld manual as directed by Engineer in-charge. Rail Profile Weld Grinder will be as per RDSO Specification No. TM/SM/10, dated 16.08.1991	Each	160.42
161090	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 : {(i) Prime mover : 1 hp 1440 rpm electric motor (ii) Time taken for each cut - (a) for 90R rails : 10 to 12 minutes (b) for 52 kg rail : 12 to 20 minutes (c) for 60 kg rail : 20 to 25 minutes (iii) Man power required : 2 men; (iv) Weight of machine : 50 kg approx (machine to comprise of cutting unit coupled with driving electric to form a compact unit) (v) Clamping arrangement : a sturdy fabricated device for firm grip of different rail sections for automatic clamping in position for ensuring a straight cut (vi) Handling & transportation : 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} -		
	When Electricity provided by static power supply of Railway :		
161091	Outside track	Each	189.89
161092	On Running track	Each	289.38
	When power supply by DG set :		
161093	Outside track	Each	281.83
161094	On Running track	Each	381.31
161100	Drilling holes of 16 mm to 32 mm dia. with electrically operated Rail Drilling 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 Specification : {(i) Manpower required : 2 Men. (ii) Weight of machine : 45kg. approx. (iii) Handling & transportation : The 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. (iv) Prime mover : 1 HP 1440 RPM Electric motor. (v) No. of holes normally be drilled in a day : 60 holes} -		
	When Electricity provided by static-power supply of Railway :		
161101	Outside track	Each	64.22
161102	On Running track	Each	74.21
	When power supply by DG set :		
161103	Outside track	Each	84.07
161104	On Running track	Each	94.06

Item No.	Description	Unit	Rate (Rs)
<b>2. Sleepers :</b>			
161110	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 as per RDSO's Specification No. TM/SM/6, dated 8.05.1991	Each	36.13
161120	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	61.05
161130	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. Concrete Sleeper Breaker will be as per RDSO's Specification No. TM/SM/30, dated 26.10.1995	Each	164.34
161140	Breaking of brick work, asphalt and rocks by Concrete Sleeper Breaker with contractor's tools & plants, equipments, consumable etc. with all lead & lift complete, as directed by Engineer in-charge. Concrete Sleeper Breaker shall be as per RDSO's Specification No. TM/SM/30, dated 26.10.1995	Cum	1643.43
161150	Drilling of holes (vertically) 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 : {(i) Machine shall be able to drill hole in concrete sleeper from 16 mm to 22 mm dia. (ii) Action of machine shall be fast enough to drill hole in minimum time, i.e. it shall not take more than 10 minute for drilling hole of dia. 22mm and depth 150mm. (iii) Machine shall be able to drill hole of required size in-situ condition. (iv) In case of electrically operated machine, operating voltage shall be 220-250 V to enable it to operate with domestic supply of electricity, single phase, A.C., 50 Hz or with single phase light weight portable generator commonly available in the market, (v) Weight of machine shall not exceed 10 kg for electrically machine (without prime mover) and 50 kg for Diesel/Petrol operated machine (including prime mover) (vi) Machine shall be either non-infringing type or capable of being removed within 30 seconds to the face of approaching train.}	Each	78.98
<b>3. Fittings :</b>			
161160	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	3.53
161170	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 (Rev. 01 of 2003 with all updation)	Each	3.93

Item No.	Description	Unit	Rate (Rs)
161180	<p><b>4. Miscellaneous :</b></p> <p>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 &amp; plants, equipment, consumable with all lead &amp; lift etc. complete, as directed by Engineer in-charge as per RDSO's Specifications : {(i) Safe working capacity : 500 kg. (ii) Swing: 360 degree. (iii) Swing Radius (Minimum) : 1350 mm. (iv) Efforts at full load : 20 kg. (v) Design, fabrication and erection of jib crane alongwith its base frame shall be such that it takes minimum assembly and attachment time to BFR / BRH. Assembly and erection over and removal from BFR / BRH shall not take more than 30 minutes. (vi) Design &amp; construction of jib crane with its assemblies shall be such that it allows loading / unloading of concrete sleepers from BFR / BRH in 4 layers. (vii) Loading / unloading time for a concrete sleeper from BFR to cess and vice versa shall not be more than 5 minutes}</p>	Each	27.55
161190	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	70.72



<b>CHAPTER - 17 : Handling of Materials</b>			
<b>Item No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate (Rs)</b>
	<b>1. Rails :</b>		
171010	Loading of rails of any section and length upto 14 metres in Wagons / Truck / Tractor including lead upto 50 metres and lift upto 5 metres -		
171011	In wagons during period of traffic block where handling by mechanical means is not possible	MT	243.74
171012	In wagons not involving traffic block or on lines not opened to traffic but handling by mechanical means is not possible	MT	168.28
171013	In Wagon under traffic block where mechanical handling is possible	MT	136.71
171014	In Wagon where mechanical handling is possible and traffic block is not required or in Truck/Tractor.	MT	114.41
171020	Loading of rails of any section and length from 26 metre to 39 metre, in BFRs (at places other than plants where stationery loading hoists/crane system is not available) including lead upto 50 metre and lift upto 5 metre with all care, precautions and arrangement prescribed by Engineer In charge for delicate handling of panel to save from any damage in rail panel -		
171021	During period of traffic block	MT	501.30
171022	On lines, not opened to traffic or traffic block is not required	MT	224.97
171030	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 / Tractor including lead upto 250 metre and lift upto 5 metre -		
171031	In wagons during period of traffic block where handling by mechanical means is not possible	MT	239.80
171032	In wagons not involving traffic block or on lines, not opened to traffic but handling by mechanical means is not possible	MT	161.75
171033	In Wagon where mechanical handling is possible and traffic block is required.	MT	132.37
171034	In Wagon where mechanical handling is possible and traffic block is not required or in Truck/Tractor.	MT	112.46
171040	Loading, unloading and hauling of 52Kg / 60Kg rail upto 13 metre length by Railway's Rail Dolly / Dip Lorry to the nominated location under traffic in case road carriage is not possible with lead upto 500 metre and all lift upto 5 metre during block period	MT	335.11
171041	Extra to Item no. 171040 for lead beyond 500 metre and up to 1 Km	MT	120.95
171042	Extra to Items no. 171040 & 171041 for lead beyond 1 Km for every subsequent Km or part thereof and upto 10 Km	MT	48.17
171043	Extra to Item no. 171040 with contractor's Rail Dolly / Dip Lorry	MT	12.93
171050	Loading, unloading and hauling of 52Kg / 60Kg rail more than 13 metre and upto 39 metre length by Railway's Rail Dolly / Dip Lorry to the nominated location under traffic in case road carriage is not possible with lead upto 500 metre and lift upto 5 metre.	MT	391.59
171051	Extra to Item no. 171050 for lead beyond 500 metre and up to 1 Km	MT	159.14
171052	Extra to Items no. 171050 & 171051 for lead beyond 1 Km for every subsequent Km or part thereof and upto 10 Km	MT	50.76
171053	Extra to Item no. 171050 with contractor's Rail Dolly / Dip Lorry	MT	14.08
171060	Unloading of rails of any section and length upto 13 metre, in neat manner for Railway usage from departmental material train (DMT) or contractor's / Railway's Truck/Tractor including lead upto 250 metre, lift upto 5 metre and stacking in prescribed manner -		
171061	In wagons during period of traffic block where handling by mechanical means is not possible	MT	143.98
171062	In wagons not involving traffic block or on lines, not opened to traffic but handling by mechanical means is not possible	MT	92.93
171063	In Wagon where mechanical handling is possible and traffic block is not required or in Truck / Tractor	MT	67.99

Item No.	Description	Unit	Rate (Rs)
171070	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) or contractor's / Railway's Truck/Trailer including lead upto 50 metre and lift upto 5 metre -		
171071	During period of traffic block	MT	136.68
171072	Not involving traffic block or in lines not opened to traffic	MT	102.80
171080	Unloading of all type of rails of length 130 metre and beyond from end unloading rake - NOTE: Contractor has to keep Oxygen and Acetylene gas with cutter as standby during the period of work		
171081	During period of traffic block	MT	32.36
171082	Not involving traffic block	MT	24.69
171090	Shifting of rail panel unloaded on other side of the existing track to double line side under running traffic conditions in between trains and keeping rails without any infringement to running track -		
171091	Rails upto and including 13 m length	Running Metre	35.43
171092	Rails more than 13 m and upto 40 m length	Running Metre	41.45
171093	Rails more than 40 m length	Running Metre	52.95
171094	Extra over item No 171091 for crossing each additional line	Running Metre	8.86
171095	Extra over item No 171092 for crossing each additional line	Running Metre	10.36
171096	Extra over item No 171093 for crossing each additional line	Running Metre	13.24
	<b>2. Sleepers :</b>		
171100	Loading of 52kg / 60kg PSC line and special sleepers upto 2.7 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 upto 250 metre and lift upto 5 metre, if required with contractor's labour, tools & plants, machinery, consumables etc. -		
171101	In wagons during period of traffic block where handling by mechanical means is not possible	MT	219.10
171102	In wagons not involving traffic block or on lines, not opened to traffic but handling by mechanical means is not possible	MT	152.50
171103	In Wagon where mechanical handling is possible and traffic block is required.	MT	117.87
171104	In Wagon where mechanical handling is possible and traffic block is not required or in Truck / Trailer	MT	97.96
171110	Loading of 52kg / 60kg PSC line and special sleepers beyond 2.7 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 upto 250 metre and lift upto 5 metre, if required with contractor's labour, tools & plants, machinery, consumables etc. -		
171111	In wagons during period of traffic block where handling by mechanical means is not possible	MT	280.70
171112	In wagons not involving traffic block or on lines, not opened to traffic but handling by mechanical means is not possible	MT	166.49
171113	In Wagon where mechanical handling is possible and traffic block is required.	MT	131.92
171114	In Wagon/Truck / Trailer where mechanical handling is possible and traffic block is not required.	MT	112.01

Item No.	Description	Unit	Rate (Rs)
171120	Loading, unloading and hauling 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 with lead upto 500 metre and all lift upto 5 metre.	MT	259.17
171121	Extra to Item no. 171120 for lead beyond 500 metre and up to 1 Km	MT	100.57
171122	Extra to Items no. 171120 & 171121 for lead beyond 1 Km for every subsequent Km or part thereof and upto 10 Km	MT	30.10
171123	Extra to Item no. 171120 with contractor's Rail Dolly/Dip Lorry	MT	11.89
171130	Leading all types of P.Way materials by road vehicles to destination excluding loading / unloading, with contractor's vehicle, crew, consumables, labour, tools & plants etc.		
171131	Lead upto 10 Km	MT	101.06
171132	Extra to Item no. 171131 for additional lead over 10 Km for every 5 Km lead or part thereof upto 100 Kms	MT	30.60
171133	Extra to Items no. 171131 & 171132 for additional lead beyond 100 Km for every 5 Km or part thereof upto 400 Kms	MT	14.13
171134	Extra to Items no. 171131, 171132 & 171133 for additional lead beyond 400 Km for every 5 Km or part thereof upto 1000 Kms	MT	13.87
171140	Unloading of 52kg / 60kg PSC line and special sleepers upto 2.7 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 upto 250 metre & lift upto 5 metre with contractor's labour, tools & plants, machinery, consumables etc. -		
171141	During period of traffic block	MT	153.22
171142	Not involving traffic block or on lines, not opened to traffic	MT	104.18
171143	From Truck / Trailer	MT	73.50
171150	Unloading of 52kg / 60kg PSC special sleepers beyond 2.7 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 upto 250 metre & lift upto 5 metre with contractor's labour, tools & plants, machinery, consumables etc. -		
171151	During period of traffic block	MT	192.36
171152	Not involving traffic block or on lines not opened to traffic	MT	132.73
171153	From Truck / Trailer	MT	83.45
171160	Spreading of New / SH PSC sleepers along track on either side manually or mechanically including loading, unloading & transportation, if required with lead of every 250m or part thereof upto total lead of 1000m and all lifts	Each	48.54
171161	Extra to Item no. 171160 for additional lead of every 500m or part thereof beyond 1 km and upto 3 km with all lift	Each	26.83
	<b>3. Miscellaneous Items :</b>		
171170	Loading all types of P. Way fittings and fastenings into Wagons / Truck / Trailer -		
171171	During period of traffic block	MT	137.24
171172	Not involving traffic block	MT	102.91
171180	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 upto 250 metre & lift upto 5 metre -		
171181	During period of traffic block	MT	147.95
171182	Not involving traffic block or on lines, not opened to traffic	MT	118.46
171183	From Truck / Trailer	MT	96.98

Item No.	Description	Unit	Rate (Rs)
171190	Unloading all types of P.Way fittings and fastenings for Railway usage from departmental material train (DMT) or contractor's / Railway's Truck/Trailer with lead upto 250 metre & lift upto 5 metre -		
171191	During period of traffic block	MT	120.02
171192	Not involving traffic block	MT	87.52
171200	Collection and stacking of various P.Way materials at nominated stacking location with serviceable and un-serviceable ones separately within a lead upto 500 metre and lift upto 5 metre including crossing of track(s) wherever necessary as directed by Engineer-in-Charge for		
171201	Rails, switches, crossings, SEJ, Glued Joints, Check Rails etc.	MT	321.00
171202	All type of PSC sleepers	MT	351.64
171203	P.Way fittings of all types and other similar loose items	MT	335.86
171210	Restacking boulders available in working area by leading the same away from working area, duly loading by mechanical means and stacking at specified location in a neat and countable manner including Loading, Leading & Stacking within station yard involving maximum lead of 1000 metre and lift upto 5 metre including other incidental charges etc.	Cum	173.97
171220	Hiring of Truck of loading capacity 4.5 MT and running upto 2000 km per month (with 24 hours availability) for leading of Engineering Machines, Materials & Men, as desired by Engineer-in-charge. It includes cost of driver, helper, fuel, e.g. diesel, mobil oil, brake oil etc. alongwith related repairs works and all type of taxes as admissible by State or Central Governments, octroi, toll tax, barrier tax etc. Vehicle shall run on pucca, kutchra road including along the track. The contractor shall arrange road permit for vehicle for all the States of operation, as per instructions of engineer in-charge and vehicle shall not be more than three years old. NOTE: This item to be executed through Special tender.	Month	69352.00
171221	Extra over item No 171220 for every additional Km or part there of over 2000 Km in a month	Km	9.63
171230	Hiring and operating Multi-Utility vehicle of loading capacity one MT with sitting capacity of 4/6 persons, 4 strokes, 4 cylinders engine, factory-built metal body, cargo box type or passenger cabin type or both (with 24 hours availability), including cost of fuel, lubricants, major/minor repairs, salary of driver, toll tax, all other tax complete, operation and maintenance including running upto 1200 km in a month. The vehicle shall run on pucca, kutchra road and along the track. The contractor shall arrange road permit for vehicles for all the States of operation, as per instructions of engineer in-charge and vehicle shall not be more than three years old. NOTE: This item to be executed through Special tender.	Month	50353.28
171231	Extra over item No 171230 for every additional Km or part there of over 1200 Km in a month	Km	8.03

<b>CHAPTER - 18 : Level Crossings</b>			
<b>Item No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate (Rs)</b>
	<b>1. Dismantling of Level Crossings :</b>		
181010	Opening of level crossing upto required width from centre line of track for replacement of existing sleepers with PSC sleepers including dismantling pucca road surface and removing of ballast, muck etc., screening of ballast & stacking the same near level crossing and disposing of all debris at the location, as directed by engineer in-charge		
181011	With existing PSC sleeper	Sqm	354.17
181012	With existing Wooden / Metal sleeper	Sqm	393.27
181020	Digging road surface at all types of level crossing surface, removing spoils upto bottom of sleepers and refilling soil to original level by proper ramming and consolidation :		
181021	With existing PSC sleeper	Sqm	544.04
181022	With existing Wooden / Metal sleeper	Sqm	379.37
181023	Extra to Item no. 181021 or 181022 for level crossing with precast concrete blocks	Sqm	62.21
181030	Dismantling existing check rail, blocks, bolts & nuts and stacking these in a countable manner, as directed by Engineer in-charge	Running Metre	252.23
181040	Dismantling exiting Rail Height Gauge carefully, as directed by engineer in-charge including removal of cement concrete foundation and making surface clean	Each	3146.16
181050	Dismantling existing lifting barrier alongwith 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 without any damage including demolishing concrete base of existing structures and clearing debris in a neat and countable manner and clear of infringements, as directed (barriers on both sides of level crossing constitute one set)	Set	16194.40
181060	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 and countable manner and clear of infringements, as directed (barriers on both sides of level crossing constitute one set)	Set	14990.25
181061	Deduction to item no. 181060 for not dismantling 'A' base and its foundations	Set	2410.96
181070	Dismantling existing BG wicket gate / 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, as directed by Engineer in-charge	MT	1524.98

Item No.	Description	Unit	Rate (Rs)
	<b>2. Overhauling Of Level Crossings :</b>		
181080	Overhauling of level crossing including digging out upto 50mm below sleeper, screening of shoulder & crib ballast, making good ballast with Railway's ballast from stacks / heaps, replacing worn out sleepers & fastenings, check rails including scrapping of rails and tarring with two coats with contractor's coal tar, correcting crosslevel, gauge, alignment, surfacing and packing etc., filling back ballast, ramming & levelling road surface and fixing concrete slabs excluding coal tarring of road, as directed by Engineer in-charge		
	<b>Broad Gauge :</b>		
181081	Level crossings with asphalted road surface	Sqm	741.99
181082	Level crossings with concrete blocks road surface	Sqm	711.88
181083	Level crossings with any other type of road surface	Sqm	651.68
	<b>Metre Gauge :</b>		
181084	Level crossings with asphalted road surface	Sqm	618.90
181085	Level crossings with concrete blocks road surface	Sqm	573.74
181086	Level crossings with any other type of road surface	Sqm	543.64
181090	Annual maintenance of various assets at level crossing, e.g. lifting barrier assembly, boom locking arrangement with ground lever frame, winch etc., as directed by engineer in-charge. Scope of work includes – (1) Adjustment of adjusters; (2) Cleaning & oiling greasing of dust/rust of pulleys and levers; (3) Cleaning of check rail clearance and rope channels; (4) Repairing of pot holes of road surface	Each	29732.99
	<b>3. Check Rail Related Works :</b>		
181100	Drilling of parabolic shaped holes to the web of check rail as per drawings & specifications and as directed by engineer in-charge	Each	172.62
181110	Fabrication (including cutting & bending) and fixing of check rails of all sections as per Railway's approved drawings & specifications for level crossings / trolley paths, duly cutting rail flanges, wherever required to correct alignment and level with Railway's rail, fittings & fastenings, drilling of holes in check rails with all fittings, e.g. rail screws / grip expansion bolts, brackets, packing pieces, bolts, washers etc. and as directed by the engineer in-charge	Running Metre	1072.41
181120	Fabricating (cutting, drilling and machining) and fixing of check rails of all sections as per drawing and directions of engineer in-charge with all contractor's labour, tools and materials complete. Rails shall be supplied by Railways		
181121	For rails of 90 UTS and above	Running Metre	1240.61
181122	For rails of 72 UTS	Running Metre	1072.56
181130	Cutting foot of rail by gas or any other approved method for check rails with contractor's tools & plants. Payment shall be made for length of cutting of foot.	Running Metre	209.59
181140	Manufacture & supply of stoppers & other accessories, such as grip expansion bolts, brackets, packing pieces, bolts etc. as per standard drawing for fixing check rail at level crossing	Each	417.88
181150	Fixing check rails on level crossings with MS brackets, MS packing plates, bolts & nuts, spring washers etc. as per approved drawing & specifications, as directed. Rails, MS brackets, packing plates, bolts & nuts, spring washers will be supplied by Railways	Each	4684.79

Item No.	Description	Unit	Rate (Rs)
<b>4. Painting Works :</b>			
181160	Painting of running rails and check rails with approved bituminous paint (RDSO's Specification no. M&C/PCN/120-2011), duly cleaning running rail and check rail, as directed by Engineer incharge	Running Metre	30.82
181170	Providing 1:6 sand bituminous mix (Hot mix) on pre-cast slab joints duly levelling edges of slab and packing / grouting as required on level crossing portion with all labour and material by contractor.	Sqm	863.24
181180	Painting speed breakers with paint of approved quality & colour over the Bituminous surface near approaches to level crossing, as directed -		
181181	With Normal paint (two coats)	Sqm	141.62
181182	With Hot melt thermoplastic road marking paint	Sqm	116.05
<b>5. Fencing And Gate Boom Related Works :</b>			
181190	Dismantling existing rail hurdle fencing including removal of base concrete and stacking released materials in a neat and countable manner clear of infringements from the track, removing debris clear of site alongwith disposing debris, as directed by engineer in-charge within free lead of 250 metre & lift upto 5 metre complete with all labour, tools & plants by contractor	Running Metre	87.00
181200	Providing rail hurdle fencing on all four sides of level crossing approaches / platforms for a length of 15 m (approx.) on each side with vertical rails fixed duly embedded in Cement Concrete foundation at 3 metre interval and two horizontal rails {overall height of fencing being at 1.0 metre (approx.) above ground level}. Item includes cutting rails and drilling holes as required, assembling necessary accessories to required length, painting fencing with two coats over one coat of primer with paint of approved quality & colour with all leads & lifts etc. complete and as directed. {Note : (1) All labour, materials and tools & plants to be arranged by contractor; (2) Rails of required section and overall length will be supplied by Railway within free lead of 250 metre. (3) Excavation and concrete work for foundation will be paid separately}	Running Metre	158.44
181210	Dismantling existing Rail Post including demolishing base concrete and stacking released materials within free lead of 250 metre at location including clearing of debris, as directed by engineer in-charge	Each	150.96
181220	Fixing Rail Posts at locations shown in relevant Drawing including earthwork / excavation for foundation, fixing rail posts in cement concrete of 30cm x 30cm x 30cm size and painting posts with two coats with paint of approved quality & colour, clearing area and preparing surface area of posts within 250m lead and lift of 5 metre complete, as directed. {Note : (1) All labour, materials and tools & plants to be arranged by contractor; (2) Rails of required section and overall length will be supplied by Railway within free lead of 250 metre. (3) Excavation and concrete work for foundation will be paid separately}	Each	564.61
181230	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} -		
181231	(a) Less than 5 metre width of level crossing	Each	9112.02
181232	(b) Above 5 metre width of level crossing	Each	10797.83

Item No.	Description	Unit	Rate (Rs)
181240	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 nos. SA 7973 to 7980 with all fittings and fastenings complete with contractor's men, equipments and materials, as per specifications and as directed (this item is excluding fringes) -		
181241	Upto 6m long Lifting Barrier	Set	128470.11
181242	Above 6m and upto 8m long Lifting Barrier	Set	152008.45
181243	Above 8m and upto 10m long Lifting Barrier	Set	175422.36
181250	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 {Excavation and concrete work will be paid separately}	Each	37962.64
181260	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} -		
181261	Single lever	Each	18470.23
181262	Double lever	Each	25709.81
181270	Manufacture, supply and replacement of Railway's lifting barrier assembly of one side at level crossing & fixing it on boom supports, painting iron works with two coats of synthetic enamel paint over one coat of red lead primer of approved quality & colour and setting lifting barrier for smooth operation complete and as directed	Each	71350.88
181280	Manufacture, supply and replacement of Railway's lifting barrier assembly and boom supports, gate lamps at one side of level crossing including required excavation & concreting foundation of 'A' type, as required for pedestal bases, duly cutting rails, wherever necessary including painting iron works with two coats of synthetic enamel paint of approved quality and colour over one coat of red lead primer of approved quality, setting lifting barrier for smooth operation complete and as directed. {Excavation & concrete work will be paid separately}	Each	77502.71
	<b>6. Miscellaneous Items :</b>		
181290	Manufacturing, supplying and laying at specified locations 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 with all contractor's cement, labour, tools/plant and curing with all lead & lift as per specifications and as directed by Engineer in-charge :		
181291	80mm thick blocks of M-35 grade for medium traffic	Sqm	909.88
181292	120mm thick blocks of M-40 grade for heavy traffic	Sqm	1372.72
181300	Fixing of Railway's 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	143.79



Item No.	Description	Unit	Rate (Rs)
181310	Paving of level crossing road surface with Railway's precast RCC slab / blocks as per standards / approved drawings for light and heavy vehicles, supplied 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	206.91
181320	Removal of RCC slab in existing level crossing portion and in between tracks alongwith stacking them in countable manner, as directed.	Sqm	45.29
181330	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, 2m wide in the middle including painting two coats with paint of approved quality and colour	Running Metre	341.71
181340	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	Running Metre	676.64
181350	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	232.80
181360	Supplying and fixing of Boom Supports (stay wires) for lifting barrier (approx. 8mm dia.) with suitable adjuster and other specials, as directed	Each	1327.57
181370	Manufacture and supply of vertical / horizontal Turnout Wheels and Shafts, mounted over base plate weighing not be 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	1164.01
181380	Manufacturing and supplying to site of work including installation 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	415.96
181390	Fabrication, supply and fixing of 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 red lead primer of approved quality, as directed	Running Metre	657.13
181400	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.	Each	452.66
181410	Manufacturing & supplying to site of work and installing 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	1766.68
181420	Supplying galvanized Steel Wire Rope for DW signalling 6 x 19 ply as per IRS No. S.11 amended upto date for lifting barrier at level crossing gates, as directed by Engineer in-charge	Kg	234.14
181430	Provision of Emergency Chain Posts for level crossings as per Annexure 9/2 of Para 905 of IRPWM, duly cutting rail to suitable length & drilling holes, providing hooks & links / rings with necessary locking arrangements to fix emergency chain, duly excavating pit and fixing rail posts in vertical position, concreting base with cement, base painting two coats with paint of approved quality & colour over one coat of primer complete, as directed. {Note : (1) Rails & chain will be supplied by Railways, (2) Excavation and concrete work will be paid separately}.	Each	681.26

Item No.	Description	Unit	Rate (Rs)
181440	Fabrication, supplying and fixing Stop Boards of 600mm dia. to lifting barriers approved drawing, made of 3mm thick plate, using MS clamps, providing 6 nos. of 50mm dia. red reflector on stop board, painting iron works with two coats of synthetic enamel paint over one coat of red lead primer of approved quality & colour and writing STOP mark over the board	Each	1826.62
181450	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	68827.08
181460	Providing rail reference posts by cutting rails of length for 60cm above & 30cm below ground level, excavation for foundation, fixing post in foundation in cement concrete base of size 0.3m x 0.3m x 0.6m in 1:3:6 mix, painting two coats with paint of approved quality & colour and marking, as directed {Note : (1) Rails will be supplied free by Railways in available length at nearest stores depot; (2) Excavation and concrete work will be paid separately}	Each	709.78
181470	Fixing of wooden blocks of approximate size of 150mm x 300mm x 1000mm on end of check rails at level crossings with contractor's labour, tools & plants and as directed :		
181471	With Railway's wooden block by cutting Railway's wooden sleepers (supplied free by Railways) into blocks by sawing to size	Each	244.14
181472	With Contractor's hard wood block	Each	1210.70
181480	Patch repairing of road surface pot holes with INSTAPATCH ready mix Bitumen polymer based (Mixture of stone grit 6-12mm bitumen activator) 25mm thick. Including cleaning/ preparation of the surface and filling of the pot holes with stone aggregate of required size, compaction with contractors hand road roller etc., including all materials, labour tools and plants, lead, lift, complete in all respect and as directed by the Engineer-in-charge at site and maintaining up to ten months after completion of work.	Sqm	748.24

<b>CHAPTER - 19 : Bridge Related Activities</b>			
<b>Item No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate (Rs)</b>
	<b>1. Dismantling Works :</b>		
191010	Dismantling existing track on girder bridges including running rails and guard rails duly removing rails & fastenings, sleepers & fastenings, foot path slabs etc. duly cutting existing SW panels / LWR, if required into free rails of not less than 12 metre length and stacking the released materials, complete and as directed. Note: Rail cutting and drilling will be paid separately		
191011	Broad Gauge Track	Track Metre	391.67
191012	Metre Gauge Track	Track Metre	353.62
191020	Removing existing small span steel girder / rail nest / slab / hume pipe (upto 6.50 m span) from track during line block / traffic-free period and stacking released materials, as directed and filling earth in Bridge location including compaction so as to allow traffic, dumping fresh ballast (from nearby stacks within 50 m lead), boxing, packing etc., duly linking permanent way to make the track fit for running of train at restricted speed of 20 kmph, complete and as directed. The work will be done under traffic block under Railway's supervision (Earthwork to be paid separately) :		
	<b>Broad Gauge Track -</b>		
191021	For Clear span upto 3.05 metre	Each	12653.34
191022	For Clear span above 3.05 metre and up to 6.50m	Each	23165.72
	<b>Metre Gauge Track -</b>		
191023	For Clear span upto 3.05 metre	Each	10503.95
191024	For Clear span above 3.05 metre and up to 6.50m	Each	20530.95
191030	Insertion of temporary / steel girder in place of formation – The work involves : 1. Insertion of C/C crib or wooden crib at both ends as per Railway's design and materials in separate traffic blocks. This includes dismantling of track (if required), removal of ballast, excavation, installation of crib and filling of earth filled in bags, as required; 2. Excavation for insertion of girder, if required, filling back by bags full of earth under traffic block (if required); 3. Placement of girder by contractor's tools & plants and linking of track with the approaches including dumping ballast, boxing and packing approach sleepers, ensuring gauge & cross level to make track fit for 20 kmph, as directed by engineer in-charge. NOTE1.In case bridge timber / channel sleepers are required to be laid on girder, the same shall be paid separately. 2.The cost of wooden sleepers supplied for top and bottom matting and bearing sleepers and hard wooden cut blocks and planks shall be paid separately under relevant items/		
	<b>By Manual Method (By Slewing) :</b>		
191031	RH /Temporary girder of length varying from 12.2m to 16.3m	Each	49856.17
191032	RH /Temporary girder of length above 16.3m and up to 26.00	Each	61783.22
	<b>By Road Crane :</b>		
191033	RH /Temporary girder of length varying from 12.2m to 16.3m using road crane capacity of 80 tons	Each	55503.61
191034	RH /Temporary girder of length above 16.3m and up to 26.00 using Road crane capacity of 100Tons	Each	128973.64

Item No.	Description	Unit	Rate (Rs)
191040	Removal of temporary / steel girder and linking of track – The work involves : 1. Removal of Steel / RH girder (including crib on both ends) and placing it on crib / cess away from Railway track as directed by engineer at site under traffic block; 2. 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, so as to open track at 20 kmph speed, boxing & dressing of cess, ballast profiling etc. {(1) Work to be done under traffic block, (2) If earth is to be brought by contractor, the same will be paid separately}		
	<b>(1) By Manual Method (By Slewing) :</b>		
191041	RH /Temporary girder of length varying from 12.2m to 16.3m	Each	46729.01
191042	RH /Temporary girder of length above 16.3m and up to 26.00	Each	54177.44
	<b>(2) By Road Crane :</b>		
191043	RH /Temporary girder of length varying from 12.2m to 16.3m using road crane capacity of 80 tons	Each	61378.63
191044	RH /Temporary girder of length above 16.3m and up to 26.00 using Road crane capacity of 100Tons	Each	95566.68
191050	Dismantling of all types of existing track duly removing rails & fastenings, sleepers & fastenings, removing and stacking ballast upto formation level for bridge related works during Traffic Block, and relaying of same track by pulling additional ballast from stack / adjoining track / same track and linking it with approach track including packing, boxing & dressing etc., as directed so as to open track at 20 kmph speed		
191051	Broad Gauge Track	Track Metre	4786.56
191052	Metre Gauge Track	Track Metre	3929.15
	<b>2. Linking of Track Over Girders :</b>		
191060	Placement of Railway's RCC / PSC slab on bridge abutments / piers / staging etc. with contractor's crane, labour, tools & plant etc. complete, as directed and as per approved drawings & scheme		
191061	Upto 5 MT	Each	11712.04
191062	More than 5 MT & upto 10 MT	Each	19653.50
191063	More than 10 MT & upto 20 MT	Each	25257.85
191064	More than 20 MT & upto 30MT	Each	33049.20
191065	More than 30 MT	Each	87753.46
191070	Removing from track the existing Wooden sleepers with fittings in running track conditions for TBTR (Through Bridge Timber Renewal) / ISD (Increasing Sleeper Density) works & stacking the same neatly at specified places with contractor's tools & labour, as directed by Engineer in-charge (For ISD work, only identified unserviceable sleepers to be covered)	Each	224.64
191080	Inserting in track Wooden sleepers, lying along cess / formation / slope / toe with all fittings complete for TBTR / ISD work to specified gauge with contractor's tools including aligning, levelling to make track fit for 20 kmph speed and as directed by Engineer in-charge	Each	256.45
191090	Removing from track existing Channel sleepers with fittings in the running track conditions for TBTR / ISD works & stacking the same neatly at specified places with contractor's tools & labour, as directed by Engineer in-charge (For ISD work, only identified unserviceable sleepers to be covered)	Each	269.27
191091	Extra to item no. 191090 for Track Circuited area	Each	15.07

Item No.	Description	Unit	Rate (Rs)
191100	Inserting in track Steel Channel sleepers, lying along the cess / formation / slope / toe with all Railway supplied fittings complete for TBTR / ISD work to specified gauge with contractor's tools including aligning, levelling to make track fit for 20 kmph speed and as directed by Engineer in-charge	Each	307.31
191101	Extra to item no.191100 for Track Circuited area	Each	28.77
191110	Inserting in track H-beam sleepers, lying along the cess / formation / slope / toe with all Railway supplied fittings complete for TBTR / ISD work to specified gauge with contractor's tools including aligning, levelling to make track fit for 20 kmph speed and as directed by Engineer in-charge	Each	338.71
191111	Extra to item no.191110 for Track Circuited area	Each	28.86
191120	Linking of track on Bridge with Wooden sleepers as per approved drawing along with fittings, including leading of Running Rails, guard rails, fittings and leading the released rails & fittings back to bridge approaches, fixing running rails & guard rails, bending of guard rails, notching, cutting of Rails, drilling of holes etc., as directed and making track structure fit for normal speed. (Rails, wooden sleeper and fittings will be supplied by Railways)		
191121	Broad Gauge Track	Track Metre	985.18
191122	Metre Gauge Track	Track Metre	867.38
191130	Linking of track on Bridge on Steel Channel sleepers as per approved drawings alongwith fittings, including leading of Running and guard rails, and leading the released rails back to bridge approaches fixing running rails & guard rails, bending of guard rails, notching, drilling of holes, cutting of rails and fixing of PVC dowels etc., as directed and making track structure fit for normal speed. (Rails, steel channel sleeper and all fittings will be supplied by Railways)		
191131	Broad Gauge Track	Track Metre	1023.59
191132	Metre Gauge Track	Track Metre	855.16
	<b>3. Casual Renewals Works :</b>		
191140	Renewal of isolated bridge timber with Railway's bridge timbers after sizing, dressing, notching, making holes for hook bolts and end binding with contractor's 6 mm wire including removal & re-fixing of guard rails, as required in running track and painting of girder at timber seats with epoxy paint of approved quality by two coats, including fixing of all fittings, leveling, gauging etc. -		
191141	Broad Gauge Track	Each	905.56
191142	Metre Gauge Track	Each	812.17

Item No.	Description	Unit	Rate (Rs)
191150	Renewal of existing cracked /broken/corroded isolated Steel Channel 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 and GR/ER pad in position 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 alongwith fittings and tightening of loosened hook bolts etc as a complete job as directed by Engineer incharge 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		
191151	Broad Gauge Track	Each	1508.12
191152	Metre Gauge Track	Each	1342.66
191160	Replacement of running rail and guard rails on bridge portion over Wooden / Steel Channel sleepers, duly fixing fastenings as per approved drawings with suitable bolts, clips etc. including drilling of holes as per drawing with all leads & lifts complete and as directed. (Rails, packing plates and fitting will be supplied by Railways)	Track Metre	669.08
	<b>4. Provision of Guard Rails Work :</b>		
191170	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) Rate is for one set, i.e. bending of two rails - left and right}	Set	7591.46
191180	Fixing of flared portion of guard rail including fixing of rail screws, fish plates, rubber or MS packing plate, as directed complete as per RDSO's approved drawing. (Rail screw, plate screw, fish plates etc. will be supplied by Railways)	Set	4085.39
191190	Drilling holes 25mm to 40mm dia. with drill twist in the foot of guard rails for fixing guard rails on bridge	Each	123.22
191200	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 HDPE dowels to Drawing no. RDSO/T-3002, procured from RDSO's approved sources with contractor's epoxy resins, as specified	Each	288.33
191210	Making notches in guard rail of specified dimension to accommodate dog spike / rail screws / guard rail bolts for bridge timber / steel channel sleeper	Each	94.50
	<b>5. Miscellaneous Items :</b>		
191220	End binding of bridge timbers, wooden sleepers for plain track / points & crossings sleepers with contractor's 6 mm MS wire, lightly grooving the sleepers, tightening and binding, twisting of same wire driven into sleeper to hold end-binding in position, as directed	Each	117.51
191230	Fabrication & supply of Galvanized Steel Channel Sleepers made from ISMC 150mm x 75mm/175mmx75mm/200mmx75mm 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 Incharge NOTE: Cost of Steel fittings and GRSP shall be paid separately	MT	108647.14
191240	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-incharge. NOTE: Cost of steel fittings and GRSP shall be paid separately	MT	100840.34

Item No.	Description	Unit	Rate (Rs)
191250	Supply & replacement of old crushed rubber pads of 10mm thickness with 25mm thick new rubber pads alongwith fixing by proper adhesive on steel channel sleepers on bridges complete, as directed by Engineer In-charge	Sleeper	541.06
191260	Supplying & fixing MS chequered plates 6 to 8mm thick between guard rails on un-ballasted deck bridge for gang pathway, overlapping at regular intervals of 2m to 2.5m with rail screws or bolts duly drilling holes in chequered plate, as directed [Note : Overlapping of chequered plates shall not fall in between sleepers]	Kg	75.61
191270	Providing staging during traffic block to <b>3.6 m x 3.0 m x 3.0 m</b> 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	18925.13
191280	Fixing of Railway's gang-way / landing slabs without damaging slab edges with proper concrete packing and fixing with cement jointing in running traffic condition without block complete and as directed	Running Metre	651.31
191290	Providing temporary shoring arrangements to protect existing track structures, made of released rails at 1 metre or suitable intervals in vertical and horizontal directions, if required for a maximum height of 3 metre. Rail gap to be filled with wooden blocks of 15 cm thickness to retain earth with all leads & lifts, materials, tools & plants, as directed (Rail will be supplied by Railways)	Running Metre	2682.83
191300	Clearing waterway of major & minor bridges by removing weeds / shrubs / bushes, removing silt deposit, filling scours, if any upto 10 metre from centre of bridge on either side including disposing waste and silt away from waterway ( Rates are for a single line and per metre of bridge span)	Metre	185.34
191310	Fabrication, supplying and fixing 600mm x 450mm Bridge Board made from 16 SWG MS Sheet duly welded or rivited to back support of two 600mm long horizontal angles of size 25mm x 25mm x 3mm & two 2.5 metre long vertical support of MS Angle of size 50mm x 50mm x 5mm, welded / rivited 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 - Incharge {Note : Excavation & concrete work will be paid separately}	Each	2202.51

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<b>CHAPTER - 20 : Supply of P.Way Items</b>			
<b>Item No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate (Rs)</b>
	<b>1. Nuts &amp; Bolts</b>		
201010	Manufacture & supply of galvanised MS holding down bolts with nuts, having two coats of electro-plating 18mm to 20mm dia., 300mm long, one end threaded and other welded with 8mm dia. MS rods 100mm long perpendicular to the holding down bolt for holding Railway's AC bearing plates in pit line with all leads & lifts etc. complete and as directed	Kg	93.66
201020	Manufacture and supply of Hook Bolt 28mm dia. & 320mm long as per RDSO Drg. no. BA-1636/I/R2	Each	46.83
	<b>2. Rubber Pads :</b>		
201030	Manufacture & supply of Grooved Rubber Pads to be used for steel channel sleepers for 60 Kg / 52 Kg running rails to RDSO drawing No. RDSO/T-5197 to 5200 and RDSO/T-5155 to 5160 with 52Kg / 90R guard rails from RDSO approved sources to IRS specification for grooved rubber pads (provisional 1989) for 10mm thickness with all contractor's lead, lift, labour, tools, plant and transportation etc. complete as instructed by Engineer in-charge {One set constitutes Two nos.}	Set	353.22
201040	Manufacture & supply of Elastomeric Pads 25mm / 30mm thick as per RDSO drawing No. B/1636/I/R2 to suit Insulated steel channel sleepers 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 {One set of sleeper constitute two Nos.}	Set	406.73
	<b>3. ERCs, Liners, Fish Plate, Joggled Fish Plate :</b>		
201050	Manufacturing and supplying Galvanised MS Inner and Outer Clips for Steel Channel Sleeper (RDSO Drg. No. T-6150 & T-6151) {One set constitutes two inner & two outer clips}	Set	580.66
	<b>4. Different Components Of Track :</b>		
201060	Manufacture and Supply of Single Coil Spring Washer T-10773 as per RDSO Drg. No. RT-4015 at Store of SSE/P.Way complete and as directed	Each	5.82
201070	Manufacturing & supplying linked chain made of 8mm dia. rods with joints welded with links of length not exceeding 40mm with ring & bolt at one end and hook & locking arrangement at other end, painted with two coats of PO red paint of various length of 5.5 m to 11 m of approved quality, as directed	Metre	111.59
201080	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 with all contractor's lead, lift, labour, tools, plant, transportation etc. complete as per approved drawings and instructions of Engineer in-charge	Set	2675.88
201090	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 with all contractor's lead, lift, labour, tools, plant, transportation etc. complete as per approved drawings and instructions of Engineer in-charge	Set	2052.40
201100	Supplying of Zero toe load fixtures for each 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 approved drawings and instructions of Engineer in-charge	Set	4013.81

Item No.	Description	Unit	Rate (Rs)
<b>5. Engineering Indicators :</b>			
201110	Manufacturing, fabricating and supplying retro-reflective sign boards, made of 2mm thick aluminum 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 alongwith theft resistant measures, mounted and fixed with 2 nos. M.S. angles of size 35mm x 35mm x 5mm to a vertical post made up of M.S. Tee section ISMT 50mm x 50mm x 6mm, 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		
201111	Bilingual Whistle Boards for level crossing	Each	5327.50
201112	Speed Breaker / Rumble Strips Board	Each	4168.91
201113	Un-manned Level Crossing Danger Stop Board	Each	3404.11
201114	Manned Level Crossing Indicator Board	Each	4812.39
201115	Single Strip / Double Strip Level Crossing Road Warning Board	Each	3404.11
201116	Caution Indicator Board	Each	4774.93
201117	Speed Indicator Board	Each	4078.30
201118	Stop Indicator Board	Each	4774.93
201119	Termination Indicator Board	Each	6140.20
201120	Flag Station Board	Each	3625.84
201121	Circular Stop Disc of 600mm dia. with vertical holding stand for fixing on emergency chain at level crossing	Each	3500.04
201130	Manufacturing and supplying Trolley Refuge Indicator Boards / Level Crossing No. Boards, made of MS sheet of 2mm thick of size 240mm dia. and 50mm x 50mm x 6mm angle, welded to MS sheet, duly painting with 2 coats of ready mixed yellow enamel paint over one coat of red oxide with all lead & lift as per specification and as directed by Engineer in-charge	Each	996.76
201140	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	750.32
<b>6. Small Track Machines :</b>			
201150	Manufacture and supply of Drill Twist, made of High Speed Steel (HSS) of various sizes of Addision / I.T. make or equivalent, as directed by the Engineer in-charge		
201151	7.2 mm dia.	Each	206.04
201152	16 mm dia.	Each	1197.45
201153	18 mm dia.	Each	1280.41
201154	26.5 mm dia.	Each	2481.87
201155	28.75 mm dia.	Each	2821.71
201156	31.75 mm dia.	Each	3756.93

Item No.	Description	Unit	Rate (Rs)
	<b>7. Welding Equipments :</b>		
201160	Manufacture & supply of Steel Mould Shoes for SKV welding as per IR's AT Weld Manual :		
201161	52Kg - 2 piece Mould Shoe	Set	3211.05
201162	52Kg - 3 piece Mould Shoe	Set	3585.67
201163	60Kg - 2 piece Mould Shoe	Set	3478.64
201164	60Kg - 3 piece Mould Shoe	Set	3585.67
201170	Manufacture & supply of rail file approximate size 15" long for filing SKV welds from Railway approved firm	Each	602.07
201180	Manufacture & supply of Welding Equipments, as directed by Engineer in-charge :		
201181	Welding Cable Copper (50mm <sup>2</sup> )	Metre	147.17
201182	Pressure Regulator for Oxygen Multi-stage cylinder	Each	1940.01
201183	Pressure Regulator for Acetylene gas cylinder	Each	1940.01
201184	500amp Arc Welding Electrode Holder	Each	113.72
201185	Gas Cutting Torch Blow Pipe	Each	1271.04
201186	Hand Gloves Leather (Left Hand & Right Hand)	Set	42.81
201187	Hose Rubber for Oxygen 6mm dia.	Metre	37.46
201188	Hose Rubber for Dissolved Acetylene (D.A.) 6mm dia.	Metre	37.46
201189	Welding Screen (approximate size 4" x 3")	Each	200.69
201190	Manufacture & supply of Gas Cylinders (returnable cylinders) with gas for repairing of check rails at level crossings and guard rails on bridges alongwith other works, as required :		
201191	Oxygen Gas Cylinders (Pressure 1800 lbs to 2000 lbs)	Each	10703.50
201192	Dissolved Acetylene (D.A.) Gas Cylinders with pressure of 15 Kg to 20 Kg	Each	6422.10
201200	Manufacture & supply of wire brush 25mm long, as directed by Engineer in-charge	Each	20.07
201210	Supply of Used Lubricating Oil of approved quality	Litre	13.38

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<b>CHAPTER - 21 : Miscellaneous Items</b>			
<b>Item No.</b>	<b>Description</b>	<b>Unit</b>	<b>Rate (Rs)</b>
211010	Fixing MS Indicator Boards as per standard design including excavation, refilling, concreting in foundation and painting with enamel and luminous paints as directed by Engineer in-charge. <b>Notes :</b> (1) Supply of steel for posts & boards shall be paid separately; (2) Excavation & concrete work will be paid separately} -		
211011	Boards with single post	Each	286.85
211012	Boards with two posts	Each	293.54
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	220.83
211022	For removal	Each	181.16
211030	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	Metre	117.94
211040	Breaking Rails By Railway's Jim crow :		
211041	Rail sections of 75R or below	Each	144.06
211042	Rail sections of 90R or above	Each	180.08
211050	Casting and positioning of pre-cast cement concrete Fouling Mark as per approved drawing at station yard, duly painting letters of Fouling Mark, complete in all respects with all labour, materials including cement, tools and plants etc.	cum	7112.48
211060	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	733.19
211070	Provision of furniture temporarily for site work in good condition at different locations as per direction of Engineer In-charge, for a specific period of time & removing the same after completion of work		
211071	Office Table of size 1.2m x 0.9m	Day	54.86
211072	Office Chairs with cushioned seat, back and arms	Day	33.45
211080	Planing of Railway's Fish Plates of all rail sections for insulated joints by grinding / planing / milling fishing planes of fish plate and enlarging bolt holes to 32mm dia.	Each	393.17
211090	Converting Railway's Fish plate into joggled fish plate for all rail sections as per standard drawing from Railway's fish plates including elongation of hole, bending, as required	Each	298.30
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	202.03
211102	For Fixing / Re-erecting	Each	313.52
211110	Removal of night soil from track (ballast profile and cess) in yard line / block section by manual or mechanical means and dumping at indicated place outside the working area. This item can be operated at locations where trackmen are to be deputed for only track maintenance activities, as per satisfaction to the site engineer in-charge	Track Metre	18.12
211120	Breaking the damaged PSC sleepers including dragging, if required duly removing inserts and HTS wires safely and handing over to Railways at Stores or Depot of SSE/P.Way, including disposing the broken concrete pieces, as directed by Engineer in-charge	Each	235.89
211121	Deduction to Item no. 211120 for taking away HTS wire (Steel) of one PSC sleeper by contractor	Each	120.00

Item No.	Description	Unit	Rate (Rs)
211130	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	130.63
211140	Making Trolley Refuge of size 2.75m x 2.75m and placing released unserviceable PSC sleepers at all four sides of refuge (Earth-work to be paid separately)	Each	467.94
211150	Converting ordinary Broad Gauge ST Sleeper to Metre Gauge / Narrow Gauge ordinary ST Sleepers as per standard approved drawing by cutting, drilling, pressing to shape in hydraulic press & finishing {released cut pieces shall be deposited with Railway's Stores, as directed}	Each	207.21
211160	Converting ordinary Broad Gauge ST Turnout Sleeper to MG / NG Turnout ST sleeper as per standard approved drawing by cutting, pressing to shape in hydraulic press, drilling holes for loose jaws & rivets of slide chair, rivetting slide chair with converted sleeper & finishing {released cut pieces shall be deposited with Railway's Stores, as directed}	Each	786.21
211170	Supplying and fixing MS Saddle Plates for worn out seat of CST-9 sleepers 165mm x 150mm, pressed into channel shape suitably for fixing at rail seat in track -		
211171	3mm thick plate	Each	28.39
211172	4mm thick plate	Each	35.48
211180	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 upto six months period, otherwise respraying shall be done by the contractor	Sqm	0.53
211190	Supplying & applying single liquid solution of Henkel or similar make Loctite Rail Safe 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/mm <sup>2</sup> 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 Rail Safe, as directed by Engineer in-charge for -		
211191	Bolts dia. 20mm to 25mm	Each	27.73
211192	Bolts dia. 26mm to 30mm	Each	32.01
211193	Bolts dia. 31mm to 40mm	Each	40.44
211200	Supplying & applying of Poly Chloroprene rubber-based Solvent (toulene free, i.e. not harmful to human body) of Henkel or similar make Loctite Track Safe to prevent working out of rubber pads, having density 0.85±0.01 gm/cm <sup>3</sup> 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		
211201	PSC Line sleepers	Each	24.78
211202	1 in 8½ Turnout Set	Set	5357.10
211203	1 in 12 Turnout Set	Set	7963.40
211204	1 in 8½ Switch Assembly	Set	1339.72
211205	1 in 12 Switch Assembly	Set	1741.99
211206	1 in 8½ Crossing Assembly	Set	770.65
211207	1 in 12 Crossing Assembly	Set	1116.73

Item No.	Description	Unit	Rate (Rs)
211210	Galvanisation of Railway's Chequered Plates, Channels, Plates, Angles, I-Section, and stretcher bars 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	23258.17
211211	Extra to Item 211210 for M.S.Liners,ERCs,Plate screws 20% of Relevant rate	MT	4651.63
211220	Hiring of JCB/Hitachi for levelling and dressing ground/dismantling structures ,Removal of jungle, clearing of earth, lowering high cess etc., along side the track between up and down lines obstructing drainages of rain water, clearing of bushes obstructing visibility at curves and Level Crossings with all lead and lift etc. complete and as directed by the Engineer-in-charge .All labour, tools and plants consumables stores including supply of JCB/Hitachi with crew to be provided by the contractor at his own cost. The contractor shall arrange road permit for vehicle for all the States of operation, as per instructions of engineer in-charge and vehicle shall not be more than three years old. Payment shall be made for actual working hours at site.	Hour	1284.42
211230	Arranging labour as and when required by the Engineer incharge,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 incharge. Note ; For the paying quantity, a total of 12 hours duty of a man will be counted as one manday and nothing extra shall be payable for night working. However, in a day, total working hours shall not exceed 12 hours. In case, working hours exceed 12 hours, separate manday shall be counted. Note :- Location shall be identified in advance.100% test check in advance to be done by concerned ADEN as a proof of identification and got signed by him.	Day	612.78
211240	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	22.70
211250	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 stiching the same with machine using polythene thread complete as directed by Engineer-incharge at site	Each	12.73
211260	Loading of sand/quarry dust filled bags from Railway stacks in to Railway Wagons with all contractor's tools & plants,machinery, labour,lead and lift,crossing of track wherever necessary etc., complete as directed by the Engineer Incharge	Each	5.14

Item No.	Description	Unit	Rate (Rs)
211270	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 seperately	Each	14022.92