

**SPECIAL CONDITIONS OF CONTRACT FOR VARIOUS ANCILLARY TRACK  
WORK, PRE & POST WORK OF BCM WORKING AND DEEP SCREENING**

**1. In case of shallow screening of track:-**

1. The overhauling should be done using SBCM for cleaning of shoulder ballast. The crib ballast should also be shifted to shoulders for screening by the machine, which should again be put back in crib portion. In case it is not feasible to screen the crib ballast by machine, the same should be screened manually. Adequate care should be taken in removing the crib ballast in LWR/CWR track.
2. In case of manual overhauling, the crib ballast in the shoulders should be opened out to a depth of 75 to 100 mm below the bottom of sleepers, sloping from the centre towards sleeper end. The ballast in the shoulders opposite to the crib as well as between the sleepers is removed to the full depth. A slope is given at the bottom sloping away from the sleeper end. The ballast is then screened and put back. Care should be taken to see that the packing under the sleepers is not disturbed and the muck removed is not allowed to raise the cess above the correct level.
3. Two continuous spaces between sleepers should not be worked at the same time.
4. Shallow Screening should be progressed in alternate panels of one rail length. In no circumstances should several rail lengths of track be stripped of ballast simultaneously.
5. Where drains across the track exist, they should be cleaned and filled with boulders or ballast to prevent packing from working out and forming slacks.
6. After screening, full ballast section should be provided, extra ballast being run out in advance for the purpose. Work should be commenced after making sure that the ballast will not be seriously deficient. Deficiency, if any, should be shown in the central portion of sleeper and this also should be made up soon.
7. At no time, not more than 30 sleepers' spaces in a continuous stretch shall be opened for manual maintenance or shallow screening with at least 30 fully boxed sleeper spaces left in between adjacent openings. Maintenance of in between lengths shall not be undertaken till passage of traffic for at least 24 hours in case of BG carrying more than 10 GMT or 2 days in case of other BG routes.
8. The ballast so removed should preferably be screened by using portable ballast screeners/inclined ballast screener. It may be noted that use of wire basket for screening ballast is not permissible. Muck/soils should be disposed of as directed by the Engineer.
9. Minimum prescribed progress for manual shallow screening at any site by 400 m per day would invite penal action as prescribed Rs.2000 per day & maximum in month Rs.20000/-.
10. For all works on the running track or adjacent to running track, the protection of work site shall be ensured by the railways at its own cost. However, the contractor in addition will provide the necessary lookout men to ensure safety of his workmen/workwomen and the instructions given by Engineer or his representative in this regard and as stipulated in special conditions of contract should be strictly adhered to.
11. Without, in any way, restricting or modifying the provisions of the General Conditions of contract in this regards the rate for the above quoted work shall be inclusive of all cost of contractor's labour materials, consumable. T & P's & Machinery incl. Complete for this above.
12. The work shall be carried out strictly as per instructions laid down in IRPWM-June 2020 and/or railway drawing and the instructions of the Engineer or his representative whose decision in this regard be final and conclusive.

**2. Destressing:**

For destressing of track at appropriate temperature and all instructions as per. IRPWM-June 2020 (Chapter no 3, Para no. 339, 340 & 341) and latest CE circulars should be followed strictly during work.

**3. Cutting of Rails:**

1. The above item of work envisages scattng of rails on cess/running track as specified in the schedule at isolate locations/railways nominated depots/stocks as per railway's requirement and/or as



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directed by the Engineer or his representative complete with handling of rails and all incidental works.

2. The nominated depots/stacks/locations for the purposed of this work shall have to be inspected by the contractor before submitting the tender and the accepted rate is deemed to be inclusive of all leads, lifts & descents and incidental works.
  3. Without, in any way, restricting or modifying the provisions of the General Conditions of contract in this regard the rate for the above work shall be inclusive of all costs of contractors, labour, materials like disc etc., consumables, tools and plants and machinery including rail cutting machines etc. complete.
  4. The measurements for payment shall be for each complete cut at correct locations and accepted by the Engineer or his representative.
  5. The work shall be carried out strictly as per instructions laid down by Indian Railways P.W. Manual updated up to latest correction slip and/or Railways drawings and the instructions to the Engineer or his representative. Whole decision in this regard shall be final and conclusive.
- In addition to the above, the work shall conform to the following: -
- A) The cut shall be made in a plane truly at right angle to the foot as well as running edge of the rail.
  - b) Cut places of rails shall have to be returned by the contractor at Railway nominate depots/locations at his own case.
  - C) The burr, if any shall have to be removed by the contractor by using his own chamfering kit.
  - D) Flame/Gas cutting is forbidden.
  - E) Only Abrasive disc cutter is permitted. Not any other type of Rail cut is permitted.
6. For preventing longitudinal movement of sleepers notching of rails foot of guardrails is to be done on every alternate sleepers when guardrails are fixed on wooden sleepers. The size of notch should be such as to accommodate stem of dog spike rail screw and should be able to effectively arrest relative movement between rail and sleeper. The payment for notching of guardrails shall be in number of notches cut. The size of dog spike stem is 16mm x 16mm and that of rail screw 20mm dia, Notches of 19mmx19mm for dog spikes and 22mm x 22mm for rails crews would serve the purpose.
  7. For all works on the running track of adjacent to running track, the protection of work site shall be ensured by the railway at its own cost. However the contractor in addition will provide the necessary lookout men to ensure safety of his workmen and the instructions given by Engineer or his representative in this regard and as stipulated in special conditions of contract should be strictly adhered to.

#### **4. DRILLING HOLES IN RAILS**

1. The above item of work envisages drilling of holes in rails on cess/running track of diameter as specified in the schedule at isolated locations/Railways nominated depots/stacks as per railway requirement and/or as directed by Engineer or his representative complete with handling of rails and all incidental works.
2. The nominated depots/ stacks/locations for the purpose of this work shall have to be inspected by the contractor before submitting the tender and the accepted rates is deemed to be inclusive of all lead, lifts and descents and incidental works.
3. Without, in any way, restricting or modifying the provisions of the General Conditions of contract in this regards the rate for the above quoted work shall be inclusive of all cost of contractor's labour materials like drill, bite etc. consumable. T & P' s & Machinery incl. Drilling machine, Drill bit consumable chamfering, equipment etc. complete for this above.
4. The measurement for payment shall be for each hole drilled in rails and accepted by the Engg or his representative.
5. The work shall be carried out strictly as per the railways standard drawing and/or as given in the IRTMM and instructions of the Engineer or his representative whose decision in this regards shall be final and conclusive.
6. The finished diameter of the hole in the rail shall be at as follows:

Rail Section	Hole Dia.
60Kg/52Kg	32mm



90R/75R/60R

28mm

7. In addition to above following shall be adhered to:

- a) No punch or remains/drifts will be permitted.
- b) After drilling the hole, the same shall be chamfered with chamfering tools to remove burrs for work hardening the hole as per directions of Engineer"
- c) The use of flame/gas cutting equipment is for bidden.

8. For all works on the running track or adjacent to running track, the protections of work site shall be ensured by the railway at its own cost. However, the contractor, in addition, will provide the necessary lookout men to ensure safety of his workmen/workwomen and the instructions given by the Engineer his representative in this regards and as per stipulated in special conditions of contract should be strictly adhered to.

#### **LOADING UNLOADING OF RAILS/SLEEPERS /P-WAY FITTINGS.**

1. The above item of the work envisages loading/unloading, rails/sleepers/P-way fittings etc. into /from /Railway wagons trucks at stations or movement on material lorries/dip lorry in block section as specified in the schedule and at locations as per Railway's requirements and/ or as directed by the Engineer or his re-preventative complete with all lifts/descents and lead upto 100m. and all incidental works.
2. The nominated locations for the purpose of this work shall have been inspected by the contractor before submitting the tender and the accepted rate is deemed to be inclusive of all incidental works.
3. Without in any way restrictions or modifying the provision of the General Conditions of contract in this regard, the rate for the above quoted work shall be inclusive of all costs of contractor's labour materials. Consumables, T & P and Machinery etc. complete for the above.
4. The measurement for payment shall be :-
  - i. Per running meter of rail loaded/unloading measured to the nearest CM of the sections its specified in the Schedule.
  - ii. Number of ordinary sleepers loaded/unloaded of the type in gauge as specified the schedule. In case of CST/9 sleepers only, each sleeper posts/plates shall be considered for payments.
  - iii. Weight in tonnes of the P-way fittings loaded/unloaded measured/worked out to the nearest kilogram. For fittings weightiest will have to be ensured.
  - iv. Cum of volume of the special timbers worked out to the nearest .01 cum loaded /unloaded as specified in the Schedule : as applicable and accepted by the Engineer or his Re-preventative.
5. The work shall be carried out strictly as per the instructions laid down in Indian Railway's Permanent Way Manual and the instructions of the Engineer or his re-preventative whose decision in this regard shall be final and conclusive.
6. The work of loading/unloading into /from railway wagons or trucks shall be inclusive of a lead of 100m and all lifts and decents.
7. If damage occurs to the rails , sleepers and permanent Way fittings rendering them unsuitable for future use as a adjusted by the Engineer or his representative, cost of the material will be recovered as per extant rules of the Railways and the coal provisions.
8. Notice shall be given 24 hrs in advance of the expected arrival of loaded/empty wagons and its probable extent and the site of leading/unloading and arrangement shall be made according by the contractor.
9. Detention to wagons on account of shortage of labour/trucks or due to any fault attributable to the contractor or if the contractor fails to load/unloaded the wagons in the time specified by the Engineer, penalty as stipulated would be levied in the addition to recovery of herbage/ demurrage paid for by the Railway.
10. When materials are being moved in mid section under Para 839 of IRPWM by material lorry it would be necessary that the movement is permitted strictly under the control of a Railway's representative who has the necessary lorry/trolley certificate, when materials are moved on material lorry under Para 839(4) of IRPWM without full block, the contractor may be required to unload/load the material lorry in mid section to permit movement of trains. No payment would be made for such incidental loading(s) unloading(s) in mid section.



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11. The wagons/trucks shall be fully loaded in safe and proper manner unto their capacities. The loaded material shall be neatly stack as directed by the Engineer-in-charge.
12. All material after unloading shall be leveled down or/and stacked within a lead of 100m inclusive of all lifts and descent as directed by the Engineer-in-charge.
13. It shall be ensured that the unloaded material do not infringe the Railways Schedule of dimensions.
14. In case of loading/unloading in block working the contractor shall ensure presence of adequate strength of labour so as to complete the work in the block time granted.
15. It shall be ensured that after unloading in block working the unloaded materials are immediately cleared to remove any infringement caused thereof so as to facilitate safe passing of traffic after release of the block.
16. For all works on the running track or adjacent to running track the protection of work site shall be ensured by the Railway at its own cost. However the contractor in addition will be provide the necessary look out men to ensure safety of his workmen/workwomen and the instructions given by Engineer or his representative in this regard and as stipulated in special conditions of contract should be strictly adhered to. No compensation shall be payable to the contractor if, the work cannot be done due to non-availability of traffic block, rains or any other reason whatsoever. The contractor should take into account the probability of labour utilization depending on the above factors on the section where the work is t be done and quoted his rate accordingly.
- 16(a) Site or order books, progress Register & material issue Register shall be maintained at site and entire is will be recorded on day to day basis in the registers and signed jointly by Railway Supervisor and contractor or his authorized representative . All details of handing and taking over sections for different stage of packing, imposition and removal of speed restriction, measurement of track parameters, accountable of released material etc. should be recorded.
17. For executing the works the contractor has to arrange his own T&P and equipments unless otherwise stated in specification mentioned in the description/ specification of items in the schedule as Railway supply. In all other cases, if any tools & plants are hired to the contractor, necessary hire charges to be recovered from his bills/ security deposit etc.
18. In case of loading/ unloading from Railway wagons all commercial formalities shall be observed. All demurrage/ wharf age charges accruing due to negligent of contractor will be recovered from the contractor's bills.
19. The contractor may be required to stop Deep Screening work during rain and no compensation will be paid for this.
20. Portable ballast clean/ a b c screens shall be used for screening the ballast at deep screening sites. Use of wire baskets is not permissible for screening ballast. The contractor should make his own arrangement for portable ballast cleaners/inclined screens. Where feasible they may be supplied by the Railway on recovery of hire charges.
21. No ballast will be wasted on the slope of banks or in cuttings. All ballast from the slops shall be picked up and put in the tracks as directed by Engineer.
- 22 In all cases work shall be carried out under Railway's supervision. Provision of Temporary speed restriction Boards and their lighting shall be arranged by the Railway. Contractor shall not start any work without Railway representative's permission and his presence.
- 23 In case of loading/unloading/leading/handling P-Way material as rails/sleepers etc. same rate would be deemed to be applicable for New/Old material's. No weight age would be given for reduction in weight due to wear/crossing on etc. and the nominal weight as per Drawing would along be considered as final and binding

#### **LEADING/HAULING COLLECTIONS AND STACKING/ SPREADING RAILS;**

1. The above of work envisages;
  - (i) Leading /Hauling/ stacking rails (unto 13M in length) or rail panels (larger than 13 M length) from Railway's nominated Depose/Stacks/Locations and



- (ii) Stacking/spreading the rails or rail panels at the nominated Depots/stacks/locations as per Railway requirements and/or as directed by the Engineer or his representative complete within leads as specified, all lifts & descents and incidental works.
2. The nominated Depot/stacks/ locations for the purpose of this work shall have been inspected by the Contractor before submitting the Tender and the accepted rate is deemed to be inclusive of leads as specified, all lifts & descents and incidental works.
  3. Without in any way restricting or modifying the provision of the General Conditions of the contract in this regard, the rates for the above quoted work shall be inclusive of (except as specifically provided herein under) all costs of contractor's labour. Equipment's, consumables. Tools & Plants and Machinery etc. complete for the above.
  4. The measurement for payment shall be per running mtr. of the rail measured to the nearest centimeter separately for each rail section as mentioned in the Schedule. The payment would be made for the appropriate rail section (60kg, 52kg, 90-R etc.) and no weightage will be given to loss of weight on account of wear/corrosion etc. for second hand rails.
  5. The cut shall be carried out strictly as per instructions laid down in Indian Railway's Permanent P-Way Manual and or as per instructions of the Engineer or his representative whose decision in this regard shall be final and concourse.
  6. In addition to the above, the work shall conform to the following:-
    - i. Carrying rails on the heads or shoulders is prohibited. For handling rails single, rails tongrail, rail dollies etc. or other similar equipment shall only be used.
    - ii. While stacking spreading rail scare shall be taken to ensure that;-
      - (a) The rails are sorted rails action wise and/ or class wise.
      - (b) The rails are stacked/ spread on level ground.
      - (c) The serials are supported and stacked in a manner directed by the Engineer or his representative.
      - (d) The rails are so spread as to rest evenly along their entire length or on supports closely spaced with the flat-footed rails resting on the foot.
      - (e) In case of spreading rails along side track, the rails will be paired as per the instructions of the Engineer in-charge.
    - iii. While working in the vicinity of existing open line track it should be ensured that the Rly's Schedule of dimensions are not infringed with.
    - iv. Use of Rail dollies/dip lorry from leading/hauling of rail on open line track can be resorted to only with approval of Engineer-in-charge & it should be carried out only under supervision of the Railway Engineer or his authorized representative holding a competency certificate for working lorries/trolley in the mid-section.
  7. For all works on the running track or adjacent to running track, the protection of work site shall be ensured by the Railway at its own cost. However, the contractor in addition will provide the necessary look out men to ensure safety of his workmen/workwomen & the instructions given by Engineer or his representative in this regard as stipulated in special conditions of contract should be strictly adhered to.

#### **COLLECTION/LEADING AND STACKING OF SLEEPERS/SLEEPER PLATES:-**

1. The above item of work envisages:-
  - i. Collecting / Leading and Stacking the sleepers or sleeper plates at the nominated depots/ stacks locations, as per Railway's requirements and /or as directed by the Engineer or his representative complete with leads as specified in the Schedule, all lifts & descents and incidental works.
  2. The nominated Depots./Stacks/Locations for the purpose of this work shall have been inspected by the contract or before, submitting the tender and the accepted rate is deemed to be inclusive of all leads lifts & descents and incidental works.
  3. Without in any way restricting or modifying the provision of the General Conditions of the Contract in this regard, the rates for the above quoted work shall be inclusive of all cost of contractor labour. Consumable, T&P and Machinery etc. complete for the above.



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4. The measurements for payment shall be:-

- i. In case of ordinary size sleepers, per number of sleeper/ collected/ /led/ stacked for all sleepers except CST- 9 sleepers the payment would be for number of sleeper's pots/ Plates handled.
- ii. In case of special size sleepers on the bases of cum of the sleeper collected/ led/ stacked for wooden sleepers and tone for steel channel sleepers.
5. The work shall be carried out strictly as per instructions laid down in Indian Railway & Permanent Way Manual and or as per instructions of the Engineer or his representative whose decision in this regard shall be final and conclusive.
6. In addition to the above, the work shall conform to the following:-
  - i. While handling adequate care should be taken to avoid any physical damage to the sleepers. In case of damage to sleepers due to negligence of contractor, recoveries will be made from contractor's bills and Engineer's decision in this regard will be final.
  - ii. While stacking sleepers care shall be taken to ensure that:-
    - a. The sleepers are shorted out separately as directed by the Engineer or his representative.
    - b. The sleepers are stacked on reasonably level ground.
    - c. The sleepers are supported in a manner directed by the Engineer or his representative.
7. For all works on the running track or adjacent to running track, the protection of work site shall be ensured by the Railway at its own cost. However, the contractor in addition will provide the necessary lookout men to ensure safety of his workmen/workwomen and instructions given by Engineer or his representative in this regard and as stipulated in special conditions of Contract should be strictly adhered to.

**REMOVING EXISTING RAILS /RAIL PANNELS FROM TRACK;**

1. The above item of the work envisages removing existing rails/ rail panels from existing track at locations as per Railway's requirements and/or as directed by the Engineer or his representative complete with removal of rail sleeper fastenings, fish plates, bolts etc., and all incidental works.
2. The nominal locations for the purpose of this work shall have been inspected by the contractor before submitting the Tender and the accepted rate is deemed to be inclusive of leads upto 100m, lifts and descents and incidental work.
3. Without in any way restricting or modifying the provisions of General Conditions of contract, in this regard, the Contractor, labour, Materials, consumable, Tools & Plants and Machinery etc. complete for the above.
4. The measurement for payment shall be per running meter of removed to the nearest centimeter and accepted by the Engineer representative. No warfare will be given to the loss of rail on account of wear corrosion etc. and only nominal rail section would be considered for purpose of payment in case of second hand rails.
5. The work shall be carried out strictly as per Railway's Standard Drawings, instructions laid down in Indian Railway's Permanent Way Manual and the instructions of the Engineer or his representative whose decision in this regard shall be final conclusive.
6.
  - i. The work will involve removing fish plates and fish bolts, sleepers rail fastening and removing the rail from the sleepers and placing at safe distance away from the track, as directed by the Engineer in-charge.
  - ii. The work shall be carried out only under the supervision of the Engineer in charge of his authorized representative under full traffic block.
  - iii. The rails removed from the track should be cleared from the existing track as directed by the Engineer in charge and should not infringe the Railway Schedule of dimensions.
  - iv. Fish plates bolts, Nuts and clips/Keys etc. removed during the operation should be stacked as directed by the Engineer- in-charge. Payment for extra leads, if any shall be made under the relevant items of the Schedule.



- v. For handling rails, slings, rail tongs, rail dollies etc. or other similar standard equipment's should only be used.
- 7. For all works on the running track or adjacent to running track, the protection of work site shall be ensured by the Railway at its own cost. However, the contractor in addition will provide the necessary look out men to ensure safety of his workmen/workwomen and the instructions given by Engineer or his representative in this regard and as stipulated in special conditions of contract should be strictly adhered to.

**INSERTING RAILS / RAIL PANNELS IN EXISTING TRACK.**

1. The above item of the work envisages inserting Railway's rails of section as specified in the Schedule incl. providing and fixing, Railways rail and rail sleeper fastenings & fittings etc. incl. Of 100m free lead and all lifts/ descents, etc. complete on existing sleepers at locations as per Railway's requirements and/ or as directed by the Engineer or his representative complete incl. all incidental works.
2. The nominated locations for the purpose of this work shall have been inspected by the contractor before submitting the tender and the accepted rate is deemed to be inclusive of all incidental works.
3. Without in any restricting or modifying the provision of the General Conditions of Contract in this regard, the rate for the above quoted work shall be inclusive of all costs of contractor's labour material, consumable, Tools & Plants and Machinery etc. complete for the above.
4. The measurement for payment shall be per running meter of rail inserted measure to the nearest centimeter and accepted by the Engineer or his representative.
5. The work shall be carried out strictly as per the Railway's Standard Drawings, instructions laid down in Indian Railway's Permanent Way Manual and the instructions of the Engineer or his representative whose decision in this regard shall be final and conclusive.
6. The work will involve.
  - i Inserting pre drilled and precut rails on previously laid sleepers as per Railway's drawing and / or as directed by the Engineer-in-charge.
  - ii Rail/Rail Panels of equal length shall be used in pairs for inserting and joints shall be square.
  - iii Rail joints shall be square to alignment, while on the curved aligning cutting of inner rails shall be done at suitable intervals when lead of inner rail is equal to half pitch. (Cuts to be paid for separated).
  - iv Fixing railway's fish plates and fix bolts and other rail and rail sleepers fastening as per railway's drawing and /or as directed by the engineer-in-charge of block oil as specified by Engineer-in-charge. The fish bolts shall be applied one coat of black oil as specified by Engineer-in-charge. The oil will be supplied free by the Railway.
  - v Hammering of fish bolts is prohibited. The fish bolts should not be over tightened and the first to fish bolts be tightened first. Burring of bolts as required by Railway will be done by the contractor at no extra cost.
  - vi Fixing Railway's key/clips and other rail and rail sleepers fastening to obtained gauge as per Railway's drawing and/or as directed by the Engineer-in-charge.
  - vii In case of inserting rails/rail panels on concrete sleepers this work will include fixing/grooved rubber-pads, liners and elastic rail clips as directed by the Engineer and as per standard Drawing.
  - viii The work shall be carried out only under the supervision of the Engineer-in-charge or his authorized representative full traffic block not in fringes the Railway Schedule of dimensions.
  - ix It should be ensured that the handling of rail is as directed by the Engineer-in-charge and should not infringe the Railway schedule of dimensions.
  - x For handling rails, slings, rail tongs, rail dollies etc. or other similar standard equipment's should only be used.
  - xi Kinky rails if any shall be straightened as directed by Engineer-in-charge for which Jim Crows will be supplied free of cost by the Railway (This work shall not be a payable item)
  - xii Marking on rails with punch of chisel is prohibited.
  - xiii The driving of the keys shall be done with a standard keying hammer(1.8kgs)
  - xiv The above operation shall be completed on the base, rail first which shall be first aligned and fixed in position before the other rail is fixed to the gauge as stipulated.



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xv The gauge shall be maintained as per Para 520 of the IRPWM-2020. Minor lifting upto 25mm & packing and leveling the track as required would be included within the scope of this work.

7. For all works on the running track or adjacent to running track protection of work site shall be ensured by the Railway at its own cost. However the contractor in addition will provide the necessary look out men to ensure safety of his workmen/workwomen and the instructions given or his by engineer representative in this regard and as stipulated in special conditions of contract should be strictly adhered to.

#### **REMOVING SLEEPERS FROM EXISTING TRACK:-**

1. The above item of the work envisages removing sleepers from existing track at locations as per Railway's requirements and/or as directed by the Engineer or his representative directed by the complete with removal of rail sleeper fastenings etc. and all incidental works.
2. The nominated Depots/ stacks/ locations for the purpose of this work shall have been inspected by the contract or before submitting the tender and the accepted rate is deemed to be inclusive of leads upto 100m all lifts & descent & incidental works.
3. Without any way restricting or modifying the provisions of the General Conditions of contract in this regard, the rate for the above quoted work shall be inclusive of all costs of contractor's labour, material, consumable, Tools & Plants and Machinery etc. complete for the above.
4. The measurement for payment shall be per sleeper removed and accepted by the Engineer or his representative.
5. The work shall be carried out strictly as per the Railway's Standard Drawings, instructions laid down in Indian Railway's Permanent Way Manual and the instructions of the Engineer or his representative whose decision in this regard shall be final and conclusive.
6. The work shall be carried out only under the supervision of the Engineer in charge or his authorized representative under speed restriction.
7. The work will involve:
  - i. Removing sleeper rail fastening and removing the sleepers from the track incl. bare minimum removal of ballast to enable the removal of sleepers.
  - ii. The sleepers removed from the track should be cleaned from the existing track as directed by the Engineer in charge and should not infringe the Railway schedule of dimensions.
  - iii. Sleeper and the fittings removed during the operations should be stacked as directed by the Engineer incharge. Payment for extra leads if any will be made under the relevant items of the Schedule.
  - iv. For handling sleepers standard equipment's should only be used and it must be ensured that no damage is caused to the sleeper. In case of damage to sleepers due to negligence of contractor recoveries will be made from the contractor's bills and the Engineer decision in this regard would be considered as final.
  - v. While handling concrete sleepers extra care is to be taken by using suitable le tools/ equipment/to avoid damages to concrete sleeper.
8. For all works on the running track or adjacent to running track protection of work site shall be ensured by the Railway at its own cost. However the contractor in addition will provide the necessary look out men to ensure safety of his workmen/workwomen and the instructions given or his by engineer representative in this regard and as stipulated in special conditions of contract should be strictly adhered to.

#### **INSERTING SLEEPERS IN EXISTING TRACK:-**



- 1) The above item of the work envisages inserting sleepers as specification in the schedule in the existing track at locations as per Railway's requirement and or as directed by the Engineer or his representative complete with providing of rail sleepers fastening etc. and all incidental works
- 2) The nominated Depots/ stacks/ locations for the purpose of this work shall have been inspected by the contractor before submitting the tender and the accepted rate is deemed to be inclusive of leads upto 100m all lifts & descent & incidental works.
- 3) Without any way restricting or modifying the provisions of the General Conditions of contract in this regard, the rate for the above quoted work shall be inclusive of all costs of contractor's labour, material, consumable, Tools & Plants and Machinery etc. complete for the above.
- 4) The measurements for payment shall be per sleeper inserted and accepted by the Engineer or his Representative.
- 5) The work shall be carried out strictly as per the Railway's Standard Drawings, instructions laid down in Indian Railway's Permanent Way Manual and the instructions of the Engineer or his representative whose decision in this regard shall be final and conclusive.
- 6) The work shall be carried out under the supervision of the Engineer in charge of his authorized Representative under speed restriction.
- 7 The work will involve:-
  - i. Inserting the sleepers in the existing track incl. Providing rail sleeper fastening etc. as directed by the Engineer in charge.
  - ii. The sleepers position shall be marked on the rail foot by the contractor and they should be inserted exactly at these location work should be executed in a manner so as to infringe the Rly's schedule of Dimensions.
  - iii. The rails sleeper fastening like keys, clips, rubber pads, liners, loose jaws etc. should be fitted as per the Railway standard drawing or as directed by the Engineer-in-charge at site
  - iv. For handling sleepers standard equipments should only be used and it must be ensured that no damage is caused to the sleeper. In case of damage to sleepers due to contractors negligence Recoveries would be made and Engineers decision in this regard would be final.
  - v. While laying concrete sleepers necessary slops have to be ensured to prevent seizer of ERCs in MCI inserts. All the ERCs and MCI insert be thoroughly cleaned. Grease to (IS 408-1981 Gr. 'o') should be applied on the central leg of the ERC and eye of MCI insert and then the slip should be driven at the time of making the panels the grease will be arranged by the contractor.
  - vi. The sleepers and oil sleepers fastenings will be provided free by the Railway and this work will also include leading materials unto a lead of 100m inclusive of all lifts and descents and all other incidental work.
- 8) On stretches where deep screening is not being done simultaneously the work will also incl:-
  - i. Removing ballast at location where sleeper is to be inserted unto 50mm below the bottom of sleeper being inserted.
  - ii. Putting back ballast so removed into track after insertion of sleeper.
  - iii. Initial back of sleeper so inserted so as to maintain track geometry as directed by Engineer-in-charge.
- 9) For all works on the running track or adjacent to running track, protection of work site & the workmen shall be ensured at all time and the instructions given by Engineer or his representative as given in special conditions of contract should be strictly adhered to.

#### IN CASE OF DEEP SCREENING OF TRACK

1. The above item of work envisages deep screening of ballast below the bottom of the sleepers as directed by the Engineer or his representative complete with disposal of muck/soils within ave. Lead of 100m and all lifts/decasts, the procedure for doing the work has been described in para 636 & 637 of IRPWM-2020.
2. The nominated locations for the purposed of this work shall have been inspected by the contractor before submitting the tender and the accepted rates is deemed to be inclusive of all incidental works.
3. Without in any way restricting or modifying the provisions of the General Conditions of contract in this



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- regard the rate for the above work shall be inclusive of all costs of contractor's labour, materials, consumables, tools and plants and machinery etc. complete for the work.
4. The measurement for payment shall be per meter of deep screening of track and accepted by the Engineer or his representative those decisions in this regard shall be final and conclusive. The work would envisage removal of ballast up to a prescribed depth as indicated in the relevant item of schedule, screening of ballast, putting back the screened ballast. The extent of cutting would be specified for the various stretches by the Engineer in charge. The depth of cutting shall be measured under two-rail seat and average taken for the portion deep screened.
  5. The work shall be carried out strictly as per instructions laid down in IRPWM and/or railway drawing and the instructions of the Engineer or his representative whose decision in this regard be final and conclusive.
  6. The work of deep screening is to be carried out under a speed restriction of 20 KMPH on manual without a traffic block under supervision of the Engineer In charge or his authorized representative.
  7. The work of deep screening is to be carried out under a speed restriction of 40 Km/h with BCM. In traffic block under supervision of the Engineer In charge or his authorized representative.
  8. The work of deep screening should be carried out as per procedure described in para 636 & 637 of IRPWM. Any deviation from this procedure should have the approval of the Engineer, which should be recorded in the site order book.
  9. The work will include removing ballast including the core below the sleepers and excavating up to the depth below the bottom of sleepers as directed by the Engineer. The ballast so removed should preferably be screened by using portable ballast screeners/ inclined ballast screener. It may be noted that use of wire basket for screening ballast is not permissible. Muck/soils should be disposed off as directed by the Engineer.
  10. Minimum prescribed progress for deep screening at any site by 100m per day would invite penalty action as prescribed under special conditions of contract.
  11. The excavation should be so carried out so as to ensure that the cross slope of 1 in 40 is provided. The excavation should be at least over the entire width of their A&B are the dimensions specified for various ballast profile in Annexure 2/2A, B&C of Para 212 of the IRPWM -2020.
  12. The track will be surveyed in advance and page indicating the final level will be provided at 30m interval by the railway Engineer In charge. The contractor shall maintain the rail level after deep screening to the level as indicated on the page of as directed by the Engineer In charge.
  13. Wooden blocks/temporary supports required for the work shall be arranged by the contractor.
  14. For all works on the running track or adjacent to running track, the protection of work site shall be ensured by the railways at its own cost. However, the contractor in addition will provide the necessary lookout men to ensure safety of his workmen/workwomen and the instructions given by Engineer or his representative in this regard and as stipulated in special conditions of contract should be strictly adhered to.

#### Deep Screening with BCM (Ballast Cleaning Machine)

The deep screening by BCM machine is to be carried out as detailed in IRTMM. The work of deep screening shall be followed by Tamping and Stabilisation of Track with TTM (Tie Tamping Machine) and DTS (Dynamic Track Stabiliser) respectively. The work is to be carried out in stages on various days after the start of the screening operations and the speed restrictions recommended to be imposed are indicated in the schematic representation in Table-III. According to the schedule, normal sectional speed can be resumed on the 8th day.

- 1) Precautions to be taken during deep screening of track by BCM followed by TTM and DTS machines;
  - (a) All precautions stipulated for LWR/CWR track (IRPWM-2020) shall be strictly followed.
  - (b) The cutter bar shall be removed after completion of day's work, ballast filled and packed & stabilized by TTM/DTS.



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- (c) Ramp shall not be located in locations like level crossing, Girder Bridge, transition portion of curve etc. It shall be kept minimum two rail length away.
- (d) In case of malfunctioning of TTM and/or DTS, deep screening shall be stopped and track which has not been tamped and stabilized shall be attended manually by ballast ramming and correction of track geometry to ensure safety of running trains. Speed restriction shall be imposed and relaxed in terms of *Sub Para (1) (f) (i) or (ii)* above, whichever is the case.
- (e) In case of non-availability of traffic block on subsequent days of deep screening by BCM, speed restrictions shall be imposed and relaxed in terms of *Sub Para (1) (f) (i) or (ii)* above, whichever is the case.
- (f) When BRM is not deployed, adequate workmen shall be deputed to recoup ballast, particularly in shoulder and maintain ballast profile after machine working.
- (g) Lifting of track shall be resorted to after ensuring adequate availability of ballast for maintaining ballast profile for planned lifting.
- (h) Adequate arrangements for supply and training out of ballast prior to deep screening should be made. Special care shall be taken by deploying watchman on stretches overdue for rail renewal.

#### FOR TRACK QUALITY STANDARDS ON RELAYING / DEEP SCREENING SITE.

1. The above item of work envisages packing/through packing of sleepers as per Railways requirement and/or as directed by the Engineer or his representative. These instructions are in conformity with Railway Boards directives on quality control for track laying.
2. The nominated Depots/ stacks/ locations for the purpose of this work shall have been inspected by the contractor before submitting the tender and the accepted rate is deemed to be inclusive of leads upto 100 mall lifts & descent & Incidental works.
3. Without in any way restricting or modifying the provisions of the General Conditions of contract in this regard, the rate for the above quoted work shall be inclusive of all costs of contractor's labour, material, consumable, T&P and Machinery etc. complete for the work.
4. The work of packing /through packing etc. is incidental to other items of track works such as deep screening/ TSR/CTR etc. and the track standards as prescribed herein will have to be attained under the respective item of the schedule and attaining these standards by themselves would not be deemed to be a payable item.
5. The work shall be carried out strictly as per the Railway's Standard Drawings, instructions laid down in Indian Railway's Permanent Way Manual and the instructions of the Engineer or his representative whose decision in this regard shall be final and conclusive.
6. The packing of sleepers shall be as specified for conventional maintenance by Beater packing and as enumerated in Para 520 of the IRPWM. It is preferable to use Chinese tempers on large stretches to achieve better quality. In case of packing of a stretch exceeding 20 continuous sleepers this work shall also include all operations of through packing as specified in Para 520 of the IRPWM.
7. The track parameters which should be attained on a relaying work with new materials and deep screening works should confirm to stipulations of Para 520 of IRPWM and should be within the following tolerances:-

Parameter	Details	Limiting Value.
(a). Gauge	Sleepers to sleeper variation	+2mm
(b). Joints	Low joints	Not permitted.
	High joints	not over +2mm
	Squareness of joints on straights	+ 10mm
© .Packing of sleepers	With respect to the critical spacing.	+20mm
(d).Gross level	To be recorded on every fourth sleeper	+30mm
(e).Packing	To be checked by Canne-a-boule	20% loose.
(f).Alignment	i) on straight 10m chord.	+2mm
	ii) on curves (20m chord) $00 > R > 600m$	+5mm)
	Over theoretical versioned 600R	+10mm



8. At intermediate stages of speed relaxation the above standards may be attained to the extent as feasible. The decision in this regard of Engineer or his representative shall be final.
9. For all works on the running track or adjacent to running track the protection of work site shall be ensured by the Railway at its own cost. However the contractor in additions will provide the necessary look out men to ensure safety of his workmen / work women and the instructions given by Engineer or his representative in this regard and as stipulated in special conditions of contract should be strictly adhered to.

#### LIFTING OF TRACK

1. The above item of work envisages lifting of track on ballast so as to ensure that the desired clean ballast cushion below bottom of sleeper as achieved. Lifting of track shall be done in accordance with Para 638 of IRPWM. The lifting should not exceed 50 mm at a time so as to allow proper consolidation. The easement gradient for the passage of trains should not be steeper than 25 mm in one rail length of 13 metres.

2. The nominated locations for the purposed of this work shall have been inspected by the contractor. Before submitting the tender and the accepted rates is deemed to be inclusive of all incidental work.

1. Without in any way restricting or modifying the provisions of the General conditions of contract in this regard the rate for the above work shall be inclusive of all costs of contractor's labour, materials, consumables, tools & plants and Machinery etc., complete for the work.

2. The measurement for payment shall be per meter of the track lifted and accepted by the Engineer of his representative whose decision in this regard shall be final and conclusive. The work would envisage lifting of track on ballast so as result into raising up to prescribed rail level. The extent of raising will be indicated in the relevant items of schedule. The extent of raising would be specified for the various stretches by the Engineer In charge. The extent of raising (in cms.) shall be measured under the two rail seats and average taken for portion lifted.

3. The work shall be carried out strictly as per instructions laid down in Indian Railway P. Way Manual and/or Railway drawing and the instructions of the Engineer or his representative whose decision in this regard shall be final and conclusive.

4. The work of lifting is to be carried out under a speed restriction of 20KMPH without a traffic block under supervision of the Engineer-in charge.

5. The work of lifting should be carried out as per procedure described in para 638 of IRPWM.

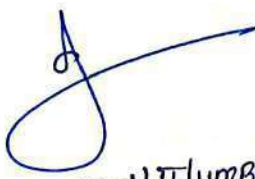
6. Schedule of relaxation of speed restrictions will be as given in Table-I under para 637 of IRPWM 2020. Any deviations from this procedure should have the approval of the Engineer, which should be recorded in the site order book.

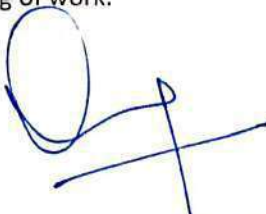
7. Minimum progress for lifting to be 100m per day. Failure to ensure the desired progress level would invite panel action as prescribed under special conditions of contract.

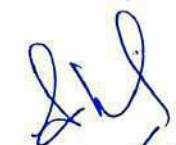
8. The track will be surveyed in advance and page indicating the final level will be provided at 30m intervals by the railway Engineer In charge. The contractor shall maintain the rail level after lifting to the level as indicated on the page or as directed by the Engineer In charge.

9. For all works on the running track or adjacent to running track, the protection of work site shall be ensured by the railways at its own cost. However, the contractor in addition will provide the necessary lookout men to ensure safety of his workmen/workwomen and the instructions given by Engineer or his representative in this regard and as stipulated in special conditions of contract should be strictly adhered to Variation in quantities during executing of work.

  
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Sr. DEN I/UMB

  
Sr. DEN IV/UMB

  
Sr. DEN II/UMB



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SPECIAL CONDITIONS OF CONTRACT FOR TRACK WORKS

**GENERAL**

1. The contract shall be governed by the Northern Railways General Conditions of contract, works hand book, N. Rly., P. Way Manual Indian Railway Track Manual- June-2020 with Correction slips issued from time to time and the Standard specifications for track works.
2. The tenderer/s on their own interest should visit the site of works with the concerned PWI/AEN or with their authorized representatives after have fixing an appointment with them in advance and ascertain the nature and quantum of work, site conditions, availability of approach roads, availability of labour, water, electricity, land for labour complete.
3. The contract shall not start any work on the open line track without the presence of the Railway's supervisor at site, in case the contractor's or his representative starts any work in absence of the supervisor, it shall be treated as unauthorized and illegal tampering with the track and shall be liable for action under the Indian Railway Act.
4. The Railway administration reserve the right to terminate the contract with immediate effect if the contractor is found responsible for any breach of rule which affects the safe running of trains without giving any further notice to the contractor.
5. In case trains are detained at the approach of work, due to their passage being considered unsafe by Railway Supervisor due to bad workmanship of contractor's labour of the track parameters being unsatisfactory for safe passage of trains or due to the contractor leaving the work unfinished. The railway shall be entitled to recover detention charges from contractor's bills/security deposit and other dues etc., at the rate of Rs. 5000/- per hour or detention or part thereof for the particular train detained at the work spot as the adjacent stations of block section due to delay in clearing traffics blocks. Detention to trains as determined by the Railways Administration shall be final and binding upon the contractor.
6. In case an accident occurs at the work spot the findings of the enquiry committee setup by the railways to investigate the cause of the accident shall be final and binding upon the contract. In the event of the findings that contractor is held responsible for the accident, the contractor is held responsible for the accident, the contract is liable to be terminated forthwith.
7. Penalties up to an upper limit of 10% of the total cost of the work may be imposed in case an accident occurs due to contractor's negligence as decided by the railways those decision is final and binding on the contract. The contractor is also liable for prosecution if loss of life is involved due to no-observance of the prescribed procedure or persistent disregard of Engineer or his representative's instructions.
8. The blocks required to carry out certain track works will be arranged by the railways. Actual availability of blocks would on flow of traffic and there may be variation in availability of blocks viz-a viz those planned. The waste of labour if any, occurred on account of non-availability of blocks would not be paid for. No claim on such account would be considered.
9. The contractors shall proceed with the work in a systematic manner so as to ensure that stretch on track under speed restriction and its duration is the minimum. The decision of the Engineer-incharge in this aspect will be final and binding on deep screening and lifting sites, a minimum average progress of 100m of deep screening/lift for each working day shall be ensured over a period of fortnight. A penalty equal to 1% of the cost of shortfall on account shall worked out and deducted from contractor may be required to handle additional ballast which may be unloaded/run out during bar vending period for lifting the track as necessary. Nothing extra would be paid for handling the additional ballast in all such cases.
10. The work shall be carried out there is no infringement to railways schedule of dimensions.
11. The contractor shall arrange for lookout men in addition to Railways schedule of dimensions.
12. The contractors shall arrange for look out men in addition to railways arrangement for protection to work to the contractor's labour of any approaching train. There such arrangements are considered in adequate by the Engineer or his representative contractor shall augment the arrangement as instructed. Engineer's decision would be final and binding in this regard. No compensation will be paid by railways. In case of injury or death to contractors labour and the contractor shall indemnify the railway of any responsibility in this regard. The contractor may obtain group insurance in respect of his workmen.



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13. The contractor shall employ and post one technical supervisor at each site of work who would have adequate experience in executing of P. Way works. The name of technical supervisor employed should be advised to the Engg. Incharge. If the opinion of the Engg. Incharge the supervisor is not fit to be incharge of the work he should be forthwith replaced. In this matter, decision of the Engg.-incharge will be final on the contractor.
14. The contractor's technical supervisor shall be present at site at all times. Where the work is being executed. The contractor will employ adequate number of workmen to give consistent and desired progress per day.
15. The contractor shall arrange for safe custody of materials supplied to him and arrange for posting of night watchmen as required. In case of loss of railway materials; the railway will recover the cost as per extent rules.
16. No compensation shall be payable to the contractor if the work cannot be done due to non-availability of traffic blocks, rains or any other reasons whatsoever. The contractor should take into account the probability of labour utilization depending on the above factors on the section where the work is done and quote the rates accordingly.
17. Site order books, progress register and material issue register shall be maintained at site and entries will be recorded on day-to-day basis in the register and signed jointly by railway supervisors and contractor or his authorized representative. All details of handing and taken over sections for different stages of packing, imposition and removal of speed restrictions, measurement of track parameters accountable of released materials etc. should be recorded.
18. Non-executing the work the contractor has to arrange his own tools, plants and equipments otherwise stated in the schedule railway will provide equipments, which are specifically mentioned in the description/specifications of items in the schedule as railway supply. In all other cases, if any tools, plants and equipments are hired to the contractor, necessary hire charges will be recovered from his bills/security deposited etc.
19. In case of loading/unloading from railway wagons all commercial formalities shall be observed. All dummage/ wharfage charges occurring due to neglect of contractor will be recovered from the contractors bills.
20. The contractor may be required to stop deep screening work during rain and no compensation will be paid for this.
21. Portable ballast cleaners/inclined screens shall be used for screen in the ballast at deep screening site. Use of wire baskets is not permissible to screening ballast. The contractor should make his own arrangements for portable ballast cleaners/inclined screens; where feasible they may be supplied by the railway on recovery of hire charges.
22. No ballast will be wasted on the slopes of banks or in cutting. All ballast from toe slopes shall be picked up and put in the track as directed by Engineer.
23. In all casework shall be carried out under railways supervisor, provision of Ty. Speed restrictions, boards and their lightening etc., shall be arranged by the railway contractor shall not start any work without railway representative's permission and his presence.
24. In case of loading/unloading/leading handling P. Way materials such as rails/sleepers etc. which may be deemed to be applicable for new/old materials. No weight age should be given for reduction in weight due to wear/corrosing etc. and the nominal weight as per drawing would along be considered as final and binding.

#### **NON-COMPLIANCE WITH THE INSTRUCTIONS/DIRECTIONS OF ENGINEER/REPRESENTATIVE**

- 24.1 The contractor shall always comply with the instructions directives issued by the Engineer's representative from time to time. In the event of non-compliance with such instructions directives apart from and in addition to other remedies available to the railways as specified herein above, the Engineer's representative may employ at the work site the railway workmen with necessary equipment as considered appropriate and adequate by him to provide the requisite conditions for the safe and unhampered movement of railway traffic. Decision of the Engineer's representative in regard the re-appropriation and adequacy of the deployment of the railway workmen with necessary equipment shall



be final and conclusive.

- 24.2 When the railway workmen with necessary equipment or deployed in the above manner, recovery of the following rate shall be made from the contractor's due under this contract or any other nominees of the contractor available with the railway under this contract or any other. The recovery for the total workmen hours employed at the work site for the above purpose shall be made @ Rs. 200/- per workmen hour or part thereof, irrespective of the type and grade of the railway employees actually employed. The aggregate period of the workmen hours for the above recoveries shall be reckoned from the time the railway workmen are actually deployed at the work site till the work is completed to the satisfaction of the Engineer's representative whose decision in this regard shall be final and conclusive.
- 24.3 Minimum one team of black smith with T&P and one team of Gas work (Jammed ERC, Plate screw works etc.) with T&P will be given throughout the currency of work. Leave may be given on national holidays or with prior permission in writing. If team is not required, it will be communicated in writing to Agency.

More teams may also be demanded as per requirement for which 7 days time will be given.

25. Resistent non-compliance with instructions/directives for the engineer's representative.

- 25.1 If the contractor does not comply with the instructions/directives of the Engineer's representative apart from and in addition to the remedies available to the railways as specified herein above without prejudice to the railways right in this regard, the engineer's representative which for the purpose of this clause shall include the inspector of Civil Engg. Deptt. Appointed by the railway can suspended the contractor work till the Engineer representative is satisfied that the contractor is in a position will comply with the instructions/directives issued by the Engineer's representative.
- 25.2 The decision of the Engineer's representative in this regard shall be final and conclusive. The contractor shall have not any claim whatsoever against the railway for such short terms/long suspension of the contractor work.
- 25.3 During the above-mentioned period of suspension of work, the contractor shall not in any manner attempt to carry out any work at the work site. Any such attempt of the contractor shall deemed to an unauthorized work on the railway track, for such acts, the contractor shall then be liable for further appropriate action under the relevant provisions of the Indian Railway Act.

#### **SPECIFICATION OF SERVICE PANNELS IN PQRS/TRT DEPOTS**

1 The above item of work envisages fabrication of service panels of nominal length of 9/13m of contact sleepers & rails sections as specified in the schedule in PQRS/TRT depots & at locations as per Railways requirement and /or as directed by the Engineer or his representative complete with all lifts, descent complete and all incidentals work. Besides fabrication the panels in 9 or 13m length depending on capacity of portal crane in sue a small quantity of panels of nominal length 6m may also be required for use in closing of work or bridge approaches/level crossing etc.

The nominated locations for the purpose of this work shall have been inspected by the contractor before submitting The tender and the accepted rates is deemed to be inclusive of all incidental work

Without in any way restricting or modifying the provisions of the General conditions of contract in this regard the Rate for the above work shall be inclusive of all costs of contract & labour materials consumable, T&P and Machinery etc. complete for the work.

- 2 The measurement for payment shall be per panel fabricated and accepted by the Engineer or his representative.
- 3 The work shall be carried out strictly as per the railways standard Drawings, instructions laid down in IRPWM and the Instructions of the Engineer for his representative whose decision in this regard shall be final and conclusive.
- 4 The work of fabrication of panels shall be carried out in the depots at locations as specified by the Engineer-in-charge or his representative.
- 5 The concrete sleepers shall be provided at Railway PQRS/TRT depot & the work of fabrication of panels shall include :-
- 6 Placing the sleepers to the density (1540/1660/1818 per K/M as directed by the Engineer or his representative.
- Providing and fixing of 90R/52Kg/60 Kg USFD tested service rail on the concrete sleeper correctly spaced



7 including provisions or rubber pads, liners & pandrol clips as per standard assembly drawing as per specified by the Engineer in-charge. USFD testing of rails will be done by the Railways.

The position of sleepers on the rails has to be marked by the contractor correctly squared.

(i) Proper and stipulated tools only be used for driving pandrol clips and other fittings.

Rail sleeper fastenings & service rails shall be supplied by the Railway within a lead of 100m

(ii) To prevent seizure of elastic rail clips in MCI inserts, it is essentials that all ERCs and MCI inserts are thoroughly cleaned. Grease to IS 408-1981 (Specification for grease No.0 graphite) should applied on the central leg of the ERC and eye of MCI insert and then the clip should be driven at the time of making the panels. The grease will be arranged by the Contractor.

(iii)

(iv)

(v)

(vi)

The panels on fabrication shall satisfy the following quality standards in regard to gauge and spacing

Parameter	Details	Limiting Value
a) Gauge Variation	Sleeper to sleeper	+ 2mm

b) Spacing of sleeper critical	with respect to the	+20mm
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8. For all works on the running track or adjacent to running track, the protection of work site shall be ensured by the railway at its own cost. However the contractor in addition will provide the necessary lookout men to ensure safety of his workmen/workwomen and the instructions given by the Engineer or his representative in this regard and as stipulated in special conditions of contractor should be strictly adhered to.

#### **RESURFACING OF CROSSING/ TONGUE RAILS USING H3/H2 ELECTRODES:-**

1 Built up crossing using MM/Rails-(with use of H3 Electrodes).

2. The above item of the work envisages electric ARC welding of worn cut crossing/Tongue rails using contractor's electrodes and welding equipment at locations as per Railway's requirements and / or as per Railway's requirements and /or as directed by the Engineer or his representative complete and all incidental works. Where existing power supply is available and can be spared without effecting Rely other works. Its can be made available on recovery of electric energy as per extant terms & conditions.

3.The nominated locations for the purpose of this work shall have been inspected by the contractor before submitting the tender and the accepted rate is deemed to be inclusive of all incidental works.

4. Without in any way restricting or modifying the provisions of the General Conditions of contract in this regard. the rate for the above quoted work shall be inclusive of all costs of contractor's labour material. Consumables, T&P and machinery etc. including assembling/re-assembling of the crossing etc. (Nose. and win rails) complete for the above.

5. The measurement for payment shall be per Cubic centimeter of the weld material deposited and accepted by the Engineer or his representative, for this purpose detail measurements of crossing should be taken so as to arrive at the correct quantity of welding metal required to be deposited.

6. The work shall be carried out strictly as per the Rly's Standard Drawings Instructions laid down in Indian Railway's Permanent Way Manual and the instructions of the Engineer or his representative whose decision in this regard shall be final and conclusive.

7. Re-surfacing of built up crossing on MM Rails:-

7.1. For resurfacing crossing of MM rails only welding electrodes of 4mm dia approved under class H3 shall be arranged by the contractor. The electrodes should be from amongst the approved brands having valid and current approval as issued by the RDSO. The contractor have to submit documentary proof for having procured the approved brand by electrodes from authorized stockiest duly supported by necessary test certificates issued by the manufacturer of electrodes.

7.2. Only Serviceable crossing/tongue rails will be supplied by the Railway. In case transverse cracks are noticed this should be brought to the notice of the Engineer-in-charge.

7.3. The surface of the crossing to be resurfaced should be thoroughly cleaned by means of Kerosene oil and wire brush, slight heating by means of Oxy-acetylene flame prior to cleaning with the wire brush can be resorted for facilitating the removal of oil., dirt or rust from the crossings/tongue rails.

7.4.The fatigued and work hardened areas should be removed by light grinding ensuring that cracks are not formed during grinding process cracks, in any form should be removed by grinding and surface should be



- checked by Visual/Dye-penetration to ensure freedom from Cracks. In case, deep cracks are formed/ present, the same may be removed first either by cutting electrodes or by careful grinding.
- 7.5. Prior to re-surfacing, the assembly of the crack free crossings may be opened out and areas to be welded by marked by chalk to follow proper sequence during welding. The areas to be welded should be heated to about 250 degree C (two hundred fifty degree centigrade) by Oxy-acetylene gas flame. This temperature should be maintained during welding.
  - 7.6. The crossing should be resurfaced in flat position. Short and stringer beads should be deposited longitudinally covering some portion of the previous bead and the manipulation of Electrodes should be such that the built up layers are uniform. The sequence of weld followed should be depositing bead on the left wing rail then on nose and thereafter on the right wing rail and so on crate beds should be filled up by welding.
  - 7.7. Welding defects, if any, formed during welding should be removed prior to deposition of subsequence bead.
  - 7.8. After welding, the built up Areas should be closely examined for unwelded/ less built up spots and such areas should be repaired immediately while the crossing is still hot.
  - 7.9. The metal should be allowed to cool slowly.
  - 7.10. It should be ensured that the weld metal is sufficient so as to ensure the proper profile after grinding.
  - 7.11. The re-surfaced crossing should then be grounded and filled to final finished test.
  - 7.12. To ensure cracks free well deposits the crossing should be subjected to the dye penetrated test.
  8. Re-surfacing of cast Manganese steel crossings (CMS);-
    - 8.1 For CMS crossing HZ electrodes should be utilized. The Electrodes will have to be procured by the contractor from amongst the approved brands from one of the authorized stockiest. Contractor will have to produce documentary evidence in this regard with necessary test certificate. The following additional precautions should be taken.
    - 8.2 The worn-out crossing shall be placed in trough containing water so that only surface table is left open to the atmosphere.
    - 8.3 Welding should be done with DC power source using reverse polarity
    - 8.4 No preheating should be done on CMS crossings.
    - 8.5 Current as low as possible should be used to avoid rise in temperature.
    - 8.6 Short and stringer beads should be deposited longitudinally following proper welding sequence. The width of the bead should be twice the electrode diameter. Care should be taken to fill the crater by the electrodes in backward in direction before breaking the ARC.
    - 8.7 Adequate precautions should be taken to avoid welding defects.
    - 8.8 The weld metal should be cooled very fast, if required by pouring water over the weld metal.
    - 8.9 Light preening with the help of a ball-pin hammer should be done after depositing each bead to relieve stresses due to welding. The point where the ARC is broken should be preened first and then the remainder of the bead. Just after preening the welding portion should be water quenched or quenched by compressed air to retain austenite.
    - 8.10 After completion of welding, the resurfaced areas should be finished by light grinding ensuring that cracks do not form.
    - 8.11 In the case of grinding CMS crossing, special precautions are to be retaken and small pieces of gunny bags soaked in water should be placed over the areas ground to avoid formation of cracks. Continuous grinding should not be resorted in this case.
  9. For all works on the running track or adjacent to running track the protection of work site shall be ensured by the Railway at its own cost. However the contractor in addition will provide the necessary lookout men to ensure safety of his workmen/workwomen and the instructions given by Engineer or his representative in this regard and as stipulated in special conditions of contract should be strictly adhered to.

#### **COLLECTING/ LEADING/ STACKING OF CROSSING ASSEMBLIES TONGUE RAILS;**

- 1 The above item of the work envisages is collecting/ leading/ sacking railways crossing assembling consisting of veer and two wing rails including all blocks, their nuts and bolts etc. but excluding check rails & sleepers of rail section as specified in the schedule. Collecting/ leading/ stacking railways tongue rails section as specified in the Schedule from Railway nominated depots/ stacks / locations and as per Railway requirements and or as directed by the Engineer or his representative complete within a lead of 100m and



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- all lifts/ descents etc with all incidental works.
- 2 The nominated locations for the purpose of this work shall have been inspected by the contractor before submitting the tender and the accepted rates is deemed to be inclusive of all incidental work.
  - 3 Without in any way restricting or modifying the provisions of the General conditions of contract in this regard threat for the above work shall be inclusive of all costs of contract & labour materials consumable, T&P and Machinery etc. complete for the work.
  - 4 The measurements for payment shall be on the number of crossing assemblies/ tongue rails separately for the type and the rail section as mentioned in the schedule and accepted by the Engineer or his representative. Each set of crossing will consist of point and splice rails assembled as veer rails along with wing rails duly assembled with necessary compliment of special washers and long bolts. One set of tongue rails will consist of a pair of tongue rails with complete fittings enabling assembling of the switch.
  5. The work shall be carried out strictly as per the railways standard Drawings, instructions laid down in IRPWM and the instructions of the Engineer for his representative whose decision in this regard shall be final and conclusive.
  - 6 In addition to the above, the work shall conform to the following:-
    - i. Crossing/tongue rails should not be dragged on the ground/track for handling slings, rails tongue rails dollies etc., or other similar equipment shall only be used.
    - ii. While stacking/collecting care shall be taken to ensure that the crossing/tongue rails are sorted rails section wise and/ or class and they are stacked spread on level ground.
    - iii. Crossing/ tongue rails are supported in a manner directed by the Engineer or his representative.
  - 7 While working in the vicinity of existing open line track it should be ensured that Railways schedule of dissensions are not infringed.
  - 8 Use of rail dollies/dip lorries for leading /hauling on open linemen be resorted to only with approval of Engineer in- charge. & it's should be carried out only under supervision of Engineer in charge.
  - 9 For all works on running track or adjacent to running track protection of work site shall be ensured by Railway At its own cost. However of in addition will provide necessary lookout men to ensure safety of workmen/workwomen & instructions given by Engineer or his representative in this regard & as stipulated in special conditions of contract should be strictly adhered to.

**Penalties due to unsafe work:-**

- (a) In the event of accident at the work site, a departmental enquiry shall be held and in case it is established that the accident has occurred on account of contractor's negligence or the negligence of his men, penalties up to an upper limit of 10% of the total cost of the work shall be imposed on the contractor.
- (b) In the event of contractor not completing the work or leaving it unsafe at the end of days work so they may serve speed restrictions if required to be imposed, track shall be attended to by the railway immediately at the contractor's cost without any further notice. In addition the labour cost recoverable from the contractor, supervision charges @ 12.5% and train detention charges @ Rs.2000/- every half hour or part thereof shall also be recovered.

The Tenderer is abide all terms and conditions of tender as well as general conditions of Contract regulations and instructions to tenderer and standard form of contract 2022 edition (corrected up to date) and N.R. Engg. Deptt. DSR 2021 & NR-USSOR 2021 edition (Corrected up to date) as applicable to Ambala division.

  
Sr. DEN-III/UMB

  
Sr. DEN/II/UMB

  
Sr. DEN/IV/UMB

  
Sr. DEN-I/UMB