

Special Condition of Contract

1. **INSPECTION OF SITE** The Contractors are advised to inspect and examine the site and its surroundings and satisfy themselves with the nature of site, the means of access to the site. the constraints of space for stacking material/machinery, labour etc. constraints put by local regulations, if any, weather conditions at site, general ground/subsoil conditions etc. or any other circumstances which may affect or influence their cost of quoting rates of tenders
2. The Contractor shall, if required by him, before submission of the tender, inspect the drawings in the Office of the Engineer-in-Charge. The Department shall not bear any responsibility for the lack of knowledge and also the consequences, thereof to the Contractor. The information and data shown in the drawings and mentioned in the tender document's have been furnished, in good faith, for general information and guidance only. The Engineer-in-Charge, in no case. shall be held responsible for the accuracy thereof and/or interpretations or conclusions drawn there from by the Contractor and all consequences shall be borne by the Contractor. No claim, whatsoever, shall be entertained from the Contractor, if the data or information furnished in tender document is different or in-correct otherwise or actual working drawings are at variance with the drawings available for inspection or attached to the tender documents. It is presumed that the Contractor shall satisfy himself for all possible contingencies, Incidental charges, wastages, bottlenecks etc. likely during execution of work and acts of coordination, which may be required between different agencies. Nothing extra shall be payable on this account.
3. Unless otherwise specified in the schedule of quantities, the rates of all items of work shall be considered as inclusive of executing all work, wherever required, in or under water and/or liquid mud, including balling out water encountered from any source such as rain, floods, tides ingress of water through pressure relieving sleeves left during PGC at base, sub-soil water table being high and/or any other source whatever. During entire execution of work the contractor shall carry out dewatering (at his own cost), as and when required or specified herein. Nothing extra shall be payable on this account. The nomenclature of the item given in the schedule of quantities gives in general the work content but is not exhaustive i.e. does not mention all the incidental works required to be carried out for complete execution of the item of work. The work shall be carried out, all in accordance with true intent Specifications and the drawings taken together, regardless of whether the same may or may not be particularly shown on the drawings and/or described in the Specifications, provided that the same can be reasonably inferred there from. There may be several incidental works, which are not mentioned in the nomenclature of each item but will be necessary to complete the item in all respect. All these incidental works/costs which are not mentioned in item nomenclature but are necessary to complete the item shall be deemed to have been included in the rates quoted by the contractor for various items in the schedule of quantities. No adjustment of rates shall be made for any variation in quantum of Incidental works due to variation/change in actual working drawings. Also, no adjustment of rates shall be made due to any change in incidental works or any other deviation in such element of work (which is incidental to the items of work and are necessary to complete such items in all respects on account of the directions of Engineer-in-Charge. Nothing extra shall be payable on this account.
4. Unless otherwise provided in the Schedule of Quantities, the rates quoted by the Contractor shall be inclusive of carrying out the works at and /or upto all heights, lifts, leads and depths The contractor shall make all arrangements for the same. Nothing extra shall be payable on this account
5. **SUBMISSIONS IMMEDIATELY AFTER AWARD OF WORK** The Contractor shall submit the following details immediately after award of work. a) Site organization chart with Bio-data of Engineer at site and Key Personnel proposed to be deployed at site. b) A certified copy of Power of Attorney in the name of person who has signed the tender document and work site register and other relevant document. The contractor shall prepare and submit a tentative Integrated Bar Chart on Microsoft Project Software clearly indicating the various activities, in a stage wise manner to complete the entire work covered under this tender within the stipulated period duly signed by contractor and Concerned ADEN of the section.
 - 5 (A) Methodology of execution of work.
 - 5 (B) During execution of work cost of any damage to Railway property will be recovered by the agency.
 - 5 (C) As the work has to be done on railway public facility the agency has to depute the manpower at various sites duly ensuring safety at work site.
6. The progress of work shall be strictly monitored on pro rata basis as per scope of work and Integrated Bar Chart to be submitted considering all the parts of the work. Contractor has to submit Integrated bar chart according to the stages of work after visiting

the site and understanding the nature of work within 15 days issuing the LOA. Within next 15 days site clearance, shifting of cables if any, removing of structure, shifting of pipe lines, conduit, or any other hindrance to start the work shall be done by contractor with Co-ordination from Railway for which no extra payment shall be given by Railway Le. one month period shall be given to contractor for preparation of work site such as getting layout of site, understanding of work, preparation of drawing & design, preparation of bar chart as per site requirement duly countersigned and agreed by Railway shifting of material, pipes, cables, structure etc after issue of LOA. **No delay in work shall be considered once Integrated bar chart program is submitted by contractor jointly signed by ADEN, SSE Works and Contractor.**

7. Once Integrated Bar chart is submitted progress of work shall be monitored as per prorated basis as per scope of work and value of tender awarded. Whole work is divided in Three milestones.

- (i) (15 Days) for preparatory work.
- (ii) 40% progress of work physically/financial. – 3.5 Months
- (iii) 60% progress of work physically/financial -05 Months

Integrated Bar chart to be submitted considering the above milestone of work, so that strict monitoring of physical and financial progress can be monitored. ADEN office shall prepare bill after completion of each milestone of work and certify physical and financial progress of work.

(PROTECTIVE / SAFETY MEASURES Necessary protective and safety equipment shall be provided to the Site Engineer, workers & Supervisory staff by the Contractor at his own cost and to be used at site. The Contractor shall do proper sequencing of the various activities by suitably staggering the activities within various pockets in the plot so as to achieve early completion, The agency may deploy adequate equipment, machinery and labour as required for the completion of the entire work within the stipulated period specified.

8. **REMOVAL OF 'DEBRIS' ETC. FROM SITE** The Contractor shall not stack building material /Debris/muck on any other outside site barricading. The muck, rubbish etc. shall be removed periodically as directed by the Engineer-in-Charge, from the site of work to the approved dumping grounds as per the local byelaws and the Contractor shall obtain regulations of the concerned authorities and all necessary permissions in this regard from the local bodies Nothing extra shall be payable on this account.
9. The Contractor shall render all help and assistance in documenting the total sequences of this project by way of photography, slides, video recording etc. Nothing extra shall be payable to Contractor on this account. Pre and post photography, videography and drone survey have to be done of each stage of work by the contractor at his own cost and shall be submitted along with submission of bill for which no extra payment shall be done by railways.
10. **Testing of materials:** Samples of various materials required for testing shall be provided free of charge by the Contractor including its transportation to testing laboratories. The cost of tests for all materials shall be borne by the Contractor Testing of material shall only be got conducted from any Government Testing Labs as per direction and decision of the Engineer-in-charge. However, in case of exigencies of some works, testing may be permitted from the approved Private Labs (NABL Accredited only) other than Government Testing Labs on written request by the Contractor and duly approved by Engineer in Charge. The contractor shall submit the mix design report from any of above approved laboratory for approval of Engineer -Charge within 30 days from the date of issue of letter of acceptance of the tender: No concreting shall be done until the mix design is approved by the Engineer in-charge the Structural and Architectural drawings shall be all times be properly related before executing any work. However, in case of any discrepancy in the item given in the schedule of quantities, appendant with the tender and Architectural drawings relating to the relevant item, the former shall prevail unless and otherwise given in writing by the Engineer-in- Charge.
11. **Maintenance** If any defect is noticed during the **maintenance period for 12 months** to be reckoned from the date after the maintenance period prescribed in the contract expires it should be rectified by the contractor within seven days, and if not attended to the same will be deducted from the SD.
12. **Approval of Material.** All material used in construction shall be of approved brand as per the approved Brands/Makes attached). Unless otherwise specified, the brands/makes of the material as specified in the item nomenclature or in the particular specification or in the list of approved material attached in the tender shall be used in the work. The contractor shall obtain prior approval from the Engineer In charge (DEN/Sr DEN) before placing order for any specific material/brand/make. Whenever the specified brand of material is not available

then, the Engineer in charge (DEN/SR DEN) may approve any material equivalent to that specified subject to proof being offered by the contractor for its equivalence and its non-availability to his satisfaction. All material testing report shall be submitted by Contractor in advance before starting of the work at site. Necessary documentation/ test certificates shall be furnished by the Contractor from the manufacturer/OEM before supply of material for approval by Engineer-in-charge.

13. Personal Safety Measures for Labor Contractor will provide the following items for safety of workers:

- (i) Protective footwear, Safety belt, helmets, retro jackets and gloves to all workers employed for the work as per requirement of site.
- (ii) Welder's protective eye-shields to workers who are engaged in welding works.

14. All the works will be executed as per the DSR 2021 issued by CPWD Delhi, the agency has to go through the specification before quoting the rates. The DSR 2021 shall be read along with CPWD specifications 2019 Vol-I & II with up-to-date correction slips (The specifications are attached along with the bid document)

15. **The agency will do drainage survey & prepare and submit comprehensive drainage plan and structural drawing and design of drain of Rani Kamlapati, Bhopal & Nishatpura railway station yard, at their own cost, within 30 days of the Letter of Award (LOA) for execution of above work.**

Additional Conditions for Reinforcement Steel (TMT Steel)

- 1) The structural Steel shall confirm the relevant specifications of DSR-2021/ NS Items as the case may be and IS codes mentioned therein.
- 2) The contractor shall normally purchase good quality, defect free TMT steel of SAIL, TISCO, ESSAR, JINDAL PANTHER of JSPL or any other vendor approved by RDSO at the time of supply. However, if any of these above listed brands of the TMT is not available in RDSO's approved vendor list at the time of supply, the same shall not be allowed for use in the work.
- 3) The testing of the TMT shall be done by the contractor at its own cost if required by the Railway to confirm the quality of the TMT supplied. Minimum one test shall be carried out for each of the Batch/Heat No and diameter of the bars
- 4) A record shall be maintained for the TMT steel used for the work as per the additional condition titled as "Additional Condition for the Material Testing and Work-Site Records" as attached with the tender documents.
- 5) An account shall be maintained in steel registers regarding quantity passed, consumed and balance etc. duly signed by the contractor and Railway Representative (SSE/Works).
- 6) The TMT steel once passed by the Railway (ADEN), shall not be shifted to the other works/sites without the written approval/permission of the Railway (ADEN).
- 7) Reinforcement shall be bent and fixed in accordance with procedure specified in IS 2502. The high strength deformed steel bars should not be re-bent or straightened without the approval of engineer-in-charge.
- 8) Bar bending schedules shall be prepared for all reinforcement work as per the approved drawings and shall be approved by the Railway (ADEN) before starting the cutting of TMT steel. Any discrepancies or omissions in the drawings shall be immediately reported to the Engineer (Sr. DEN/DEN).
- 9) All reinforcement shall be placed and maintained in the position shown in the drawings by providing proper spacers/supporting bars, etc. The cost of the spacer/supporting bars shall be payable on the actual use wherever required.
- 10) All reinforcement shall be provided with the nominal cover as specified in the IS:456 and shall be ensured by providing cover blocks of required thickness. The cover blocks shall be made of CC of the same strength or of PVC. The cost of these cover blocks shall be borne by the contractor itself.
- 11) Crossing bars shall be tied together at every intersection with two strands of annealed steel wire of 1.25 to 1.6 mm diameter twisted tight to make the skeleton of the steel rigid such that those are not displaced at these intersections during the placing of the concrete. The cost of these wires shall be included in the rate of steel itself. Crossing bars should not be tack-welded for assembly of reinforcement unless permitted by engineer-in-charge.

- 12) The tolerances on placing of steel and for cover shall be as per para 12.3.1 and 12.3.2 of IS:456- 200 respectively.
- 13) The splicing of the reinforcement at the location of maximum stress and of bars more than 50% at a location should be avoided. Where more than one half of the bars are spliced at a section or where splices are made at the point of maximum stress, special precaution shall be taken, such as increasing the length of lap and/or using spirals or closely-spaced stirrups around the length of the splice. No additional payment shall be made to the contractor for such additional arrangements.
- 14) Overlaps if necessary, shall be provided as required by design/drawing but no payment shall be made for extra steels used for the overlaps.
- 15) Welded joints or mechanical connections in reinforcement may be used but in all cases of important connections, tests like pull out Test etc. shall be carried out to prove that the joints are of the full strength of connected bars. Welding of reinforcements shall be done in accordance with the recommendations of IS 2751 and IS 9417. The cost of such connections shall be deemed included in the rate of the parent item for the reinforcement and no separate claim by the contractor for this purpose shall be entertained.
- 16) The payment of TMT steel shall be done as per the actual use in the RCC work. For the purpose of payment, the linear measurement of the reinforcement used for the work only, shall be converted into a mass unit by multiplying the former by the standard unit weight or actual unit weight whichever is less. The cut pieces, wastage and the left out material shall not be considered for the payment and disposed off by the contractor itself on its own cost. No overlaps shall be accounted for the payment and no rolling margin shall be considered.

Additional Conditions for PCC and RCC/PSC Works

- 1) Concreting Work: Detailed specifications for design mix concrete and equipment required are given in a booklet with title "Specifications for RCC/PSC for the Construction/Rehabilitation of concrete bridges & structures on central Railway (open line)". The work shall be carried out as per these specifications.
 - 2) In batching concrete, the quantity of both cement and aggregate shall be determined by mass; admixture if solid, by mass; liquid admixture may however be measured in volume or mass; water shall be weighed or measured by volume in a calibrated tank.
 - 3) Concrete shall be mixed in a mechanical mixer. The mixer should comply with IS 1791 and IS 12119. The mixers shall be fitted with water measuring (metering) devices.
 - 4) Workability shall be checked at frequent intervals.
- i. The formwork shall be designed if required by the Railway and provided so as to remain sufficiently rigid and intact during placing and compaction of the concrete, and shall be such as to prevent loss of slurry from the concrete. For details regarding design, detailing, etc, reference may be made to IS 14687.
 - ii. For the concrete grade of M20, M25, M30 or higher grade (as required in RDSO Drawing/Approved Drawings), the contractor shall use mix design with maximum w/c ratio of 0.4 only. A design mix shall be submitted by the contractor for all grades of concrete required for the work from any IIT/NIT/Reputed Govt engineering college only, well in advance (preferably one month prior to starting the concreting work), for which nothing shall be paid to the contractor. The design of mixes shall be done with materials/aggregates proposed to be used for the work at site and got approved from the Railway before starting the concreting work. If during the course of the work, sources or gradings of the aggregates are changed, the design of mixes shall be done fresh at contractor's cost and approved by the Railway before use at work site. No concreting work shall be executed without prior approval of design mixes. If any concreting work is done without approval of design mix, the same shall be liable for demolition by the contractor itself at his/her own cost as per requirement of engineer in charge for the want of ensuring the quality of the work. The demolished concrete shall be disposed away from the work site as per the direction of the engineer in charge, by the contractor at his/her own cost. No payment for such demolished concrete shall be done to the contractor.

- iii. To maintain the workability of the concrete, super plasticizers of reputed brands like Fosroc or equivalent only shall be used. The super plasticizer shall be as per IS specifications. To ensure this, super plasticizer shall be tested by the contractor as per the IS: 6925 & IS: 9013 specifications from IITs/NITs/ Reputed Govt / NABL Approved laboratories only and to be produced before using at the site. To check and ensure the workability of green concrete, workability tests like the slump test shall be carried out regularly at the site and recorded in the concerned site register.
- iv. All the concrete used for structural purposes in RCC & PSC shall be controlled concrete and produced by the weigh batching using the weigh batching plant only, with a regular adjustment of water cement ratio and subsequent testing as prescribed, so as to ensure proper strength and quality of the concrete. To ascertain the strength/quality of concreting done at site, requisite number of cubes shall be casted, cured, tested and a record shall be maintained in the form of cube register (Sample format as attached with condition) in accordance with IS:456. For this purpose sufficient numbers cube molds, a well calibrated compressive testing machine of required capacity and printed cube register as per prescribed format shall be arranged by the contractor at his/her own cost. The testing of cubes may be arranged from any government labs for small works where it is not feasible to install a compressive testing machine at the site. If the contractor fails to do these arrangements, a penalty of Rs. 100/- per Cubic meter of concreting done by the contractor, shall be imposed against the contractor for this failure and deducted from the running/final bills of the contractor for the work.
- v. Reinforcement shall be bent and fixed in accordance with procedure specified in IS 2502. The high strength deformed steel bars should not be re-bent or straightened without the approval of engineer-in-charge. Bar bending schedules shall be prepared for all reinforcement work. The Reinforcement bars shall be placed in position as per the drawings at the work site by following methods: 9.1 In case of beams and slabs, by placing concrete blocks in cement mortar in 1:2, above 4 cm x 4 cm section and thickness equal to specified clear cover. Precast cover blocks of required size and strength, readily available in the market, may also be used as alternatives. 9.2 In case of cantilever and double reinforcement beams and slabs the vertical distances between horizontal bars in two layers can be maintained by Chair spacers or support bars at the rate of 1.0 m to 1.2m C/C. The diameter of these spacer/support bars shall not be below 12 mm dia. 9.3 In case of footings, columns, and walls, the vertical bars shall be kept in position by means of timber templates with slots accurately cut. Templates shall be removed after casting is over.
- vi. During placing of the concrete it is to be ensured that the maximum permissible free fall of concrete shall be 1.5 m. Otherwise required arrangements shall be made by the contractor with his/her own cost to keep the free fall of the concrete always less than 1.5 m.
- vii. Based on the shape and dimension of the concrete member, the concrete shall be compacted using suitable mechanical vibrators complying with IS 2505, IS 2506, IS 2514 and IS 4656. The contractor shall arrange the availability of suitable functional vibrator adequate in numbers at his/her own cost before the start of the concreting work. No concreting shall be allowed without availability of these vibrators. Any concreting done without its compaction to the satisfaction of Rly, shall be rejected by the Rly and have to be demolished and removed from the site by the contractor at its own cost and disposed away from Rly. boundary in addition to a recovery of Rs.100/- per CUM of concreting done with improper compaction of the concrete, from the running/final bill of the contractor.
- viii. Exposed surfaces of concrete shall be kept continuously in a damp or wet condition by ponding or by covering with a layer of sacking, canvas, hessian or similar materials and kept constantly wet for at least seven days from the date of placing concrete in case of ordinary Portland Cement and at least 10 days where mineral admixtures or blended cements are used. The period of curing shall not be less than 10 days for concrete exposed to dry and hot weather conditions. In the case of concrete where mineral admixtures or blended cements are used, it is recommended that above minimum periods may be extended to 14 days. All the arrangements including curing water shall be arranged by the contractor at its own cost. If proper curing is not done to the satisfaction of the Railway, a recovery of Rs.100/- per CUM per day shall be made from the running/final bill of the contractor. For example X CUM of concreting is done on a date and to be cured for 7/10 next days. If it is not cured for Y days in next 7/10 days, a recovery of Rs.X*Y*100/- shall be recovered. For the proof of curing done, the photos with time stamp taken at the time of curing shall be shared by the contractor/its representatives on a whatsapp group created for the monitoring of the work. Day to day curing shall also be recorded in log register maintained at site and signed by the contractor/its representative as well as concerned SSE/JE/Works. Such recovery in no case makes the contractor free from its responsibility or action to be taken in case such uncured/improperly cured concrete fails in any acceptance criteria.
- ix. Before any important operation, such as concreting or stripping of the formwork is started, adequate notice shall be given to the concerned SSE/JE/Works..