



डेडीकेटेड फ्रेट कोरीडोर

**DEDICATED FREIGHT CORRIDOR CORPORATION OF INDIA LIMITED
(A GOVERNMENT OF INDIA ENTERPRISE)**

under

MINISTRY OF RAILWAYS

COU NTRY : INDIA

TENDER NOTICE NO: **MGS/EN/LC-RUB/Approches-6/15**
(Two Packet System)

NAME OF WORK

CONSTRUCTION OF RUB/LHS at DFC CH 69.540 and Rly. Km 619/22-24 on DFC line at BBU yard and construction of DFC side approaches of RUB/LHS at LC no. 35C (556/26-28), 37C (562/12-14), 44C (576/11-13), 48C (585/5-7), 51C (590/23-25), 52C (594/17-19), 54C (603/17-19), 57C (612/25-27), 58C (615/3-5), 64C (630/9-11), 65C (633/7-9), 66C (637/5-7), 67C (638/7-9), 77C (659/13-15) AND 79C(662/7-9) IN BETWEEN SONNAGAR— MUGHALSARAI SECTION.

TWO PACKET OPEN TENDER.

DOWNLOAD FROM :-

www.dfccil.gov.in

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Part-I

Technical Bid document

Note –

1. After completing the tender documents Part-I, it should be separately sealed in an envelopes super scribed as **Packet-I (Technical Bid)** along with name of work and Tender no..
2. The **part-II** of tender document should be separately sealed in another envelop super scribed as **Packet-II (Price Bid)** along with name of work and Tender No.
3. These two envelopes should be sealed in a larger envelope super scribing the name of work & Tender No.
4. The bidder shall prepare and submit two copies of the bid duly marked as
 - (i) Original
 - (ii) Copy

**DEDICATED FREIGHT CORRIDOR CORPORATION OF INDIA LIMITED
A GOVERNMENT OF INDIA ENTERPRISE**

TENDER NOTICE NO.MGS/EN/LC-RUB/Approches-6/15

Declaration

I/We have downloaded the tender document from the internet site www.dfccil.gov.in and I/We have not tampered/modified the document in any manner. In case, if the same is found to be tampered/modified, I/We understand that my/our tender will be summarily rejected and full Bid Security deposit will be forfeited and in case the same is detected after awarding the work, the contract will be terminated.

I/We submitting a demand draft no. _____ dated _____ issued by _____ for Rs. 10,000 (Rs Ten Thousand only) towards the cost of tender document as per Tender Notice No. MGS/EN/LC-RUB/Approches-6/15 in favour of "Dedicated Freight Corridor Corporation of India Ltd., New Delhi" in original form.

Signature of Tenderer (s)

Name : _____

Date : _____

Address _____

Phone/Mobile/No. _____

FAX No. _____

DEDICATED FREIGHT CORRIDOR CORPORATION OF INDIA LIMITED
A GOVERNMENT OF INDIA ENTERPRISE
TENDER NOTICE NO.MGS/EN/LC-RUB/Approches-6/15

TENDER FORMS (FIRST SHEET)

Name of work: - CONSTRUCTION OF RUB/LHS at DFC CH 69.540 and Rly. Km619/22-24 on DFC line at BBU yard and construction of DFC side approaches of RUB/LHS at LC no. 35C (556/26-28), 37C (562/12-14), 44C (576/11-13), 48C (585/5-7), 51C (590/23-25), 52C (594/17-19), 54C603/17-19), 57C (612/25-27), 58C/615/3-5), 64C630/9-11), 65C (633/7-9), 66C/637/5-7), 67C (638/7-9), 77C (659/13-15) AND 79C (662/7-9) IN BETWEEN SONNAGAR—MUGHALSARAI SECTION.

To,
:.....
....., Acting through

DEDICATED FREIGHT CORRIDOR CORPORATION OF INDIA LIMITED

I/We..... have read the various conditions to tender attached here to and agree to abide by the said conditions. I/We also agree to keep this tender open for acceptance for a period of **120 (One hundred twenty) days** from the date fixed for opening the same and in default thereof, I/We will be liable for forfeiture of my/our "Bid Security". I/We offer to do the work for DFCCIL, at the rates quoted in the attached schedule and hereby bind myself/our selves to complete the work in all respects within **24(twenty four) months** from the date of issue of letter of acceptance of the tender.

- (2) I/We also hereby agree to abide by the General Conditions of Contract corrected up to date of issue of Tender Notice and to carry out the work according to the Special Conditions of Contract and Specifications of materials and works as laid down by DFCCIL, in the annexed Special Conditions / Specifications corrected up to date of issue of Tender Notice for the present contract.
- (3) A sum of **Rs. 36,07,176/-** is herewith forwarded as **Bid Security**. The full value of the Bid Security shall stand forfeited without prejudice to any other right or remedies in case my/our Tender as accepted and if :-
(a) I/We do not execute the contract documents within seven days after receipt of notice issued by the DFCCIL that such documents are ready, and
(b) I/We do not commence the work within fifteen days after receipt of orders to that effect.
- (4) Until a formal agreement is prepared and executed acceptance of this tender shall constitute a binding contract between us subject to modification , as may be mutually agreed to between us and indicated in the letter of acceptance of my/our offer for this work.

Signature of Witnesses.

1.
2.

Signature of Tenderer (s)

Dt.
Address of the Tenderer(s)

DEDICATED FREIGHT CORRIDOR CORPORATION OF INDIA LIMITED
A GOVERNMENT OF INDIA ENTERPRISE

TENDER FORMS (SECOND SHEET)

1. Instructions to tenderers and conditions of tender : The following documents form part of Tender/Contract :-
 - (a) Tender Forms – First sheet and Second Sheet.
 - (b) Special Conditions/Specifications (enclosed).
 - (c) Schedule of approximate quantities (enclosed).
 - (d) General conditions of contract and Standard specifications for materials and works as laid down in Indian Railways General condition of contract and East Central Railway"s Standard specification for material and works , as amended / corrected up to date of issue of Tender Notice, copies of which can be seen in the office of Chief Project Manager / DFCCIL / Mughalsarai or obtained from the office of the Divisional Railway Manager / East Central Railway / Mughalsarai or Office of the General Manager / East Central Railway / Hazipur on Payment as specified by East Central Railway.
 - (e) Unified Standard Schedule of Rates of East Central Railway as amended/corrected up to date, copies of which can be seen in the office of Chief Project Manager / DFCCIL / Mughalsarai. or obtained from the office of the Divisional Railway Manager / East Central Railway / Mughalsarai or Office of the General Manager / East Central Railway / Hazipur on Payment as specified by East Central Railway.
 - (f) Preliminary / General Arrangement Drawings of the work.
2. Drawing for the work – The preliminary drawings for the work can also be seen in the office of the Chief Project Manager / DFCCIL / Mughalsarai or obtained from the office of the Chief Project Manager / DFCCIL / Mughalsarai at any time during the office hours. The drawings are only for the guidance of Tenderer(s). Data based, working drawings along with design calculations confirming to DFC Loading, based generally on the drawing mentioned above, will be prepared by the contractor and after proof check from IIT-BHU/ Kanpur/ Delhi / Roorkee / Kharagpur or MNIT/Allahabad or NIT / Patna the same will be submitted to DFCCIL for approval.
3. The Tenderer(s) shall quote his/their rates as a percentage above or at par or below the schedule of rates as mentioned in Schedule A NS Items, Schedule BI to BVI & CI to CII (ECR USSOR 2012 ot her items except mentioned in Schedule A) of Schedule of approximate Quantities enclosed with this tender document, except where he/they are required to quote item rates. Tenderer must quote their rate for all the items shown in the schedule of approximate quantities attached in the manner described above. The quantities in the attached schedule are given as a guide and are approximate only and are subject to variation according to the needs of the DFCCIL. The DFCCIL does not guarantee work under each item of the schedule.
4. Tenders containing erasures and/or alterations of the Tender documents are liable to be rejected. Any correction made by Tenderer (s) in his/their entries must be attested by him/them.

5. The works are required to be completed within **24 (twenty four) Months** from the date of issue of acceptance letter.
6. **Bid Security** – (a) The tender must be accompanied by a sum of **Rs 36,07,176/-** as Bid Security in the shape of a **FDR (Fixed deposit receipt) / Demand Draft**, failing which the tender will not be considered. Bid Security should be drawn in favour of – **Dedicated Freight Corridor Corporation of India Ltd., New Delhi** from SBI/Nationalized /Scheduled Bank of India in original form. The **validity of FDR should not be less than 180 days**.
 - (a) The tenderer(s) shall keep the offer open for a minimum period of **120 (Onehundred twenty) days** from the date of opening of the Tender. It is understood that the tender documents has been sold/permitted to tender is consideration of the stipulation on his/their part that after submitting his/their tender subject to the period being extended further if required by mutual agreement from time to time, he will not resale from his offer or modify the terms and conditions thereof in a manner not acceptable to the DFCCIL. If the Tenderer fail to observe or comply with the foregoing stipulation, the amount deposited as Bid Security for the due performance of the above stipulation shall be forfeited by the DFCCIL.
 - (b) If the tender is accepted, the amount of Bid Security will be retained and adjusted as Security Deposit of the due and faithful fulfillment of the contract. This amount of security deposit shall be forfeited if the tenderer(s) contractor(s) fail to execute the Agreement Bond within 7 days after receipt of notice issued by Railway that such documents are ready or to commence the work within 15 days after receipt of the orders to that effect.
 - (c) The Bid Security of the unsuccessful tenderer(s) will save as herein before provided, be returned to the unsuccessful tenderer(s) within a reasonable time but the DFCCIL shall not be responsible for any loss or depreciation that may happen to the Security for the due performance of the stipulation to keep the offer open for the period specified in the tender documents or to the Bid Security while in their possession nor be liable to pay interest thereon.
7. Rights of the DFCCIL to deal with tender – The authority for the acceptance of the tender will rest with the DFCCIL. It shall not be obligatory on the said authority to accept the lowest tender or any other tender and no tenderers(s) shall demand neither any explanation for the cause of rejection of his /their tender nor the DFCCIL to assign reasons for declining to consider or reject any particular tender or tenders.
8. If the tenderer(s) deliberately gives/give wrong information in his/their tender or creates/create circumstances for the acceptance of his/their tender, the DFCCIL reserves the right to reject such tender at any stage.
9. If the tenderer(s) expires after the submission of his / their tender or after the acceptance of his / their tender, the DFCCIL shall deem such tender cancelled. If a partner of a firm expires after the submission of their tender or after the acceptance of their tender, the DFCCIL shall deem such tender as cancelled unless the firm retains its character.

10. Income Tax clearance certificate – The tenderer (s) is/are required to produce alongwith his/their tender an authorized copy of the income-tax clearance Certificate or a sworn affidavit/duly countersigned by the Income-Tax Officer of the effect that he has/ they have no taxable income.
11. Tenderer(s) Credentials :- Documents testifying tenderer"s previous experience and financial status should be produced along with the tender or when desired by competent authority of the DFCCIL

Tenderer(s) who has/have not carried out any work so far on DFCCIL ,should submit along with his/their tender credentials to establish.

- (i) His capacity to carry out the works satisfactorily.
 - (ii) His financial status supported by bank reference and other documents.
 - (iii) Certificates duly attested and testimonials regarding contracting experience for the type of job for which tender is invited with list of works carried out in the past.
12. (1). **The Technical Eligibility Criteria will be as under:**

1.1 The tenderer (s) should have completed at least one similar single work for a minimum value of **35% of advertised tender value of work.**

Note: (i) Similar nature of works physically completed within the qualifying period, i.e. the last 3 financial years and current financial year (even though the work might have commenced before the qualifying period) should only be considered in evaluating the eligibility criteria.

(ii) The total value of similar nature of work completed during the qualifying period, and not the payments received within qualifying period alone, should be considered.

(iii) In the case of composite works involving combination of different works, even separate completed works of required value should be considered while evaluating the eligibility criteria.

(iv) **Similar Nature of works for this Tender will be –Any Minor/Major Bridge works involving Concrete works only.**

1.2 Total contract amount received during the last three years (i.e. current year and three previous financial years) should be minimum of **150% of advertised tender value** of work supported by (a) Authenticated payment record of Any Railway or any other Government Department or PSU"s etc. (b) Audited Financial Statement certified by Chartered Accountant.

1.3 Certificate from private individuals/firms for whom such works are executed/being executed shall not be considered.

(2) Financial Eligibility Criteria:

1.1 As a proof of sufficient financial capacity and organizational resources, contractor should have received the total payments against **satisfactory execution of all completed/on going works of all types** (not confined to only similar works) **during the last three financial years and in the current financial year** (Up to the date of opening of tender) of a value not less than **150% of the advertised cost of work** including the cost of cement & steel.

1.2 The complete tender document consists of two parts i.e. **Part-I (Technical Bid document) & Part-II (Price Bid document)**. After completing the tender documents they should be separately sealed in two different envelopes super scribed as **Packet-I (Technical Bid) and Packet-II (Price Bid)** along with name of work, the Tender No. and these two envelopes should be sealed in a larger envelope super scribing the name of work & Tender No. The Part-I & Part-II of the bid i.e. Technical Bid & Price Bid shall be hard bound (separately) and all pages serial numbered. (Hardbound implies such binding between two covers through stitching or otherwise whereby it may not be possible to replace any paper without disturbing the document.). **All the quoted rates and the amount in Part-II (Price Bid) shall be laminated by the tenderer. The bidder shall prepare and submit two copies of the bid duly marked as**

(i) Original

(ii) Copy

13. Tender Form can be downloaded from the official website of Dedicated Freight Corridor Corporation of India limited – www.dfccil.gov.in or it can be purchased on cash payment of Rs 10,000 from following offices during all working day from 10.00 Hrs. to 16.30 Hrs. from 17-12-2015 to 16-01-2016 and upto 11.00 hrs. on 18-01-2016

(i) **Office of The Chief Project Manager, DFCCIL, Mughalsarai, Swarna Complex, 2nd Floor, Susuwahi, Post- Susuwahi, District - Varanasi. Phone- 0542-2570122.**

(ii) **Office of The Chief Project Manager /DFCCIL / Allahabad (East), old GM/NCR office, Balmiki Chauraha, Nawab Yusuf Road, Allahabad. Phone 0532-2560326**

(iii) **Corporate Office, Dedicated Freight Corridor Corporation of India Limited, Pragati Maidan Delhi Metro Station Complex, New Delhi- 110001. Phone 011-23454669.**

Tender form downloaded from the web site should be submitted alongwith the demand draft of Rs 10,000/- in favour "Dedicated Freight Corridor Corporation of India Ltd., New Delhi" from SBI/Nationalized /Scheduled Bank of India in original form otherwise the tender will be summarily rejected.

14. Tender must be submitted in a sealed cover with superscripted **Tender No** and must be sent by Registered post to the address of **Office of the Chief Project Manager, Mughalsarai, Swarna Complex, 2nd Floor, Susuwahi, Post- Susuwahi, District-Varanasi** so as to reach his office not later than **13.00** hours on the date **18-01-2016** or deposited in the special box allotted for the purpose in the **Office of the Chief Project Manager, Mughalsarai, Swarna Complex, 2nd Floor, Susuwahi, Post- Susuwahi, District - Varanasi**. This special box will be sealed at **13.00 hrs on 18-01-2016**. The tender (Technical bid) will be opened at **15.00 hrs. on 18-01-2016** in the **Office of the Chief Project Manager, Mughalsarai, Swarna Complex, 2nd Floor, Susuwahi, Post- Susuwahi, District-Varanasi**. The tender papers will not be sold after **11.00 hrs. of date 18-01-2016**.
15. **Part-I (Technical Bid)** will be opened on **18-01-2016 at 15.00** hours in the **Office of the Chief Project Manager, Mughalsarai, Swarna Complex, 2nd Floor, Susuwahi, Post-Susuwahi, District-Varanasi**. The opening of **Part-II (Price Bid)** of the qualified bidders will be intimated later on. If the last date of receiving / opening happens to be Bundh / Holiday(s), the tenders will be issued/received/opened on the next working day as per same timings.
16. DFCCIL will not be responsible for any delay/difficulties /inaccessibility of the down loading facility for any reason whatsoever. In case of any discrepancy between the tender documents downloaded from internet and the master copy available in the offices mentioned in (13) above, the latter shall prevail and will be binding on the tenderer(s). No claim on this account will be entertained.
17. Non-compliance with any of the conditions set forth there in above is liable to result in the tender being rejected.
18. Execution of Contract Document - The successful Tenderer(s) shall be required to execute an agreement with the President of India acting through the DFCCIL for carrying out the work according to General conditions of Contract, Special conditions /specifications annexed to the tender and specification for work and materials of East Central Railway as amended/corrected up to date of as mentioned in tender form (First Sheet).
19. **Partnership deeds, power of attorney etc.** The tenderer shall specify whether the tender is submitted on his own or on behalf of a partnership concern. If the tender is submitted on behalf of a partnership concern, he should submit the certified copy of partnership deed along with the tender and authorization to sign the tender documents on behalf of partnership firm. If these documents are not enclosed along with tender documents, the tender will be treated as having been submitted by individual signing the tender documents. The DFCCIL will not be bound by any power of attorney granted by the tenderer or by changes in the composition of the firm made subsequent to the execution of the contract. It may, however recognize such power of attorney, and charges after obtaining proper legal advice, the cost of which will be chargeable to the contractor.
20. The tenderer whether sole proprietor, a limited company or a partnership firm if they want to act through agent or individual partner(s) should submit along with the tender or at a later stage a power of attorney duly stamped and authenticated by Notary Public or by Magistrate in favour of the specific person whether he/they be partners the firm or any other person specifically authorizing him/them to submit the tender, sign the agreement, receive money, witness measurements, sign measurement books, compromise, settle, relinquish any claim(s) preferred by the firm and sign "No claim Certificate" and refer all or any disputes to arbitration.

21. (a) Employment/Partnership etc. of retired DFCCIL Employees :- (a) Should a tender be a retired Engineer of the Gazetted rank or any other Gazettee officer working before his retirement, whether in the executive or administrative capacity, or whether holding a pensionable post or not in the DFCCIL owned and administered by the President of India of for the time being, or should a tenderer being partnership firm have as one of its partners a retired Gazetted Officer as one of its Directors or should a tenderer have in his employment any retired Gazetted Officer have in his employment any retired Gazetted officer as aforesaid, the full information as to the date of retirement of such Gazetted officer from the said service and in case where such officer had not retired from Government service at least 2 years prior to the date of submission of the tender as to whether permission for taking such contract, or if the contractor be a partnership firm or an incorporated company, to become a partner or Director as the case may be or to take the employment under the contractor, has been obtained by the tenderer or officer as the case may be from the President of India or any Officer, duly authorized by him in this behalf, shall be clearly stated in writing at the time of submitting the tender. Tenderer without the information above referred to or a statement to the effect that no such retired Gazetted Officer is so associated with tenderer, as the case may be, shall be rejected.
- (b) Should a tenderer or contractor being an individual on the list of approved contractors, have a relative(s) or in the case of partnership firm or company of contractors one or more of his share holder(s) or a relative or the share holder(s) employed in gazetted capacity in the DFCCIL, the authority inviting tenders shall be informed of the fact at the time of submission of tender (in specified Performa enclosed as Annexure V of this tender document), failing which the tender may be rescinded in accordance with the provision of the General Conditions of Contract.

Chief Project Manager
Dedicated Freight Corridor Corporation of India Limited
Mughalsarai

DEDICATED FREIGHT CORRIDOR CORPORATION OF INDIA LIMITED
A GOVERNMENT OF INDIA ENTERPRISE

TENDER NOTICE NO.MGS/EN/LC-RUB/Approches-6/15

Name of work :- CONSTRUCTION OF RUB/LHS at DFC CH 69.540 and Rly. Km 619/22-24 on DFC line at BBU yard and construction of DFC side approaches of RUB/LHS at LC no. 35C (556/26-28), 37C (562/12-14), 44C (576/11-13), 48C (585/5-7), 51C (590/23-25), 52C (594/17-19), 54C603/17-19), 57C (612/25-27), 58C/615/3-5), 64C630/9-11), 65C (633/7-9), 66C/637/5-7), 67C (638/7-9), 77C (659/13-15) AND 79C (662/7-9) IN BETWEEN SONNAGAR—MUGHALSARAI SECTION

Sl. No.	Description of work	Basic value as per Schedule of Quantities	Percentage(%) above/below/at par	Amount
1	Percentage above or below on the items of Annexure - A.	Rs8,09,472.36	Rate to be quoted in Price Bid Document	Rate to be quoted in Price Bid Document
2	Percentage above or below on the items of Annexure – BI	Rs 64,75,211.91	Rate to be quoted in Price Bid Document	Rate to be quoted in Price Bid Document
3	Percentage above or below on the items of Annexure – BII	Rs 31320783.68	Rate to be quoted in Price Bid Document	Rate to be quoted in Price Bid Document
4	Percentage above or below on the items of Annexure – BIII	Rs 172008.95	Rate to be quoted in Price Bid Document	Rate to be quoted in Price Bid Document
5	Percentage above or below on the items of Annexure – BIV	Rs 32953144.57	Rate to be quoted in Price Bid Document	Rate to be quoted in Price Bid Document
6	Percentage above or below on the items of Annexure – BV	Rs 45982.30	Rate to be quoted in Price Bid Document	Rate to be quoted in Price Bid Document
7	Percentage above or below on the items of Annexure – BVI	Rs 1500000.00	Rate to be quoted in Price Bid Document	Rate to be quoted in Price Bid Document
8	Percentage above or below on the items of Annexure – CI	Rs 32766876.03	Rate to be quoted in Price Bid Document	Rate to be quoted in Price Bid Document
9	Percentage above or below on the items of Annexure – CII	Rs 57919050.42	Rate to be quoted in Price Bid Document	Rate to be quoted in Price Bid Document

Note :-

- i) The approximate quantities of principal items of work to be executed and the amount of the schedule rates have been tabulated in Schedule of Quantities enclosed with this tender document.
- ii) The Tenderer should quote a flat percentage at per / above / below for the total amount of the above individual schedule (Schedule wise i.e. Schedule A, Schedule BI to BVI & Schedule CI & CII) separately. **Tenders where more than one flat percentage is quoted against any individual Schedule (i.e. Schedule A, Schedule BI to BVI & Schedule CI & CII) will be summarily rejected.**
- iii) The Tenderer should quote the percentage both in figures and words. Where there is a difference between percentages, percentage quoted in words will be taken as correct.
- iv) This work is to be executed by Cut and Cover Method with Precast Segmental Box for BBU RUB.

CONSTRUCTION OF RUB/LHS at DFC CH 69.540 and Rly. Km 619/22-24 on DFC line at BBU yard and construction of DFC side approaches of RUB/LHS at LC no. 35C (556/26-28), 37C (562/12-14), 44C (576/11-13), 48C (585/5-7), 51C (590/23-25), 52C (594/17-19), 54C (603/17-19), 57C (612/25-27), 58C (615/3-5), 64C (630/9-11), 65C (633/7-9), 66C (637/5-7), 67C (638/7-9), 77C (659/13-15) AND 79C (662/7-9) IN BETWEEN SONNAGAR—MUGHALSARAI SECTION

Schedule - 'A

Sl. No	Description of item	Unit	Rate	Qty.	Amount	Remarks
1	Loading transportation, unloading and placing of RCC Box segments of internal size 4.00m x 5.5 m and length 1.5 m to 2.0 m including loading from costing yard, Transportation to bridge size placing to correct profile line & level on bridge base with all arrangement of hiring or trailer/Crane etc.	Nos	35315.28	22	776936.16	
2	Removing of existing track including removing rails, sleepers and ballast with all contractor s labour, tools, materials, plants machinery, consumables including all lead, lift, ascent, decent, wastage, temporary establishment etc. Including all incidental works and other expenditure complete in all respect as directed by DFCCIL. This work to be carried out during traffic block for each	M	158.24	60	9494.40	
3	bridge. filling of ballast. Laying rails on PSC sleepers and lifting and packing of track to meet out longitudinal alignment, gauge and level of approaches to make track fit for 20 kmph, all with contractor s labour, material, tool, plants, machinery, consumables including all lead lift, ascent, descent, wastage, temporary establishment etc. including all incidental works and other expenditure complete in all respects as directed by DFCCIL	M	164.01	60	9840.60	
4	Maintenance of track as well as protection track	Tmtr _e	1.79	120	214.80	
5	Through packing of Sleeper on running line to specified tolerance including lifting in stages up to 75mm at a time to relax the speed as per					
(i)	1st Round	Tmtr	30.11	120	3,613.20	
(ii)	2nd Round	Tmtr	27.88	120	3,345.60	
(iii)	3rd Round	Tmtr	27.79	120	3,334.80	
6	Spreading of ballast from the stacks available Cum in formation (already unloaded) uniformly on the track/formations per true profile including all lift, lead up to 100 meters and crossing of		44.88	60	2,692.80	
					8,09,472.36	

track as per direction of Engineer-in-charge.

SCHEDULE-B-I

Sl. No	Description of work	Unit	Rate	Qty.	Amount	Ref. Item no. of USSOR 2012
1	Earth work in excavation as per approved drawings and dumping at embankment site or spoil heap, within railway land, including 50m lead and 1.5m lift, the lead to be measured from the centre of gravity of excavation to centre of gravity of spoil heap; the lift to be measured from natural ground level and paid for in layers of 1.5m each including incidental work, as per specifications					
	All kinds of soils	Cum	93.54	39262.5	3672614.25	011011
2	Extra for every additional lift of 1.5m or part thereof after the initial 1.5m for earth work in all soils	Cum	8.10	15704.68	127207.91	011070
3	Earthwork in filling in embankment, guide bunds, around buried type abutments, bridge gaps, trolley refuges, rain bunds, if provided, platforms etc. with earth excavated from outside railway boundary entirely arranged by the contractor at his own cost as per RDSO's latest guidelines and specifications and special condition of contract including all leads, royalty, lifts, ascents, descents, crossing of nallas or any other obstructions. The rates shall include all dressing of bank to final profile, demarcation and setting out of profile, site clearance, removing of shrubs, roots of vegetations growth, heavy grass, benching of existing slope of old bank, all handling/re-handling, taxes, octroi and royalty etc. as a complete job. Cut trees shall be property of railways and to be deposited in the railway go down unless specified otherwise in the	cum	139.23	696	96,904.08	013120
4	Special Conditions of Contract. Extra for mechanical compaction of earth/blanketing material filled in embankment with contractor's rollers of suitable capacity, type and size to achieve specified density as per specification, testing as per IS codes including cost of water, T&P, consumable material and all labour as a complete job. The work is to be executed as per Latest edition of "Guidelines for Earthwork in Railway Projects" issued by RDSO, Lucknow.	cum	14.80	696	10,300.80	013130
5	Earthwork in cutting (classified) in formation, trolley refuges, side drains, level crossing approaches, platforms, catch water drains, diversion of nallah & finishing to required dimension and slopes to obtain a neat appearance to standard profile.	Cum	163.81	2250	368572.50	013110
6	Earthwork in excavation for foundations and floors of the bridges, retaining walls etc. including setting out, dressing of sides, ramming of bottom, getting out the excavated material, back filling in layers with approved material and consolidation of the layers by ramming and watering etc. including all lift, disposal of surplus soil upto a lead of 300m, all types of shoring and strutting with all labour and material complete as per drawing and					
	technical specification as directed by Engineer in charge	cum		7459	2184964.87	192011
(i) 7	Extra of soils quantity of works, executed in or underwater and/or liquid mud including pumping	cum	292.93	250	14647.50	192020
	out water as required					
	Total				64,75,211.91	

SCHEDULE-B-II

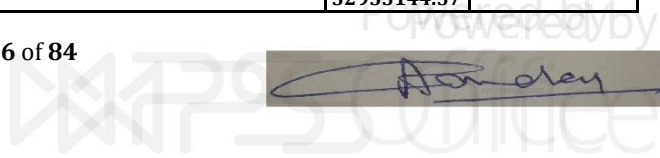
Sl. No	Description of work	Unit	Rate	Qty.	Amount	Ref. Item no. of US SOR 2012
1	Providing and laying in position cement concrete of M20/M25 grade, excluding the cost of cement and of centering and shuttering, as per direction of the Engineer in charge :					031050
(i)	All works up to plinth level	cum	2856.68	5796.9	16559888.29	031051
2	Providing and laying cement concrete, up to plinth in retaining walls, walls (any thickness) including attached plasters, columns, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window sills, fillets etc, excluding the cost of cement and of shuttering, centering.					031020
(i)	1:2:4 (1 cement : 2 sand : 4 graded stone aggregate 20mm nominal size)	cum	2911.03	106	308569.18	031023
3	Providing and laying in position cement concrete of specified proportion excluding cost of cement, centering and shuttering - All works up to plinth level :					031010
(i)	1:3:6 (1 cement : 3 sand : 6 graded stone aggregate 20mm nominal size)	cum	2813.60	1461.5	4112076.40	031011
4	Providing and laying in position M-20 Grade concrete for reinforced concrete structural elements, but excluding cost of centering, shuttering, reinforcement and Admixtures in recommended proportion (as per IS:9103) to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer in charge					041010
(i)	All works in buildings above plinth level upto floor two level Centering and shuttering including strutting, propping etc. and removal of form for :	cum	3619.33	2707	9797526.31	041012
5	Suspended floors, roofs, landings, balconies, FOB slabs, walkway slabs and access platform	Sqm	230.28	900	207252.00	042010
(i)	Providing hand packed dry flat brick flooring, class designation 7.5 (FPS Bricks), excluding pointing with joints filled with sand over a bed of dry sand (ordinary) of average thickness 25 mm including ramming sub grade :	Sq m	237.25			091030
(i)	Flat brick			1414	335471.50	091032

SCHEDULE-B-III

Sl. No	Description of work	Unit	Rate	Qty.	Amount	Ref. Item no. of US SOR 2012
1	Providing and laying non-pressure NP3 class (medium duty) R.C.C. pipes including bends etc. with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete upto 800mm dia.					142030
(i)	450mm dia. R.C.C. pipe	metre	833.44	200	166688.00	142033
2	Constructing brick masonry manhole in cement mortar 1:4 (1 cement : 4 coarse sand) R.C.C. top slab with 1:2:4 (1 cement : 2 coarse sand : 4graded stone aggregate 20mm nominal size), foundation concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size) inside plastering 12mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) finished with a floating coat of neat cement complete as per standard design					143010
	Inside size 90cmx80cm and 45 cm deep including C.I. cover with	Each	5320.95	1	5320.95	143011
(i)	frame (light duty) 455mm x610mm internal dimensions total weight of cover and frame to be not less than 38 kg (weight of cover 23kg and weight of frame 15kg) with F.P.S. bricks class designation 7.5					
Total Rs. =					172008.95	

SCHEDULE-B-IV

Sl. No	Description of work	Units	Rate	Qty.	Amount	Ref. Item no. of USSOR 2012
1	Providing and laying Plain Cement Concrete 1:3:6 with graded stone aggregate of 40mm nominal size, in foundation and floors, retaining walls of bridges including mechanical mixing, .. contd. -	cum	2234.33	174	388773.42	192030
2	Supply and laying of coarse sand including consolidation, supply of all materials, labour, lead, lift, tools, plants, crossing of tracks as per drawing and technical specification as directed by the Engineer in charge in case loose slush is encountered at site of foundation before casting the foundation or before laying the filtering media	cum	1386.33	292.5	405501.52	222040
3	Providing and laying in position machine mixed, machine vibrated and machine batched Design Mix Cement Concrete M25/M35 grade using 20mm graded crushed stone aggregate and coarse sand of approved quality for the following Reinforced cement concrete structural elements up to height of 10m from foundation top level, including finishing, using Admixtures in recommended proportions (as per IS:9103), if approved in Mix design to accelerate or retard setting of concrete and/or improve workability without impairing strength and durability complete as per specifications and direction of the Engineer in charge. Payment for cement, reinforcement & shuttering shall be paid extra.					192060
(i)	Wing wall and Return wall	cum	3020.34	6699.25	20234012.75	192062
4	Providing and laying in position machine mixed, machine vibrated and machine batched Design Mix Cement Concrete M30/M35 grade in bottom/top slab, side walls, toe wall and sumps haunch filling head walls or any other component using 20mm graded crushed stone aggregate and coarse sand of approved quality of cast in-situ RCC box of size upto 5m (bigger inside dimension) including finishing, Admixtures in recommended proportions (as per IS:9103), if approved in Mix design, to accelerate, retard setting of concrete, improve workability without impairing strength and durability, complete as per drawings and technical specifications as directed by Engineer in charge. Payment for cement, reinforcement and shuttering shall be paid extra.	cum	2745.77	370	1015934.90	194010
	Centering and shuttering including strutting, propping etc.					195030
5	and removal of form for :					
(i)	Abutment, pier, wing walls and return walls	Sqm	227.40	27985	6363789	195032
	In Bottom/top slab, side walls, toe wall and sumps	Sqm	227.40	18267	4153915.8	195038
(ii)	haunch filling head walls or any other component					
6	Providing and laying pitching with stone boulders weighing not less than 35kg each with the voids filled with spalls on slopes laid over prepared filter media including boulder apron laid dry in front of toe of embankment complete as per drawing and Technical specifications (filter media to be paid separately under the relevant item)	cum	1066.06	90	95945.40	221050
7	Providing and laying of filter media consisting of granular materials of GW, GP, SW groups as per IS:1498-1970 in required profile behind boulder filling of abutments, wing walls / return walls etc. above bed level with all labour and material complete job as per drawing and technical specification of RDSO Guidelines	cum	943.42	299	282082.58	222180
8	Dewatering of natural or accumulated water from location. Payment to be done for Horse power of pump	any HP Hour	22.74	580	13189.2	222300
multiplied by pumping hours.					Total	32953144.57



SCHEDULE - B-V

S N	Description of work	Unit	Rate (Rs)	Qty.	Amount (Rs)	Ref. Item no. of US SOR 2012
1	Loading/Unloading G.I. sheets, rails, joists, built up sections, angles, C.I./Ductile pipes, A.C Pipes, or G.I. pipes RCC/PCC beams/slabs and other miscellaneous ironwork or wood work including lead upto 50m and stacking properly into/from trucks, trailers or wagons					021130
(Individual length upto 3.5m	MT	118.83	15	1782.45	021131
(Individual length more than 3.5m	MT	130.01	10	1300.10	021132
2	Leading miscellaneous materials such as iron work, rails, fitting & fastenings, pipes, wooden logs, stones over pitching stone size, RCC/PCC beams/slabs etc. and all similar articles (each individual article or bundle being not more than 3.5m long in the longest direction) including picking up unloading and stacking, lead upto 50m	MT	115.68	25	2892.00	021140
3	Additional lead for every subsequent 50m or part thereof over 50m and upto 500m over item no. 021140	MT	32.00	225	7200.00	021141
4	Leading miscellaneous materials such as iron work, rails, fittings & fastenings, pipes, wooden logs, stones over pitching stone size, RCC/PCC beams/slabs etc. and all similar articles (each individual article or bundle being not more than 3.5m long in the longest direction) including all loading, unloading and stacking, lead over 500m and upto 10 km. Note : Lead under this item is payable when	MT	160.31	25	4007.75	021150
5	Stone aggregate broken :50 mm nominal size.	cum	480	60	28800.00	252080
Total Rs. =					45982.3	

SCHEDULE - B-VI

Sl. No	Description of item	unit	Basic cost (Rs)		
1	Over all percentage above/below/at par over the rates under Mugalsarai Division, Engineering Department, USSOR, E.C.Railway 2012 as per items not covered by the items of schedule - BI to BV		1500000		
	Total		1500000		

SCHEDULE-C-I

S.N.	Description of Item		Unit	Rate	Qty.	Amount	Ref. ECR USSOR
1	Supply and using cement at	1	Tonne	6631.36	4941.20	32766876.03	033061
	worksite : OPC 43 Grade					32766876.03	

SCHEDULE-C-II

S. N.	Description of Item	Unit	Rate (Rs)	Qty.	Amount (Rs)	Ref. ECR USSO
1	Supplying reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete. High yield strength deformed bars.	Kg	64.46	898527	57919050.42	045014
					57919050.42	

General Conditions of Contract (GCC)

**As per Indian Railways General Conditions of
Contract, September-2011 with up to date
correction slips / amendments**

SPECIAL CONDITION OF CONTRACT

1. DEFINITIONS

Unless excluded by or repugnant to the context:

- a) The expression **employer /DFCCIL** as used in the tender papers shall mean the Dedicated Frigh corridor Corporation of India Ltd.
- b) The expression **Corporation** as used in the tender paper means Dedicated Frigh corridor Corporation of India Ltd.
- c) The expression **–Department** as used in the tender papers shall mean Dedicated Frigh corridor Corporation of India Ltd.
- d) **Drawing** shall be mean the drawings referred to in specifications and anymodifications of such drawings approved in writing by engineers and such other drawings as may from time to time be furnished or approved in writing by the Engineer In Charge.
- e) **Engineer/ –Engineer-in-charge** of the work shall mean the „Representative“appointed by DFCCIL.
- f) The **–Site** shall mean the lands and / or other places on under in or through which the work is to be executed under the contract including any other lands or place used for the purpose of contract.
- g) The **–Contract** shall mean The agreement entered into between the owner and the contractor as recorded in the contract form signed by the parties include all attachment the notice of tender, the sealed quotation and the tender documents including the tender and acceptance thereof together with the documents referred to therein, and the accepted conditions with annexure mentioned therein including any special conditions, specifications, designs, drawings, price schedule / bill of quantities and schedule of rates. All these documents taken together shall be deemed to form one contract and shall be complementary to one another. Contract is deed of contract together with its entire accompaniment and those later incorporated in it by internal consent.
- h) The **–Contractor/ consultant** shall mean the individual or firm or company whether incorporated or not, undertaking the work and shall include legal representative of such an individual or persons comprising such firms or company as the case may be and permitted, assigns of such individual or firm or company.
- i) The **–Contract sum / –Contract price** shall mean the sum for which the tender is accepted.
- j) The **–Contract time** means period specified in the tender document for entire execution of contracted works from the date of notification of award including monsoon period.
- k) A **–Day** shall mean a day of 24 hours from midnight to midnight irrespective of the number of hours worked in that day.
- l) A **–month** shall mean a calendar month.
- m) A **–week** shall mean seven consecutive days without regard to the number of hours worked in any day in that week.
- n) **–Excepted Risks** are risks due to riots (other wise than among contractor“s employees)

and civil commotion (in so far as both these are un-insurable) was (whether declared or not), invasion, act of foreign enemies, hostilities, civil war, rebellion, revolution,



insurrection, military or usurped power, any acts of God, such as earthquake, lightning and unprecedented floods over which the contractor has no control.

- o) –**Temporary works** shall mean all temporary works of every kind required in or about the execution completion or maintenance of the works.
- p) –**Urgent works** shall mean any measures, which in the opinion of the Engineer, become necessary during the progress of the works to obviate any risk or accident or failure or which become necessary for security of the work or the persons working thereon.
- q) Where the context so requires, word importing the singular number only also include the plural number and vice-versa.

2. GENERAL –

- 2.1 These special conditions of contract, special specification etc., the schedules of quantities, Indian Railways General Condition of Contract (GCC), Unified Standard Schedule of Rate (USSOR 2012) of ECR and Standard Specification for works and material of ECR and relevant drawings with such amendment which may be published from time to time during the period shall constitute contract documents and the contractors shall satisfy himself in every respects as to the condition and meaning of those contract documents and to the extent and quantity required to be executed as to claim what-so-ever arising through the mis-understanding of the intention of the meaning of any of the terms of expression in these contract documents shall be entertained after the submission of tender.
- 2.2 The work shall be executed in conformity with the tender documents such as the Indian Railway General condition of contract and standard specifications of East Central Railway with up to date correction slip and their documents as per tender form together with such amendments may be published from time to time and in connection with the special condition and special specification attached.

3.0 ITEMS COVERED BY USSOR 2012 OF ECR

- 3.1 The tenderer should indicate percentage above or below against Schedule B-I to B-VI and C-I to C-II of the schedule of quantities, the total value of which has been indicated in Schedule B-I to B-VI and C-I to C-II.
- 3.2 For all such works executed and paid based on USSOR,2012 of ECR as given in Schedule B-I to B-VI and C-I to C-II, the rates quoted by the tenderers shall be inclusive of all cost of the materials and labour unless otherwise specified.
- 4.0 **ITEM NOT COVERED BY USSOR 2012 of ECR (Schedule A).**
The rate quoted by the tenderer shall be inclusive of all cost of materials and labor unless otherwise specified.
- 5.0 If there is any delay on the part of the DFCCIL in supplying those materials which the DFCCIL has undertaken to supply the above and if as a result there of the

completion of the work is delayed, the DFCCIL will consider granting of suitable extension for such loss of time. The DFCCIL, however not entertain any claim from the contractor in regards to any loss suffered by him on account of his labour etc. sitting idle or any other account as a result of delay in supplying materials

- 6.0 The contractor shall at his own cost build suitable damp proof godowns for stacking cement at the site of work.
- 7.0 It should also be ensured that only approved material shall be used in the work. Rejected material should be removed from the site at the earliest so as to avoid any confusion. Final measurement of all buried works should be recorded before they are covered.
- 8.0 Successful tenderers will be allowed to use local available size of bricks, but the quality of bricks should be approved by Engineer or his representative and shall be as per GCC and standard specification but, payment will be made as per dimensions in approved plan or otherwise, approved by competent authority. Consumption of cement will be calculated as per actual measurement.

9.0 **VITIATION OF CONTRACT**

The Contract shall not be vitiated by any inadvertent error of any kind in the surveys, information, specification, drawing or schedule of quantities.

However,

during execution of work if variation of quantities against item of work become inevitable and such variation causes vitiating of the contract, the amount of vitiating will be deducted from the contractor's bill without any reference.

10.0 **Measurement and Payment.**

- 10.1 Payment will be made for entire work executed strictly as per drawing and as finally measured.
- 10.2 Payment of Earthwork will be made on the basis of final cross section only and no extra allowance should be granted for any settlement of the earthwork into the natural ground. No deductions on account of shrinkage will be made from the quantity worked out based on the cross section.
- 11.0 Contractor's liability during maintenance period. On the completion of the work to the satisfaction of the DFCCIL it will be taken over. **From the date of taking over, the contractor shall be responsible for the maintenance of the work for further period of six months.** During the **maintenance period of Six months** contractor shall take immediate action to remedy and rectify the hidden defects, workmanship which may become apparent and which may be called for, to rectify by DFCCIL's notice, in written, should be rectified by the contractor. If contractor fails to make adequate arrangement to rectify the defects without within seven days from the receipt of such notice, the DFCCIL may, further notice, make his own arrangement for rectification of such defects and the cost of such rectification shall be recovered from the security deposit of the contractor retained by the DFCCIL and from any other money dues to the contractor" under this or any other contract.

12.0 **Price scalation.**

:- (A)

General

- (I) The rates quoted by the tenderer and accepted by Railway Administration shall hold good till the completion of the work and no additional individual claim will be admissible on account of fluctuation in market rates, increase in taxes/any other levies/- tolls etc. except that payment/recovery for overall market situation shall be made as per price variation clause given in Para below.
- (II) No cognizance will be given for any sort of fluctuations in taxes and other market conditions etc. for any individual item for the purpose of making adjustment in payments. The contract shall, however, be governed by the general price valuation clause.
- (III) The price variation should be based on the average price index of the 3 months of the quarter instead of the price index of the first month of the quarter under consideration.
- (B) Applicability of Price Variation Clause
- (I) The applicability of this Clause to this tender is subject to the relevant provision of this document and fulfilling following conditions.
- (II) This Price Variation Clause shall be applicable only to contracts more than Rs. 0.5 Crore in value, the value being the value of actual work to be executed by the contractor, i.e. excluding the cost of materials supplied free of cost by the Railway, on the basis of tendered quantities. If this value is less than Rs. 0.5 Crore the Price Variation Clause shall not be applicable, even though this clause may be printed in the tender documents and where the value of work executed by contractor becomes more than 0.5 Crore (as a result of subsequent variation, (NS Item etc), the original value having been less than Rs. 0.5 Crore, this clause will not be applicable.
- (III) The Price Variation clause will be applicable to all extensions of time granted to the date of completion except extension granted under clause 17-B (Extension of time for delay due to contractor) of Indian Railway General Condition of Contract. Price variation is not applicable for any new NS item that may be included subsequent to finalization of contract.
- (IV) If in any case, the accepted offer includes some specific payment to be made to consultants or some materials supplied by Railway at fixed rate, such payments should be excluded from the gross value of the work for purpose of payment/recovery of variation.

(C) Method of calculation of adjustment

The amount of adjustment i.e. total decrease / increase in total payable amount shall be calculated by the following formula for each component of input i.e. Labour, Material, Fuel, Explosive, detonator. There shall be a fixed component also on which no adjustment shall be made.

(I) METHOD OF CALCULATION:

For Items Other than Supply of Steel & Cement

(a)
$$L = \frac{R \times (I - I_0)}{I - I_0}$$

(b)
$$M = \frac{R \times (W - W_0)}{W_0} \times \frac{P}{100}$$

(c)
$$U = \frac{R \times (F - F_0)}{F_0} \times \frac{Q}{100}$$

(d)
$$X = \frac{R \times (E - E_0)}{E_0} \times \frac{Z}{100}$$

(e)
$$N = \frac{R \times (D - D_0)}{D_0} \times \frac{S}{100} \times \frac{T}{100}$$

M = Amount of price variation in materials.

U = Amount of price variation in fuel.

X = Amount of price variation in explosives.

N = Amount of price variation in detonators.

R = Gross value of the work done by the contractor as per on- account Bills excluding costs of materials supplied by Railways free or at a fixed price or supply of steel and cement by contractor, which is paid under Schedule „C“. This will also exclude specific, payment, if any, to be made to the consultants engaged by the contractors (Such payment will be indicated in the contractor"s offer).

I 0 = Consumer Price Index Number for Industrial Workers All India – published in RBI Bulletin for the base period.

I = Average Consumer Price Index number for industrial workers All India- Published in RBI Bulletin for the 3 months of the quarter under consideration.

Wo = Index Number of Wholesale Prices – By groups and subgroups- All commodities as published in the R.B.I. Bulletin for the base period. W = Average Index Number of Wholesale Prices - By groups and Subgroups - All commodities as published in the R.B.I. Bulletin for the 3 months of the quarter under consideration.

Fo = Index Number of Wholesale Prices – By groups and sub-groups for Fuel, Power, light and lubricants as published in the R.B.I. bulletin for the base period.

F = Average Index Number of Wholesale Prices - By groups and subgroups for fuel, power, light, and lubricants as published in the

R.B.I. Bulletin for the 3 months of the quarter under consideration.

E o = Cost of Explosives as fixed by DGS&D in the relevant rate contract of the firm from whom purchase of explosives are made by the contractor for the base period.

E = Average cost of Explosive as fixed by DGS&D in the relevant rate contract of the firm from whom purchase of explosives are made by the contractor for the 3 months of the quarter under consideration.

Do = Cost of detonators as fixed by DGS&D in the relevant rate contract of the firm from whom purchase of detonators are made by the contractor for the base period.

D = Average cost of detonators as fixed by DGS&D in the relevant rate contract of the farm from whom purchase of detonators are made by the contractor for the 3 (three)months of the quarter under consideration.

P = % of Labour component.

Q = % of Material component.

Z = % of Fuel component.

S = % of Explosive component.

T = % of Detonators component.

(II) Method of Calculation For Supply of Cement

This special PV clause will be applicable only for supply of Cement:-

Price of Cement is to be linked with the Wholesale Price Index of the respective sub group as per RBI Index Numbers. Henceforth, the formula for calculating the amount of variation on account of variation in prices of Cement would be as indicated below:-

$$(a) Mc = R1 \times (Wc - Wco) / Wco$$

Mc = Amount of price variation in material (Cement).

R1 = Value of Cement supplied by Contractor under Schedule „C“ as per on account bill in quarter under consideration.

Wco = Index No. of Wholesale Price of subgroup (of Cement) as published in RBI Bulletin for the base period.

Wc = Index No. of Wholesale Price of subgroup (of Cement) as published in RBI Bulletin for the 1 st month of the quarter under consideration.

(III) INDEX NUMBER :

The index number of the base month shall be that published by R.B.I. for the month of opening of the tender and the quarters will commences from the month following the month of opening of the tender. However, in case the tender is finalized after the negotiation, base month for the price variation clause is the month in which negotiations are held. Quarterly periods shall also be counted commencing from the month following the month in which the last negotiation was held leading to the award of contract.

(IV) The percentages P, Q, Z, S, T of various components i.e. labour, materials etc for different type of work shall be as follows: -

(a)Earth work Items

Labour components 50%

Fuel components 20%
Other material components 15%
Fixed components 15%

(b) Ballast and Quarry products Items

Labour components 55%
Fuel components 15%
Other material components
15% Fixed components 15%

(C) Tunneling Items

Labour components 45%
Fuel components 15%
Explosive component 15%
Detonator component 5
Other material components
5% Fixed components 15%

(D) Other works Items

Labour components (P) 30%
Material components(Q) 40%
Fuel components (Z) 15%
Fixed components 15%

(V) The amount on which the adjustment is to be calculated, shall be the amount payable to the contractor for the item or items of various types of works given in the reference quarter, Refer

(E) below for procedure of calculation of adjustment.

(VI) The calculations for adjustments in the amount payable to the contractor shall be made on the value of the work done in each quarter by the contractor. Quarterly periods shall be counted commencing from the month following the month in which tender have been opened. However, in case the tender is finalized after the negotiation, quarterly periods shall be counted commencing from the month following the month in which the last negotiation was held leading to the award of contract, Refer (E) below also. The calculations for adjustments should be based on the average price Index of the three months of the quarter.

(VIII) The demand for escalation of the cost may be allowed on the basis of provisional indices made available by the Reserve Bank of India. Any adjustment need to be done based on the finally published indices shall be made as and when they become available.

(IX) Supply of steel

$M_s = Q (B_s - B_{s0})$ where

M_s = Amount of price variation in steel payable/recoverable

Q = Weight of steel in tones supplied by the contractor as per the on account bill for the month under consideration

B_s = SAIL's (Steel Authority of India Limited) ex-works price plus Excise Duty thereof (in rupees per ton) for the relevant category of steel supplied by the contractor as prevailing on the

first day of the month in which the steel was purchased by the contractor (or) as prevailing on the first day of the month in which steel was brought to the site by the contractor whichever is lower.

Bso =SAIL"s ex-works price plus Excise Duty thereof (in rupees per ton) for the relevant category of steel supplied by the contractor as prevailing on the first day of the month in which the tender was opened.

Note:-

(i) Relevant categories of steel for the purpose of operating the above price variation formula based on SAIL"s ex-works price plus Excise Duty thereof are as under:-

S L N	Category of steel supplied in the railway work	Category of steel produced by SAIL whose ex-works price plus Excise Duty thereof would be adopted to determine price variation.
1	Reinforcement bars and other rounds.	TMT 8 mm IS 1786 Fe 415
2	All types and sizes of angles.	Angle 65 x 65 x 6 mm IS 2062 E250A SK
3	All types and sizes of plates.	PM Plates above 10-20 mm IS 2062 E250A SK
4	All types and sizes of channels and joists.	Channels 200 x 75 mm IS 2062 E250A SK
5	Any other section of steel not covered in the above categories and excluding HTS.	Average of price for the 3 categories covered under Sl. no. 1, 2, 3 above.

(ii) The prevailing ex-works price of steel per ton as on 1 st of every month for the above categories of steel as advised by SAIL to Railway Board.

(E) MAKING ADJUSTMENTS FOR PRICE VARIATION

(i) The adjustment for variation in prices i.e. extra payment in case of increase and recovery in case of decrease, as required, shall be made once in every quarter in the on accounts payments. If more than one on account payment is made to the contractor in a quarter, the adjustment, if required, shall be made as and when they become available.

(ii) It shall be contractor"s responsibility to submit the value of various price Indices for appropriate points of time along with proof / authenticity thereof, to enable the Railway to calculate the price variations.

(F) METHOD OF OPERATION OF THIS CLAUSE

i. Since the adjustment of payments are based on the amount of work done by contractor in each quarter, measurements of actual work done must be taken and recorded in the measurements books and signed by the contractor at the end of each quarter, if not frequently.

ii. Since the various Indices are published by RBI / Ministry of Labour a few months later than



the months to which they pertain, the normal on account bills based on quarterly measurements will be prepared as per current procedure on the adopted rates without considering the Price Variation clause.

iii. The adjustments in Price variations shall be done subsequently. through separate series of on account bills, called Escalation on account bill no 1,2 etc. the adjustment bills and the normal on account bills will be kept independent of each other for facility of operations.

13.0 Contract Labour (Regulation abolition Act. 1970):-

The attention of the tenderer/s are drawn to the contract labour (Regulation and abolition) Act., 1970 and labour (Regulation and abolition) Central Rules, 1971 and Clause-55 of the Indian Railway General Condition of the Contract, successful tenderer/s shall comply with the provision of the Act and Rules. DFCCIL being the principal employer under the said act and rules.

14.0 Variation in extant of contract :-

Tenderer shall note that the modifications of the contract envisaged in clauses of the regulation for tender and contracts General conditions of contract with up to date correction slips / amendments and Standard specification of works and material of East Central Railway , is limited to the extent of 25% on increase in quantities depending upon the nature of work occurring during physical execution of the work. The tenderer shall not be entitled to any compensation what-so-ever on account of such variations and payment shall be allowed only in respect of actual quantities executed at the accepted rates specified in the original Contract.

The procedure detailed below shall be adopted for dealing with variations in quantities during execution of works contracts:

- I) Individual NS items in contracts shall be operated with variation of plus or minus 25% and payment would be made as per the agreement rate. For this, no finance concurrence would be required.
- II) In case an increase in quantity of an individual item by more than 25% of the agreement quantity is considered unavoidable, the same shall be got executed by floating a fresh tender. If floating a fresh tender for operating that item is considered not practicable, quantity of that item may be operated in excess of 125% of the agreement quantity subject to the following conditions:
 - (A) Operation of an item by more than 125% of the agreement quantity needs theapproval of an officer of the rank not less than GGM/GM/CPM :
 - (i) Quantities operated in excess of 125% but upto 140% of the agreement quantity of the concerned item, shall be paid at 98% of the rate awarded for that item in that particular tender.
 - (ii) Quantities operated in excess of 140% but upto 150% of the agreement quantity of the concerned item shall be paid at 96% of the rate awarded for that item in that particular tender.
 - (iii) Variation in quantities of individual items beyond 150% will be prohibited and

would be permitted only in exceptional unavoidable circumstances with the concurrence of associate finance and shall be paid at 96% of the rate awarded for that item in that particular tender.

(B) The variation in quantities as per the above formula will apply only to the Individual items of the contract and not on the overall contract value.

(C) Execution of quantities beyond 150% of the overall agreement value should not be permitted and, if found necessary, should be only through fresh tenders or by negotiating with existing contractor, with prior finance concurrence and approval of Group General Manager / General Manager / Chief Project Manager.

(III) In cases where decrease is involved during execution of contract:

- (a) The contract signing authority (not less than GGM/GM/CPM) can decrease the items upto 50 % of individual item without finance concurrence.
- (b) For decrease beyond 50% for individual items with approval contract signing authority (not less than GGM/GM/CPM) of finance concurrence, giving detailed reasons for each such decrease in the quantities.
- (c) It should be certified that the work proposed to be reduced will not be required in the same work.

(IV) The limit for varying quantities for minor value items shall be 100 % (as against 25% prescribed for other items). A minor value item for this purpose is defined as an item whose original agreement value is less than 1% of the total original agreement value.

15.0 (A) The tenderer shall be required to deposit **Bid Security** of Rs 3607176/- in the form of FDR / Demand Draft.

(B) Unless otherwise specified in the special conditions , if any, the **security deposit** /rate of recovery /mode of recovery shall be as under :

- (i) The Security deposit shall be 5% of the contract value.
- (ii) The rate of recovery shall be @10% of the bill amount till the full security deposit is recovered.
- (iii) Security deposits will be recovered from the running bills of the contract and no other mode of collecting SD such as SD in the form of instruments like BG, FD etc. shall be accepted towards Security Deposit.


(C) Performance Guarantee (P.G):- The procedure for **Performance Guarantee** is outlined below :-

- (i) The successful Contractor shall have to submit a **Performance Guarantee (PG)** in form of FDR / Bank Guarantee amounting to 5% of the contract value within 30 (thirty) days from the date of issue of Letter of Acceptance (LOA). Extension of time for submission of PG beyond 30 (Thirty) days and upto 60 (sixty) days from the date of issue of LOA may be given by the Authority who is competent to sign the Contract Agreement. However, a penal interest of 15% per annum shall be charged for the delay beyond 30 (Thirty) days i.e. from 31st day after the date of issue of LOA.

In case the contractor fails to submit the requisite PG even after 60 days from the date of issue of LOA, the contract shall be terminated duly forfeiting Bid Security Deposited and other dues, if any payable against that contract. The failed contractor shall be debarred from participating in re-tender for that work. The performance guarantee shall be submitted in the format provided in Annexure-III.

- (ii) The Performance Guarantee shall be submitted by the successful Contractor after the Letter Of Acceptance (LOA) has been issued, but before signing of the **Contract Agreement**. This P.G. shall be initially valid upto the stipulated date of completion plus 60 days beyond that. In case, the time for completion of work gets extended, the contractor shall get the validity of P.G. extended to cover such extended time for completion of work plus 60 days.
- (iii) The value of P.G to be submitted by the contractor will not change for variation upto 25% (either increase or decrease). In case during the course of execution, value of the contract increases by more than 25% of the original contract value, an additional Performance Guarantee amounting to 5% (Five percent) for the excess value over the original contract value shall be deposited by the contractor.
- (iv) The Performance Guarantee (PG) shall be released after physical completion of the work based on the „Completion Certificate“ issued by the competent authority stating that the contractor has completed the work in all respects satisfactorily. The Security Deposit shall, however, be released only after expiry of the **maintenance period of Six Month** from the date of taking over of the work and after passing the final bill based on “No Claim Certificate“ from the contractor.
- (v) Whenever the contract is rescinded, the Security Deposit shall be forfeited and the Performance Guarantee shall be encased. The balance work shall be got done independently without risk and cost of the failed contractor. The participating failed contractor shall be debarred from participating in the tender for executing the balance work. If the failed contractor is a JV or a Partnership firm, then every member/partner of such a firm shall be debarred from participating in the tender for the balance work in his/her individual capacity or as a partner of any other JV/Partnership Firm.
- (vi) The DFCCIL shall not make a claim under the Performance Guarantee except for amounts to which the President of India is entitled under the contract (not withstanding and/or without prejudice to any other provision in the Contract Agreement) in the event of :
 - (a) Failure by the contractor to extend the validity of the Performance Guarantee as described herein above, in which event the Engineer may claim the full amount of the Performance Guarantee.
 - (b) Failure by the contractor to pay President of India any amount due, either as agreed by the contractor or determined under any of the Clauses/Conditions of the Agreement, within 30 days of the service of

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notice to this effect by Engineer.

- (c) The Contract being determined or rescinded under provision of the GCC, the Performance Guarantee shall be forfeited in full and shall be absolutely at the disposal of the President of India.

16.0 Date of completion of the work.

Works are required to be completed within a period of **24 (twenty four) months** from the date of issue of letter of acceptance of the tender.

17.0 Witness of measurement and signing of bills :-

The final measurement of works will be recorded within 21 (Twenty one) days from the date of completion and the contractor should also be available during the period for signing the bills.

18.0 Maintenance Period of the work. (Defect Liability period)

The Maintenance period shall be **Six Month from** the date of taking over of the work from the contractor.

19.0 Code / Standards/ Manual for the work

(I) Introduction

The Materials and workmanship specification as follows has been based on Indian Standards and International Standards as scheduled below. Apart from the basic data, specifications etc. all items of works shall be governed by the Codes & Specifications as detailed hereunder and as revised / corrected / amended up to 28 days before the due date of submission of the Bid Proposal.

The Contractor shall also be responsible for getting the approval from dfccil for the International Standards which are not specifically included herein below and the Contractor intends to apply the same for the detailing of his design, additionally.

(II) Relevant Standards

All items of works shall be governed by the latest versions of the following Codes, Specifications as revised/corrected/amended (with latest correction slip) up to the time as specified above. In case of any contradiction in various codal provisions, the order of precedence shall be as follows:

- a) Specific provisions in the Special Condition of Contract
- b) IRS Codal provisions
- c) IRC Codal Provisions
- d) IS Codal Provisions
- e) Provisions in other International Codes

(III) Indicative List of Code / Standards / Manual are scheduled as below:

- (A) Indian Railway Standard Codes and Specifications (IRS)

- (1) Indian Railway Brides Rules, specifying the loads for Design of Superstructure and Substructure of Bridges (with up to date correction slip) and Chapter – VII for the rule for the opening of Railway adopted in 1941 – Revised – August 1982
- (2) Loading Standards as given in Design Criteria (in the Employer"s Requirements – Design of the Bid Documents)
- (3) Indian Railway Schedule of Dimensions for Broad Gauge
- (4) Standard Schedule of Dimensions for Eastern Dedicated Freight Corridor for Indian Railways.
- (5) Indian Railway Code for Practice of Plain/Reinforced and Pre-stressed concrete for general/bridge construction (Concrete Bridge Code- 1997) with correction slips up-to-date
- (6) Indian Railway – Engineering Code
- (7) RDSO" No. RDSO/CBS/Bearing dated 22-06-2011 – Guidelines for design of Spherical and Cylindrical bearings
- (8) Indian Railway Bridge Manual 1998 with correction slip up-to-date
- (9) Indian Railways Permanent Way Manual
- (10) Indian Railways Works Manual
- (11) IRS Standard Code of Practice for design of Sub-structure & Foundation
- (12) IRS: Manual on the design and construction of well and pile foundation
- (13) Guidelines for Earthwork in Railway Projects: Guideline No. GE: G-1, July, 2003.
- (14) Guidelines on Erosion Control and drainage of Railway Formation - Guideline No. GE: G-4
- (15) Report No. RDSO/2007/GE: 0011: Guidelines for blanket layer provision on track formation with emphasis on heavy axle load train operation
- (16) RDSO Specification No. GE: IRS-2 (Final): Specification for mechanically produced blanketing material for railway formation including guidelines for laying
- (17) Guidelines and Specifications for Design of Formation for Heavy Axle Load – Report No. RDSO / 2007 / GE : 14
- (18) Report No. GE: R-50: Transitional System on approaches of bridges issued by RDSO.
- (19) IIT/Kanpur- RDSO guidelines on Seismic Design of Railway Bridges.
- (20) East Central Railway Standard Specification for works and material.
- (B) Indian Road Congress (IRC) Codes and Specifications

- (1) IRC: 6 Standard Specifications and Codes of Practice for Road Bridges – Section – II – Loads and Stresses – Seismic provisions of this standard are to be adopted for the bridge design
 - (2) IRC: 83 (Part – III) - Standard Specifications and Codes of Practice for Road Bridges – Section – IX – Bearings Part –III, Pot, POT cum PTFE Pin and Metallic Guide Bearings
 - (3) IRC-87: Design and erection of false work for road bridges
 - (4) Specifications for Road and Bridge Works issued by Ministry of Road Transport & Highways. (MORTH)
 - (5) SP 6, 7, 16, 21, 22, 23, 24, 34, 36, 52, 60, 70.
- (C) Indian Standard Specifications
- (1) IS: 875 (all 5 parts) – Design loads (other than earthquakes) for buildings and structures.
 - (2) IS: 456 Plain and reinforced concrete
 - (3) IS: 269 Indian Standard Specifications for Ordinary & Low Heat Portland Cement
 - (4) IS: 8112 43 Grade OPC
 - (5) IS: 383 Coarse and fine aggregate from natural sources for concrete
 - (6) IS: 2386 (all 8 parts) – Tests for aggregates for concrete
 - (7) IS: 3025 (all 49 parts) – Methods of sampling and test for water and waste water
 - (8) IS: 3085 Method of test for permeability of cement mortar and concrete
 - (9) IS: 1199 Indian Standard Specifications for Method of Sampling and analysis of concrete
 - (10) IS: 7320 Concrete slump test apparatus
 - (11) IS: 5515 Compaction factor apparatus
 - (12) IS: 1791 Batch type concrete mixers
 - (13) IS: 4634 Methods of testing performance of batch type concrete mixers
 - (14) IS: 2722 Indian Standard Specifications for Portable Swing Weight batches for concrete (Single and Double Bucket type)
 - (15) IS: 6925 Methods of test for determination of water soluble chlorides in concrete admixtures
 - (16) IS: 9103 Admixtures for concrete
 - (17) IS: 516 Method of test for strength of concrete
 - (18) IS: 4031 (all 15 parts) – Physical tests for hydraulic cement
 - (19) IS: 5513 Vicat apparatus
 - (20) IS: 10080 Vibration machine for casting standard cement mortar cubes
 - (21) IS: 10262 Concrete mix design
 - (22) IS: 4926 Indian Standard Specifications for Ready Mixed Concrete

- (23) IS: 1892 Subsurface investigations
- (24) IS: 2720 (all 41 parts) – method of tests for soil
- (25) IS: 2132 Thin walled tube sampling of soils
- (26) IS: 2131 Standard penetration test for soils
- (27) IS: 1893-2002 Criteria for Earthquake Resistance Design of Structures
- (28) IS: 4326 Earthquake Resistance Design and Construction of Building – Code of Practice
- (29) IS: 13920 Ductile detailing of reinforced concrete structures subjected to seismic forces
- (30) IS: : 875 (Part 3) – 1987 – Code of Practice for Design Loads (Other than Earthquakes) for Buildings and Structures – Wind Loads (Second Revision)

- (31) IS: 1786-1985-High Strength Deformed Steel Bars & Wires for Concrete Reinforcement (Third Revision)
- (32) IS: 432 (Part-I & Part-I) – 1982 – Mild Steel, Medium Tensile Steel Bars and Hard Drawn
- (33) IS: 280 Mild steel wire for general purposes

- (34) IS: 2502 Code of practice for bending and fixing of Bars for concrete reinforcement
- (35) IS: 1343 Prestressed concrete

- (36) IS: 14268 Prestressing Strands
- (37) IS: 4082 Recommendations of stacking and storage of construction materials at site
- (38) IS: 800 General construction in steel
- (39) IS: 2062 (2006) -- Hot Rolled Low Medium and High Tensile Structural Steel
- (40) IS: 1261 – 1959 – Seam Welding in Mild Steel (Reaffirmed 1998)
- (41) IS: 1367 – Technical Supply conditions for Threaded steel fasteners

- (42) IS: 816 Metal arc welding for general construction in mild steel

- (43) IS: 8629 (Parts I to III) – 1977 – Protection of Iron and Steel Structures from Atmospheric Corrosion (Reaffirmed 2002)
- (44) IS: 3757 – 1985 – High Strength Bolts
- (45) IS: 6623 – 1985 - High Strength Nuts.
- (46) IS: 6911 – Stainless Steel
- (47) IS: 1363 (all 3 parts) – Hexagon head bolts, screws and nuts of product grade C
- (48) IS: 6639 Hexagonal bolts for steel structures.
- (49) IS: 102 Ready mixed paints, brushing, red lead, non-settling priming

- (50) IS: 123 Ready mixed paints, brushing, finishing, semi-gloss, for general purposes to Indian Colours etc.
- (51) IS: 104 Ready mixed paint, brushing, zinc chrome, priming (52)
IS: 2074 Ready mixed paint, air drying, red oxide-zinc chrome
- (53) IS: 34 White lead for paints
- (54) IS: 2339 Aluminum paints for general purposes, in dual container

- (55) IS: 2751 Code of Practice for Welding of Mild Steel Bars used for reinforced concrete

construction

- (56) IS: 3400 (all 22 parts) – Methods of tests for vulcanized rubbers
 - (57) SP 70: 2001 Handbook on construction safety practices.
 - (58) IS: 3764 Safety code for excavation work
 - (59) IS: 4081 Safety code for blasting and related drilling operations
 - (60) IS: 7293 Safety code for working with construction machinery
 - (61) IS: 7205-1974-Safety Code for erection of Structural Steel Work (Fifth Reprint July, (2001)
 - (62) SP 22 (S&T): 1992 Explanatory Hand Book on codes for Earth Quake Engineering
 - (63) IS: 3696:1987 (Part – I & Part-II) Safety code for scaffolds and Ladders
 - (64) IS: 3016:1965 Code of practice for Fire precaution in welding and cutting operations
 - (65) IS: 14881:2001 Method for Blast Vibration Monitoring – Guidelines
 - (66) IS: 1852 Rolling and cutting tolerances for hot rolled steel products
 - (67) IS: 817 Training and testing of metal arc welders
 - (68) IS: 1270 Metric steel tape measure
 - (69) IS: 1200 (all relevant parts) – Method of measurement of building and civil Engineering works
 - (70) IS: 786 Conversion factors and conversion tables
 - (71) IS: 8500-1991 Structural steel – Micro alloyed (Medium and high strength qualities – specification (first Revision)
 - (72) IS: 9595-1996 Metal Arc welding of Carbon and Carbon Manganese Steels – Recommendations (First Revision)
 - (73) IS: 1148-1982 Specification for hot rolled rivet bars (upto 40mm dia) for structural purposes (third revisions)
 - (74) IS: 1149-1982 High tensile steel rivet bars for structural purposes (third revision)
 - (75) IS: 1030 Grade 280-520W - Cast Steel
 - (76) IS: 75 Linseed oil, raw and refined
 - (77) IS: 77 Linseed oil, boiled for
paints
 - (78) IS: 487 Brush, paint and varnish (92) IS: 1915 Steel bridge code
 - (79) IS: 6586 Metal spraying for protection of iron steel
 - (80) IS: 5666 Etch primer
 - (81) IS: 887 Animal tallow
 - (82) IS: 816 Metal arc welding for general construction in mild steel
 - (83) IS: 1785 Part 1 High Tensile Steel Wire
 - (84) IS: 1498-1970 Classification and identification of soils for general engineering purposes
 - (85) IS: 1725-1982 Specification for soil based blocks used in general building construction
 - (86) IS: 1888-1982 Method of Load Test on Soils
 - (87) IS: 1904-1986 Code of practice for design and construction of foundations in soils: General Requirements
 - (88) IS: 2809-1972 Glossary of Terms and Symbols Relating to Soil Engineering
 - (89) IS: 2810-1979 Glossary of terms relating to soil dynamics
- (D) Other International Codes
- (1) EN 1992 – 1:2004 (Eurocode 2 – Design of Concrete Structures, Part – 1 – General Rules and Rules for Buildings)
 - (2) EN 1337-7 (March 2004) – Structural bearings – Part 7 : Spherical and Cylindrical PTFE bearings

- (E) UIC Codes
 - (1) UIC 774 – 3R –Track Bridge interaction Recommendation for calculation (for Forces due to LWR)
 - (2) UIC 772R: Bearings of rail bridges
 - (3) UIC 774-3R: Track/Bridge interaction
- (F) BS Codes
 - (1) BS-3784: Grade “A” Specifications for Polytetrafluoroethylene
 - (2) BS-5350: Standard Method of test of adhesives, Part C9, Floating roller peel test
 - (3) BS-5400: Part – 1 General Statement
 - (4) BS-5400: Part – 2 Specifications for loads
 - (5) BS-5400: Part 6 Steel, Concrete and Composite Bridges-Specifications for Materials and Workmanship-Steel
 - (6) BS-5400: Part- 9 Bridge Bearings

The above list is indicative and only for the guidance of the Contractor.

The list given above is by no means exhaustive. All IS, IRC and IRS Codes pertaining to the work shall be applicable.

Copy of the any above standard shall be made available by the contractor to the DFCCIL whenever asked by the DFCCIL.

20.0 Detailed Design and Drawing.

- (A) The basis for the design of structure, foundation, sub-structure, superstructure, protection works shall be based on relevant IRS Code.
- (B) Design Criteria

The design criteria for the RCC box to be provided for RUBs shall be as under:

- (1) Design shall be suitable for DFC Loading (32.5 tonne axle load) with PSC sleepers. Load condition includes the live load, earth pressure and longitudinal forces due to braking and traction considering the wind load etc. as per relevant codes.
- (2) Bridges shall be designed as per the Design Criteria specified herein, IRS Bridge Rules and IRS Code of Practice for Plain, Reinforced & Prestressed Concrete for General Bridge Construction (Concrete Bridge Code)", IRS Code of Practice for Design of Sub-structure and Foundations of Bridges, IRS Bridge Manual with latest correction slips and other relevant Codes as applicable.
- (3) Footpath/ walkway width shall be provided on one side of Up track and on one side of Down track. Its width shall not be less than 900mm. Footpath may be Cast – in-situ.
- (4) Fe 500 grade steel conforming to IS 1786: 1985 shall be used as reinforcement. Use of protective coatings for steel and corresponding increase in lap lengths shall be decided based on site conditions.
- (5) Length of laps shall be as per the Specifications and IRS Concrete Bridge Code.

- (6) Backfill material shall be as per Clause 7.5 of the IRS Bridge Sub-structure and Foundation Code.
- (7) Clear cover to main reinforcement shall be as per the Specifications and IRS Concrete Bridge Code.
- (8) Depth and size of foundation, return walls, levels of upstream and downstream shall be decided based on site conditions.
- (9) Tolerances shall be followed as specified in the Specifications and as per the IRS Concrete Bridge Code.
- (10) Grade of concrete shall be as per the exposure conditions as specified in the Specifications and IRS Concrete Bridge Code.
- (11) Grade of concrete for Plain Cement Concrete (PCC)/RCC shall be as specified in the Specifications and IRS Concrete Bridge Code. The Contractor shall provide the earthing bars and earthing lugs as per the design provided by DFCCIL.
- (12) Drawings for the Bridge as included in Bid document are indicative.
- (13) Adequate arrangement shall be made on the bridges for passage and protection of all the cables including that of Signalling & Telecommunication cables as required.

(C) Loading for Bridges

Various load for Bridges such as Dead Load, Superimposed Load, Live Load, Dynamic Effect etc. shall be considered as per IRS Bridge Rule. Gradient effect should be considered as per IRS Sub structure and foundation code . For Road Loading various provisions as per relevant IRC code should be followed.

- (D) Design Calculation and working drawings after proof check from IIT-BHU/Kanpur / Roorkee /Delhi / Kharagpur or MNIT/Allahabad or NIT/Patna should be submitted to DFCCIL for approval.
- (E) Observations raised by DFCCIL should be complied and necessary revision should be made in Design / Drawing.
- (F) Work should not be carried out until design/ drawing has not been approved by DFCCIL.

21.0 Setting up of laboratory at site

- (A) The Contractor Shall Construct Site Laboratory with adequate furnishing and fixtures to do various tests on soil, concrete, reinforcement etc. The site laboratory should have adequate space to accommodate all required equipments for various tests related to the contract for ensuring the required quality and standard.
- (B) Standard of Construction – The laboratory shall be constructed to the best Engineering practices and as approved by the DFCCIL.
- (C) Laboratory Equipment – Contractor shall provide adequate nos. of laboratory equipments for doing necessary tests on concrete, soil, blanketing material, reinforcement etc. The laboratory equipment shall be provided as per codal provision and as approved by the DFCCIL. Indicative list of laboratory equipment is given below.
- (D) Laboratory shall be open for use and inspection by the DFCCIL at any time.
- (E) All gauges, machine equipment and other measuring and testing equipment of the

laboratory shall be got checked/calibrated regularly as directed by the DFCCIL and necessary certificate furnished to the DFCCIL by the Contractor.

- (F) The contractor shall render all reasonable assistance and help in making the checks and tests. All the equipment, machinery etc. shall be kept in good working condition.
- (G) The cost of setting up the laboratory, equipping the same, maintaining, conducting all tests on materials and cubes shall be born by the contractor, within his quoted rates for works.
- (H) The following is the indicative list of Equipments in the laboratory at site, which are to be provided by the contractor at his cost.

S.	Particular
1	Oven Electrically operated, thermostatically controlled range up to 300 deg C.
b	Strip heater+Air Circulating fan fitted in above
2	Is 460-sieve sets 450mm internal dia .with lid and pan .sizes 75,63,53,37.5,26.5,20,19,13.2,9.5,6.7&4.75mm
3	I.S 460-Sieve sets 200mm internal dia, with lid and pan sizes of 4.75,2.36,1.18,1.7mm,600,500,425,300,212,150,75 micron
4	C.I wts 1.2,5,10,720kg -1 of each
5	wts 10,20,50,100,200,500g
6	sieve shaker suitable for 200mm,300mm and 450mm dia sieves-Electrically operated with timer switch
8	Beakers 25,50,100,250,500&1000ml (Plastic -jointless)graduted.
9	Dishes 150ml Cap
10	Measuring cylinder 100,250,500,1000ml glass
11	Glass Rod &funnels
12	Glass Thermometer in plastic jacket 110C

13	Hot plate 200mm dia -1500watt improved with thermostat
14	Enamel Trays 600x450x50mm
15	450x300x40mm
16	300x250x40mm
17	Round 250mm
18	Spautla 100mm and 200mm long
19	Standred weights up to 1g
20	Pipettes
21	First aid box
22	Chisel-6"approx(taparia or equivalent)
23	Rammer 2kg with wodeen handle
24	Filter paper packet of 100 sheets 150mm dia
25	As above but 110mm
26	Specific gravity bottle 100 ml with teflon stopper
27	As above but 150ml
28	Density bucket 3,15&30liters cap
29	Cylinder 100ml&250ml
30	Cylinder 500ml&1000ml
31	Ambient thermometer
32	Rubber mallet 3"approx
33	Digital thermometer 300x0.1C-battery operated
34	Liquid limit with Casagrande& ASTM grooving tools as per IS:2720
35	Plastic Limit app.(Glass plate 450x450x10mm with brass rod)
36	Moisture Content tins
37	High speed Stirrer -motorised with jar and speed regulator
38	Soil hydrometer with hydrometer jar
39	Sampling pippete with pressure and suction inlets,10ml cap
40	Modified compaction appratus (Heavy) 2250ml Cap mould with collar,base plate and 4.89kg hammer
41	sand pouring app.150mm dia with conical funnel and top and base plate; calibrating container and tray with hole.
42	Speedy moisture meter in carrying case with chemical
43	CBR testing 150 M/C -Electrical cum manual operating,superior quality with minimum vibration,5000 kgs cap with forward/reverse facility
44	CBR plunger with settlement dial gauge holder
45	Surcharge weight 147 mm dia 2.50 kg with central hole.
46	CBR moulds 150mm dia complete wihcoller&base plate
47	Perforted plate (Brass)
48	Soaking tank suitable for 9 CBR moulds with stand

49	Proving rings of 1000 kg capacity with certificate from govt.agency
50	Proving rings of 2250 kg capacity with certificate from govt.agency
51	Dial gauges 25 mm travel -0.01mm/division
52	Swell tripod for holding dial gauge
53	Calcium Carbide powder -pkt of 500g approx.
54	Slotted weights 2.5kg
55	Vicat needle apparatus for setting tme with plungers as per I.S 269
56	Cube Moulds-150mm with ISI mark
57	Cube moulds -100mm with ISI mark
58	High frequency mortor cube vibrator
59	Concrete mixer power driven,2cft cap with tilting facility&wheels
60	Vibrating table with variable amplitude size 1mx 1m- moistured
61	Equipment for slump test as per IS:7399
62	0.5 cft.1 cft cylinder for checking bulk density of aggregate
63	Soundness testing apparatus for cement.Consists of water bath &Le-Chatelier moulds with glass plate & lead weight
64	Aggregate Impact Value app. With cups &rod -as per IS:2386(4)
65	Compression testing mechine: 2000 KN Capacity- Electirically cum manually operated with 3 gauges 2000nx10KN,1000x5KN and 500x2 KN with our certificate of
66	Flakiness tese gauge
67	Elongation test gauge
68	Los angles abrasion testing M/C - Electical with counter&tray
69	Standred sand Gr-II -bag of 25 kg
70	Corecutter with dolly rammer.
71	Dessicator 250mm dia -vacuum type
72	Cube moulds 7.06 cm - made of steel
73	Aggregate Crussing value with jug &tamping rod
74	Single point Liquid Limit app.
75	Stop watch
75	Water testing kit- Digital for PH, TDS, Conductivity,ORP,Temp& Dissolved oxygen -mains cum battary open in Brief case
76	Level 300 mm long approx
77	Pycnometer with brass cone and rubber seal IL cap
78	spacer disk 148mm dia 47.7 mm ht. with handle.
79	unconfined compressio test -Electrical cum manual operation
80	Flow table as per IS 712 -manual, with cone
81	Equipment for determination of Specific Gravity Consisting of density balance (Electronic with battary) with Frame ,density basket
82	Needle vibrator with flexible shaft and 30mm needle

83	Air entrainment meter 5 L cap as per ASTM C 231
84	Chloride Testing Kit- Chemicals only
85	Concrete permeability apparatus -100mm dia. Single cell Model (as per IS:3085) Without air compressor
86	Air compressore for above with auto- cut off for switch
87	Moisture tins
88	Toyo Platform scale cap -100kg acc-10g
89	Toyo Platform scale cap -30kg acc-1g
90	Toyo Platform scale cap -10 kg acc-1g
91	Toyo Platform scale cap -5 kg acc-0.5g
92	Setra lab scale cap-400g acc-1 mg
93	Equipments for Field determination of CBR
94	Field Density test by Sand Replacement Kit complete
95	Field Density test by Core Cutter method Kit complete
96	Field Testing of CBR movable unit
97	Rapid moisture meter

22.0 Geotechnical Investigation and submission of Report

(A) SPECIAL TECHNICAL SPECIFICATIONS TO BE FOLLOWED ARE AS UNDER:

Drilling of boreholes is required to be carried out in accordance with specifications of relevant codes of Bureau of Indian Standard as given below:

IS: 4078 Code of practice for indexing & storage of drill cores. IS: 2131 Method for standard penetration test

IS: 1892 Code of practice for sub surface investigation for foundations. IS: 6926 Diamond core drilling site investigation for river valley projects. IS: 5313 Guide for core drilling observation.

IS 4464 code of practice for presentation of drilling information and core description in foundation investigation.

IS: 5529 (Part-I & Part-II) code of practice for in – situ permeability tests in overburden and rock respectively.

And any other relevant codes & specifications as decided by DFCCIL Engineer in charge, However it is reiterated that the above list is only for guidance and the firm is responsible and shall furnish the list of specification that are followed in the above investigation.

(B) Following test shall be carried out for the sample collected from site :

- a. Contractor shall note that all laboratory tests shall be conducted in the reputed laboratory or the laboratory approved by Engineer In charge by using

approved apparatus complying with the requirements and specifications of Indian standards. If the sample is tested in their laboratory then adequacy of the laboratory must be certified by the engineer in charge.

- b. Conducting Standard Penetration Test at every 3.0m interval starting from first sample at 1.5m depth or at the change of stratum as per IS: 2131.
- c. Collection of disturbed, undisturbed soil samples and water samples and carrying out various laboratory testing as per relevant IS codes in consultation with Engineer-in-charge of DFCCIL Ltd.

(C) Tests on Undisturbed and disturbed Samples

- a. Conducting Grain size analysis as per I.S 2720-(Pt.IV) both from SPT & UDS samples, plotting grain size distribution curves and calculating silt Factor.
- b. By sieve analysis for grain size larger than 75 micron
- c. By pipette method or Hydrometer method for grain size smaller than 75 micron.
- d. Determination of specific gravity of soil as per I.S 2720(Pt-III) both from SPT & UDS samples.
- e. Determination of liquid & plastic limits as per IS 2720 (Pt. V) both from SPT & UDS samples.
- f. Determination of natural moistures content as per IS-2720 (Pt. III) both from SPT and UDS samples.
- g. Determination of bulk unit weight as per IS-2720 (Pt. III) both from SPT and UDS samples.
- h. Determination of initial void ratio of soil samples.
 - i. Determination of differential free swell index from UDS samples as per IS-2720 (Pt. 40)
 - j. Conducting consolidation test in terms of IS-2720 (PT.XV) and finding coefficient of consolidation, coefficient of permeability, coefficient of volume compressibility and various compression ratio.
- k. Conducting Water Absorption Test on soil samples.
- l. Conducting Direct shear test on cohesionless soil samples for determination of shear strength in terms of IS 2720 Pt. XIII.
 - i. **Note.** The type of test to be conducted for the soil type should be got approved from Engineer in Charge in advance.
- m. Conducting Triaxial Test for all types of soils under appropriate conditions of drainage, consolidation and with/without measurement of pore pressure for the type of soil under consideration for determination of shear strength parameters of specimen in terms of IS-2720 (Pt. X, XI, XII).
 - i. **Note:** The type of test to be conducted for the soil type should be got approved from Engineer in Charge in advance.
- n. Determination of prosity of Rock samples as Per IS 13030
- o. Preparation of rock specimen as per I.S. specification for conducting compression tests.
- p. Determination of compressive strength of rock samples by point load strength method as Per IS: 8784 or unconfined compressive strength as per IS: 9143 (1 set will comprise of 10 No. of samples) as directed by Engineer-in-Charge.
- q. Conducting Petrographic examination of Rock samples as per IS: 2386 PT VII, VIII.

(D) The lab test report should clearly indicate the following properties of soil and rock:-



(I) For soil

- a. Engineering properties of soil/rock.
- b. The location and extent of rock layer and other weak features.
- c. Soft pockets if any under the hard founding strata.
- d. The geological features like type of rock, fault, fissures etc.
- e. Ground water table.
- f. Artesian condition, if any.
- g. The depth and existence of scour.
- h. The bearing capacity for foundation.
- i. Probable settlement and probable differential settlement of the foundation.

(II) For Rock

- a. Depth of rock strata and its variation over a site.
- b. Whether isolated boulder or massive rock formation.
- c. Extent and character of weathered zone.
- d. Joint frequency in the rock.

(E) Plate load test

Conducting in-situ full size Plate Load Test (PLT) at selected location as per IS:1888 including making loading arrangements & casting of RCC/cast in-situ concrete footing as per codal provisions including excavation and refilling of trial pit with plate size 60cm x60 cm.

23.0 SUPPLY OF CEMENT

- (A) Cement for use in the work should be procured by the contractor from the main producers/their authorized dealers authorized stock yards which should confirm to BIS Specification.
- (B) The cement bag supplied by the contractor preferably in proper bag packings should bear the following information in legible marking.
 - (i) Manufacturers name :
 - (ii) Registered trade mark of manufacturer, if any :
 - (iii) Type of Cement.
 - (iv) Weight of each bag in Kgs. or No. of bags per tonne.
 - (v) Date of manufacture, generally marked which of the year/ year of manufacturer e.g. 30/13 which means 30th week of 2013.
- (C) Test certificate for the manufacture should be produced by the contractors which should conform to the relevant specification.
- (D) DFCCIL may also take sample during the course of the work and get the cement tested to ascertain their conform it to specification. The cost of testing shall bear by the contractor.
- (E) When such sampling is done it should be as per IS specification.
- (F) Test of cement.
 - (i) Testing of the sample of cement shall be carried out in the field laboratory as

- given below.
- (ii) Tests on cement to be as per IS-4031 which may be carried out are.
 - (a) Compressive Strength.
 - (b) Initial and final setting time.
 - (c) Soundness.
- (G) Expiry period of Cement
- (i) Cement older than Three months i.e. 13 weeks from the week of manufacturing shall not be used for the work. e.g. cement manufactured in 30/13 (30th week of year 2013) shall not be used after 42/13 (42nd week of 2013).
 - (ii) If the cement get set due to improper storage and/or coming in the contact of moisture due to any reason before the work or in the laboratory test the compressive strength is found less than the specified value then the cement shall be treated as „Expired“ and shall not be used even if the three months time has not been expired.
- (H) List of Manufacturers/Supplier of Cement – L&T, ACC, Birla, Gujrat Ambuja, JP Cement.

24.0 SUPPLY OF REINFORCEMENT STEEL

- (A) For plain and reinforced cement concrete (PCC and RCC) works, the reinforcement shall be as per provisions of relevant codes.
- (B) All Reinforcement steel (TMT Bars) shall be procured as per specifications mentioned in IS-1786 with up to date amendments.
- (C) These steel shall be procured only from those firms, which are established, Reliable and primary producers of steel having integrated steel plant(ISP), using iron ore as the basic raw material and having in house iron rolling facilities, followed by production of liquid steel, as per Ministry of steel"s (Government of India) guidelines.
- (D) The contractor will have to submit the manufacturer certificate for each lot of steel brought at site.
- (E) All reinforcing steel shall be free from loose small scales, rust and coats of paint, oil mud etc. Every bar shall be inspected before assembling on the work and defective, brittle or burnt bar shall be discarded. Cracked ends of bars shall be discarded.
- (F) Test shall be carried out in site laboratory or third party test for to confirm the quality of reinforcement as per specification. Contractor shall bear the cost of all test.

25.0 EARTHWORK, SUBGRADE AND BLANKETTING FOR EMBANKMENT

1.0 Embankment

1.1 General

(1) Scope

This work shall consist of construction of approaches at DFC side and construction of embankment on approach of RUB which is affected due to construction of RUB by furnishing, placing, compacting and shaping suitable material of acceptable quality obtained from consented sources in accordance with these Specifications, and to the lines, levels, grades, dimensions, and cross-sections shown on the Drawings and as required by the Engineer.

(2) Railway Formation

Width of top of Formation 14.50 metre

(3) Geometrical Requirements for the Soil Formation should generally meet the following requirements:

(i) Cross fall slope to be at least 1:30 or 3% from center of the embankment towards cess / drain side (both side) in double lines. Cross slopes shall be provided at top of blanket, at top of prepared subgrade, at top of embankment fill and at berm

(ii) Finished soil surface to be in level in longitudinal direction (≤ 20 mm on a longitudinal base of 4m), must not show hollow pits, road vehicle traffic ruts

1.2 Embankment Fill Materials

(1) Embankment Fill shall be constructed of materials as per "Guidelines and specifications for design of formation of Heavy Axle Load , (Report No.RDSO/2007/GE:14)".

(2) Selection of Blanket Material

(i) Proper survey of area close to Embankment site, at different locations needs to be carried out to identify suitable sources for blanket material required. Aim of such source identification survey is to use naturally available material, which is cheap and conforms to the specifications laid down.

(ii) If, naturally available materials do not meet the desired specifications, blanket material can be produced by mechanical process from crushing or blending method or combination of these two methods. However detailed methodology of blending to be adopted to produce large quantity of blanket material with consistent quality, shall have to be laid down. Trials (theoretical and laboratory) for blending to judge the final product shall have to be carried out & shall be subject to consent of the Engineer. Naturally available sand, quarry dust or crusher run, if available, can be used as prepared subgrade also.

(iii) Quarry dust or material specifically manufactured through crushers using boulders, rocks, etc. as raw material, conforming to the blanket material specification may also be used as blanketing material.

(iv) In any case, before planning for use of any material for formation of blanket/sub-grade, Engineer's specific approval is to be taken for the use of that particular material and also for the location from where such material will be quarried / sourced.

1.3 Ground Improvement

Where required, for guidance on Ground Improvement Techniques, Annexure-1 of "Guidelines and Specifications for Design of Formation for Heavy Axle Load (Report No. RDSO / 2007 / GE: 14)" will be followed.

1.4 Execution

(1) Field Trials

(i) Field trial for compaction on a test section shall be conducted on fill material to assess the optimum thickness of layer and optimum number of passes for the type of roller planned to be used to arrive at desired density. Procedure for field compaction trials as given in Annexure – IV of „Guidelines for Earthwork in Railway Projects - July 2003, Report No. GE: G-1" issued by RDSO may be referred for guidance.

(ii) If the soil has less than required moisture content, necessary amount of water shall be added to it either in borrow pits or after the soil has been spread loosely on the embankment. Addition of water may be done through flooding or irrigating the borrow areas or sprinkling the water on the embankment through a truck mounted water tank sprinkling system. Use of hose pipe for water need to be avoided.

(iii) If the soil is too wet, it shall be allowed to dry till the moisture content reaches to acceptable level required for the compaction.

(iv) Placement moisture content of soil should be decided based on the field trial and site conditions. The objective should be to compact at OMC to achieve uniform compaction with specified density in most efficient manner.

(2) Preparation of foundation for embankment

(i) Prior to placing any embankment upon any area, all clearing and grubbing operations shall be completed in accordance with Clause 4.6: Clearing and Grubbing of these Specifications.

(ii) Natural ground / sub-soil Strata shall be prepared to receive the placement of first layer of the Embankment.

(iii) In case where the embankments are to be constructed on ground having slopes or along the existing embankments of Indian Railways requiring widening,

a) All vegetation shall be uprooted and taken away from the site of work. The loose material removed from the slope should be dumped to form the bottom most layer on the ground in width to be widened. If required, it shall be supplemented with granular soil.

b) Starting from toe, the benching on the slopes at every 300mm height shall be provided on slope surface so as to provide proper amalgamation between the old and new earthwork.

c) Material which has been loosened shall be re-compacted simultaneously with the first level of embankment material placed. It should be ensured that there is no humus material left on the benched slope.

d) Care shall be taken to avoid entry of rain water in to the formation from this weak junction which otherwise would result in development of weak formation, slope failure & unevenness

settlement.

(iv) In case of the Embankment in swamps or water the Contractor shall excavate or displace swamp ground / water and backfill with suitable material. Backfill will be in accordance with the same provisions as for embankment unless otherwise directed by the Engineer.

(v) If unsuitable materials occur in some areas under the embankment or in existing embankments, such materials shall be removed to levels as consented by the Engineer, the bottom of the excavation shall be compacted, as described above, and the areas backfilled and compacted layer by layer with suitable material.

(vi) All compaction shall conform to the requirements as specified in the subsequent paras herein below of these Specifications.

(3) Placing embankment

Embankment shall be placed in accordance with the following requirements:

(i) General

Except as otherwise required by the Engineer, all embankments shall be constructed in layers approximately parallel to the finished grade of the railway track. During construction of embankment, a smooth grade having an adequate crown or super-elevation shall be maintained to provide drainage. Embankment shall be constructed to the required grade, and completed embankment shall correspond to the shape of the typical sections shown on the Drawings.

(ii) Earth Embankment

Earth embankment shall be defined as those principally of material other than rock, and shall be constructed of consented material from designated or other consented sources. Earth embankment shall be constructed in successive layers, for the full width of the cross-section and in such lengths as are suited to the compaction and watering methods used.

(iii) Adjacent to Culverts and Bridges

Embankment adjacent to culverts and bridges which cannot be compacted by use of equipment used in compacting, the adjoining section of embankment shall be compacted in the manner prescribed under the Section 5.8: Excavation and Backfill for Structures. Embankment placed round spill through type abutments shall be compacted such a manner as to maintain approximately the same elevation on each side of the abutment and each layer of material shall be mixed, wetted and compacted as specified herein.

(iv) Preparation of Subgrade

a) The surface of the finished subgrade shall be neat and workmanlike and shall have the required form, super elevation, levels, grades, and cross-section. The surface shall be constructed to the specified accuracy to permit the construction of subsequent layers of material to the thickness, surface tolerance, and compaction as specified.

b) As far as is practicable and when directed by the Engineer, the Contractor shall construct the Embankment fills as early in the Contract period as possible to allow for consolidation of the

embankment during the remainder of the Contract period.

c) Clods or hard lumps of soil of borrow area shall be broken before placing on embankment

d) Suitable thickness of soil of each layer is necessary to achieve uniform compaction. Layer thickness depends upon type of soil involved and type of roller, its weight and contact pressure of its drums. Normally, 200 mm to 300 mm layer thickness is optimum in the field for achieving homogenous compaction. However for determination of optimum number of passes for a particular type of roller and optimum thickness of layer at a predetermined moisture content, a field trial for compaction is necessary as per IS: 10379 – 1982 and Heavy Compaction Test as per IS; 2720 However as a good practice, thickness of layer should be generally kept as 300mm for fill material and 250mm for blanket material in loose state before compaction.

e) Where streams or ditches are to be diverted, or abandoned, their beds should be filled up to a level as consented by the Site Incharge. Within the limits of earthwork, such fill shall be placed and compacted to the requirements as specified in this Section. Filling shall be performed well ahead of the construction of the embankments, and all other works involved such as pumping, damming, etc. Embankment fill placed against the sides of pipe culverts shall be placed in such manner as to maintain the same elevation on both sides of the culvert.

f) The DFCCIL may request the installation of settlement plates, piezometers, lateral movement stakes, inclinometers or other settlement control devices if required by the DFCCIL for monitoring purpose.

g) In case of rainfall during construction of formation, care should be taken that rain cuts are not allowed to develop wide and deep. The such rain cuts should be attended to / repaired as a regular measure.

h) All settlement occurring in embankment construction shall be corrected by the Contractor by providing additional layers of embankment or selected material. The Contractor shall be fully responsible for the stability and integrity of the embankment during the Contract and Maintenance periods.

i) If a soil failure either occurs or becomes imminent during the construction of the embankment, the DFCCIL shall have the authority to suspend all embankment construction in the affected area until corrective measures can be determined and implemented. Any delay in the embankment construction schedule and any other effects caused by implementation of the above clause shall not constitute grounds on the part of the Contractor for a claim for extension of the Contract and/or financial compensation.

(4) Use of Mixed Types of Soils

(i) Different types of fill materials, if used, should be deposited in such a way that parts of the site receive roughly equal amount of a given material in roughly the same sequence to get approximate homogeneous character of sub-grade.

(5) Compaction of embankment

(i) Embankments shall be constructed in layers of uniform thickness as specified. The

spreading of material in layers of desired thickness over the entire width of embankment should be done by mechanical means and finished by a motor grader. The motor grader blade shall have hydraulic control suitable for initial adjustment and maintain the same so as to achieve the slope and grade.

(ii) Each layer sloping out as per specifications and compacting it mechanically using vibratory rollers.

(iii) Thickness of the layer is decided based on field compaction trials.

(iv) If natural moisture content (NMC) of the soil is less than the OMC, calculated amount of water based on the difference between OMC and NMC and quantity of earthwork being done at a time, should be added with sprinkler attached to water tanker and mixed with soil by motor grader or by other means for obtaining uniform moisture content. When soil is too wet, it is required to be dried by aeration to reduce the moisture content near to OMC.

(v) The rate of progress should be uniform so that the work is compacted to the final level almost at the same time.

(vi) Each layer should be compacted with recommended type of roller upto required level of Compaction, commencing from the sides, before putting up next upper layer.

(vii) Each layer of the embankment fill shall be compacted to a dry density equal to at least 97% of the maximum dry density of the material.

(viii) Each layer of the prepared subgrade fill shall be compacted to a dry density equal to at least 98 % of the maximum dry density of the material.

(ix) Each layer of the Blanket Material fill shall be compacted to a dry density equal to at least 100 % of the maximum dry density of the material.

(x) Each layer of material shall be compacted uniformly by use of adequate and appropriate compaction equipment as consented by the Employer after field trials for compaction. The compaction shall be done in a longitudinal direction along the embankment.

(xi) At the end of the working day, fill material should not be left uncompacted. Care should be taken during rolling to provide suitable slope on top of the bank to facilitate quick shedding of water and avoid ponding on formation.

(xii) Care shall be taken that the rain cuts are not allowed to be developed wide and deep, otherwise these locations will remain weak spots. Contractor should attend / repair such rain cuts as a regular measure.

(xiii) Top of the formation should be finished to cross slope of 1 in 30 from one end to other towards cess / drain in multiple lines and from centre of the formation to both sides in single line.

(xiv) At locations where the water table is high and the fill soil is fine-grained, it may be desirable to provide a granular layer of about 300 mm thickness at the base, above subsoil across the full width of formation.

(xv) The Contractor shall protect the prepared subgrade from both his own and public traffic. Once the top surface of the formation has been finished to proper slope and level, movement of material vehicles for transportation should be avoided on the surface, as this will cause development of unevenness & ruts on the surface which shall accumulate water and weaken the formation. The Contractor shall maintain the subgrade by watering and rolling as frequently as necessary to preserve the subgrade in a completely satisfactory condition as specified above.

(xvi) Embankments shall be maintained to the grade and cross-section shown on the Drawings throughout the contract period.

(xvii) Attention is drawn to the fact that the general compaction requirements shall at any level apply to the full width of the embankment. Slopes to be covered with topsoil and grassing shall have a firm surface before topsoil is placed.

(xviii) At places where embankment materials are not conducive to plant growth, top soil obtained from site clearance as well as top layer of borrow area, which is rich in organic content and suitable for plant growth, may be stored for covering slopes of embankment & cutting after construction or other disturbed areas where re-vegetation is required.

(6) Preparation of subgrade surface

The subgrade shall be shaped to correct line and level and the Contractor shall at all times ensure that the subgrade is well drained and protected against damage from public as well as construction traffic.

1.50 Slope Protection / Erosion Control

Suitable and cost effective slope protection / erosion control system (Vegetation based) considering soil matrix, topography and hydrological conditions to protect the side slopes of Embankment / Formation in Cutting should be provided with the consent of Engineer. System shall consist of supplying & laying a layer of fertile top soil having capability to support vegetation on the exposed slopes. Vegetation may be done in accordance with any of methods as described in Clause 4.2, 4.3 & 4.5 of "Guidelines on Erosion Control and drainage of Railway Formation (Guideline No. GE: G-4)" as issued by RDSO.

1.60 Quality Check on Earthwork : Quality of execution of formation earthwork shall be controlled through exercise of checks on the borrow material, blanket material, sub-grade material compaction process, drainage system, longitudinal & cross sectional profiles of the embankment.

(i) Tests for Selection of Soil:

a) For selection of soil to be used as embankment fill, CBR test shall be conducted on material. CBR is conducted on ground soil, embankment fill, sub-grade & blanket material to ensure the minimum specified CBR value of these material to be used in construction. This test is carried out on soil sample in laboratory as per procedure given in IS: 2720 (Part 16) – 1987 and in field as per IS: 2720 (part 31) – 1969.

b) Other tests to be conducted are soil classification / sieve analysis, OMC, NMC NDD etc as per IS: 2720.

- c) Heavy Proctor Test is required to be conducted to determine the Maximum Dry Density of soil as per IS: 2720 (Part 8).
- d) In case of slope stability analysis, triaxial test will also be done to find the effective shear parameters.

Any other test as considered necessary / as required by the Engineer. (ii)

Tests for Blanket / Prepared Sub-grade Material

a) The source of blanket material shall be identified based on the tests & studies conducted for conforming the material to the required specifications viz. Particle Size Distribution, % fine, Los Angles Abrasion, Cu, Cc, CBR, Filter criteria, γ_{max} , γ_{min} or OMC & MDD etc.

(iii) Tests on Compacted Layer: Quality assurance tests are required to be conducted on part completion stages of formation, prior to clearing for further earthwork / blanketing work etc.

a) In-situ density is measured in the field by Sand Replacement method as per IS: 2720 (Part 28) or Core Cutter Method as per IS: 2720 (Part 29) to calculate the degree of compaction. This shall be determined in laboratory as per BIS Procedure with specified frequency of earth work quantity.

b) Method of Sampling : For each layer, a minimum of one sample at a predetermined interval along centre line of the alignment would be taken in a staggered pattern so as to attain a minimum frequency of tests as specified herein below. For subsequent layer, the stagger should be such that the point of sampling does not fall vertically on the earlier sampling points of the layer immediately below. In case of bank widening / for the embankment adjoining the existing embankment, the sampling shall be done at an interval of minimum 200 meters on the widened side of the embankment.

(3) Frequency of Quality Assurance Tests

Frequency of tests shall be as per RDSO/IRS/IS codes/specifications.

1.70 Tolerances and Acceptance Criteria

(1) Soil Formation should meet the following requirements:

- (i) The cross fall slope to be at least 1:30 or 3% with tolerance of 0.5%
- (ii) The finished top levels of soil formation should be within ± 30 mm
- (iii) The finished top of blanket layer shall be permitted to have variation from design level by + 25mm

(2) For Compacted earth and Blanket Layer:

- (i) Formation width should not be less than the specified width.
- (ii) Side Slopes should in no case be steeper than specified/ designed side slopes. Provision of Berm Width should not be less than the specified/ designed width.

26.0 CEMENT CONCRETE

(A) General :-

The rate for cement concrete/reinforced cement concrete items of work include cost of

all materials (except cement, steel and shuttering) including, labour, transports, leads, lifts, descents, all handling curing, vibrating, staging, tools and plants and all incidentals etc. complete. No deduction will be made from the quantity of concrete for the volume occupied by steel reinforcement. Formworks shall be made of steel. All concreting shall be done in absolutely water tight conditions. No admixtures or adhesives to concrete shall be used without the prior approval of the Engineer. If at all such contingency arises, no extra payment shall be made for such approved admixtures. Nothing extra will be paid for mechanical vibrations with needle vibrator including vibration by high frequency external vibrator or shutter vibrator where ever directed. IRS/IS codes of practice shall be followed as directed by the DFCCIL and where the above code/specification are not explicit, directive of DFCCIL shall be final and binding to the contractor in all matters of execution of works for which no additional claim of payment shall be entertained.

(B) Concrete shall conform to the strength and grade as shown in drawing or in relevant schedule of items. Controlled concrete shall be based on mix design carried out by the contractor at his cost and duly approved by the DFCCIL. Cement required for carrying out mix design shall be arranged by the contractor at his own cost. The controlled concrete shall be weight batched. The concrete shall be machine mixed. No concrete shall be poured before reinforcement is checked and approved by the DFCCIL. The contractor shall arrange for testing of concrete as per relevant IS codes at no extra cost and submit test result immediately after tests are carried out. He shall maintain full records of all tests. In addition to the tests carried out by the contractor, DFCCIL reserve the right to take tests samples and test them as deemed necessary. No payment will be made for concrete for such samples.

(C) Quality Control :-

Ensuring the required standard quality of RCC members is a must. The most important factors to be ensured by the contractor to this connections are :-

- a) Deputing qualified personnel at all stages of construction.
- b) Testing and inspection of various materials selected for use.
- c) Proper control of dimensions and tolerance.
- d) Proper proportioning and adequate mixing of concrete.
- e) Proper handling, placing and consolidation of concrete.
- f) Proper curing.
- g) Through documentation.
- h) Release of side forms as soon as possible.

(D) Inspection of work done :-

In general, the scope of inspection to be performed in RCC works shall include the following :-

- a) Identification, examination acceptance and laboratory testing of materials.
- b) Checking of dimensions of members, position/layout of reinforcing steel, other important materials, adequacy of formwork/shuttering etc.
- c) Checking up of clearance and lever arms for reinforcements.
- d) Periodical inspection of batching, mixing, conveying, placing, compacting, finishing and curing of concrete.
- e) Preparation of concrete specimens for tests and performing of tests for slump, cube strength etc.

(E) Record Keeping :-

In order to establish evidence of proper manufacture and quality of RCC works, a system of records as mentioned below shall be maintained by the contractor. Two copies of records shall be made and one copy duly signed by the contractor shall be handed over to the Site Incharge.

- a) Date, time and duration of casting.
- b) Mix proportion.
- c) Mixing water (corrected for moisture in aggregates).
- d) Cube identification.
- e) Slump.

(F) List of Manufacturers/Supplier

- a. Admixtures – FOSROC, MBT(Degussa), Asian Lab, MC Baucheme, Chembond, Sika, Chauksey.
- b. Formwork Release Agent - FOSROC, MBT, MC Baucheme, CICO.

(27) **QUALIFIED TECHNICAL PERSONNEL TO BE DEPLOYED**

1. Following technical personnel should be deployed by the contractor for execution of the work. This requirement is minimum and contractor has to deploy additional personal as per requirement at site.
 - i. Graduate in Civil Engg – 02
 - Nos. ii. Diploma in Civil Engg –
6 Nos.
 - iii. ITI or B.Sc having knowledge of various test to be conducted at laboratory and site - 08 Nos
3. Technical personnel deployed at site Should be able to read and understand all relevant drawings connected with the work. They should be conversant with the relevant standards and code.
4. CV of the Technical personnel mentioned above should be submitted by the contractor with attested photocopies of certificates for approval of DFCCIL.
5. At any stage during the progress of work if performance of Technical personnel deployed by the contractor is found unsatisfactory, DFCCIL may order to remove the personnel from the site. After issue of such order the concerned personnel shall not be entitle to present on site or deal with any matter connected with this work. Contractor shall provide replacement of removed personal within a period of 03 weeks. CV of personnel proposed for deployment in replacement of removed personal shall also be submitted to DFCCIL for approval.
6. If any Technical personnel leave the assignment, contractor shall provide replacement of such personal within a period of 01 weeks. CV of personnel proposed for deployment in replacement of such personnel shall be

submitted to DFCCIL for approval.

7. If Contractor fails to deploy qualified personnel as mentioned above, contractor shall be liable to pay the amount as under
 1. Graduate in Civil Engg– Rs 40,000 per month or part thereof per person
 2. Diploma in Civil Engg – Rs 25,000 per month or part thereof per person.
 3. ITI or B.Sc having knowledge of various test to be conducted at laboratory and site – Rs 15,000 per month or part thereof per person

(28) DEPLOYMENT OF MACHINERY AND PLANT

Following Plant and machinery and infrastructure should be deployed / provided by the contractor for the work. These machinery may be hired by the contractor as per requirement of work.

1. Concrete Batching Plant
2. Transit Mixer – 03 Nos.
3. JCB – 02 Nos.
4. Grader – 01 Nos.
5. Dumper with hydraulic arrangement – 02 Nos. (Min)
6. Crane – 100 T capacity – 01 (Min).
7. Trailer – 01 No. (Min.)
8. Water Tanker / Sprinkler – 02 Nos.
9. Casting Yard for casting of RCC Box as approved by DFCCIL.
10. Sand Screening machine in casting yard.
11. Crane with adequate facility in casting yard for handling of shuttering / deshuttering of RCC Box and other work.
12. Proper arrangement for stacking of Cement / Reinforcement in casting Yard.
13. Reinforcement cutting and bending machines – adequate Nos.
14. Water arrangement in casting yard as well as at RUB site.
15. Shuttering plates and props with coupler – adequate Nos.

(29) Deduction of Taxes at sources as per provisions of the respective states.

In compliance with the prevailing law the DFCCIL shall deduct VAT from each running bill and deposit the same in treasury of respective Government and any adjustment of document of deduction to be made in final bill. The % of deduction

will vary as per the directives of the State Govt.

(30) **Disaster Management Clause of Contract :-**

1. The tenderer/contractors are to furnish list of vehicle and equipments as per Performa given below for making readily available to the Railway Administration in case of accidents/natural calamities involving human lives.

Name of EQUIPMENTS	Location where generally parked	Contact persons (name, place and telephone)	Name of VEHICLES	Location where generally parked	Contact persons (name, place and telephone no.)

(31) **Eligibility Criteria :-**

(i) **Technical Eligibility Criteria** - The tenderer should have completed at least one similar single work, for a minimum value of 35% of advertised tender value of work in the last three financial years (i.e. current year and three previous financial years).

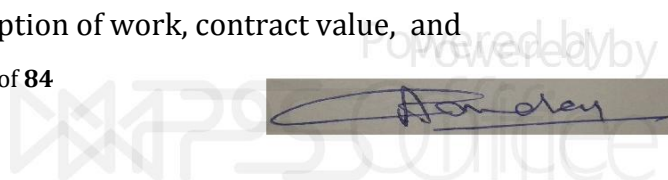
(ii) **Financial Eligibility Criteria** - Total Contract amount received during the last three years and in the current financial year should be a minimum of 150% of the advertised tender value of work.

(iii) The complete tender document consists of two parts i.e. **Part-I (Technical Bid document) & Part-II (Price Bid document)**. After completing the tender documents they should be separately sealed in two different envelopes super scribed as **Packet-I (Technical Bid) and Packet-II (Price Bid)** along with name of work, the Tender No. and these two envelopes should be sealed in a larger envelope super scribing the name of work & Tender No.

(iv) The following documents should be specified for submission along with tender :

- a) List of Personnel, Organization available on hand and proposed to be engaged for the subject work.
- b) List of Plant & Machinery available on hand (own) and proposed to be inducted (own and hired to be given separately) for the subject work.
- c) List of works completed in the last three financial years giving description of work, organization for whom executed, approximate value of contract at the time of award, date of award and date of scheduled completion of work, Date of actual start, actual completion and final value of contract should also be given.

d) List of works on hand indicating description of work, contract value, and



approximate value of balance work yet to be done and date of award.

Note: -

- 1) In case of items (c) and (d) above, supporting documents/certificates from the organizations with whom they worked/are working should be enclosed.
- 2) Certificates from private individuals for whom such works are executed/being executed shall not be accepted.
- 3) Similar Nature of works for this Tender will be –**Any Minor/Major Bridge works**

involving Concrete works only.

Special attention

Note: (i) The tenderer(s) should submit the requisite credentials along with the tenders failing which, the tender will be rejected without any further communication.

(ii) Unregistered partnership deed will not be accepted for consideration.

(iii) No credentials will be asked by the DFCCIL to submit after opening of tender.

3. Eligibility criteria for works tender in respect of partnership firms.

- (i) In case the tenderer is a partnership firm(s), the experience, solvency and turn over shall be in the name and style of the firm only.
- (ii) If the tenderer is a partnership firm, all the partners shall be jointly and severally liable for successful completion of the work and no request for change on the certification of the firm shall be entertained.
- (iii) During the currency of the contract, no partner of the firm shall be permitted to withdraw from partnership business and in such an event; it shall be treated as breach of trust and abandonment of the contract.
- (iv) **JOINT VENTURE** : The tenderer shall submit documents as mentioned in Clause 65 of GCC.
- (v) Any conditional offer will be summarily rejected.

(2) The tenderer(s) whether sole proprietor, a limited company or a partnership firm he/they should submit authentic proof in terms of partnership deed, proprietorship documents etc. along with the tender. If he/they want to act through agent or individual partner(s) should submit a power of attorney duly stamped and authenticated by Notary Public or by Magistrate in favour of specific person whether he/she/they are partner(s) of the firm or any other person specifically authorizing him/her/them to submit the tender, sign the agreement, receive money, witness measurements, sign measurement books, compromise, settle, relinquish any claim(s) preferred by the firm and also sign "No Claim

Certificate” and refer all or any disputes to arbitration.

32. The work has to be carried out near to existing Indian Railway Track (ECR) and may require speed Restriction and / or traffic and power block. It will be the responsibility of contractor to get the sanction of concerned Railway officials. The DFCCIL shall coordinate with the Railway official to obtain sanction for speed restriction and /or Traffic & Power block, but non availability of speed restriction and /or Traffic & Power block shall not be the ground for any time extension and it shall not be considered as employers“ obligation. No claim from contractor will be admissible.
33. Required Traffic & Power block, as agreed by DFCCIL, will be arranged on DFC track for carrying out the work. Contractor has to submit detail programme for each RUB for approval of DFCCIL.

Dated :-

Signature of tenderer/s

LABOUR

1. Wages to Labour:-The Contractor shall be responsible to ensure compliance with the provision of the Minimum Wages Act, 1948 (hereinafter referred to as the "said Act" and the Rules made there under in respect of any employees directly or through petty contractors or subcontractors employed by him on road construction or in building operations or in stone breaking or stone crushing for the purpose of carrying out this contract. If, in compliance with the terms of the contract, the Contractor supplied any labour to be used wholly or partly under the direct orders and control of the DFCCIL whether in connection with any work being executed by the Contractor or otherwise for the purpose of the Railway such labour shall, for the purpose of this clause, still be deemed to be persons employed by the Contractor. If any moneys shall, as a result of any claim or application made under the said Act be directed to be paid by the DFCCIL, such money shall be deemed to be moneys paid by it as aforesaid within seven days after the same shall have been demanded, the DFCCIL shall be entitled to recover the same from any moneys due or accruing to the Contractor under this or any other Contract with the DFCCIL.

1-A. Apprentices Act:-The Contractor shall be responsible to ensure compliance with the provisions of the Apprentices Act, 1961 and the Rules and Orders issued there under from time to time in respect of apprentices directly or through petty contractors or sub-contractors employed by him for the purpose of carrying out the Contract. If the contractor directly or through petty contractors or sub-contractors fails to do so, his failure will be a breach of the contract and the DFCCIL may, in its discretion, rescind the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation of the provisions of the Act.

Note: The contractors are required to engage apprentices when the works undertaken by them last for a period of one year or more and/the cost of works is rupees on lakh or more.

2. Provisions of payments of Wages Act:-The Contractor shall comply with the provisions of the Payment of Wages Act, 1936 and the rules made there under in respect of all employees directly or through petty contractors or sub-contractors employed by him in the works. If In compliance with the terms of the contract, the Contractor directly or through petty contractors or sub-contractors shall supply and layout to be used wholly or partly under the direct orders and control of the Engineer whether in connection with the works to the executed hereunder or otherwise for the purpose of the Engineer such labour shall never the less be deemed to comprise persons employed by the contractor and any moneys which may be ordered to be paid by the Engineer shall be deemed to be moneys payable by the Engineer on behalf of the Contractor and the Engineer may due to the Contractor in terms of the contract. The DFCCIL shall be entitled to deduct from any moneys due to the contractor (whether under this contract or any other contract) all moneys paid or payable by the DFCCIL by the way of compensation of aforesaid or for costs of expenses in connection with any claim thereto and the decision of the Engineer upon any question arising out of the effect or force of this clause shall be final and binding upon the Contractor.

2-A (1) Provisions of Contract labour (Regulation and Abolition) Act, 1970 -

(1) The contractor shall comply with the provision of the contract labour (Regulation and Abolition) Act, 1970 and the Contract labour (Regulation and Abolition) Central Rules 1971 as modified from time to time, wherever applicable and shall also indemnify the DFCCIL from and against any claims under the aforesaid Act and the Rules.

(2) The Contractor shall obtain a valid licence under the aforesaid Act as modified from



time to time before the commencement of the work and continue to have a valid license until the completion of the work. Any failure to fulfill the requirement shall attract the penal provision of the Contract arising out of the resultant non-execution of the work.

(3) The Contractor shall pay to the labour employed by him directly or through subcontractors the wages as per provision of the aforesaid Act and the Rules wherever applicable. The Contractor shall notwithstanding the provisions of the contract to the contrary, cause to be paid the wages to labour indirectly engaged on the works including any engaged by subcontractors in connection with the said work, as if the labour had been immediately employed by him.

(4) In respect of all labour directly or indirectly employed in the work for performance of the contractor's part of, the contract, the Contractor shall comply with or cause to be complied with the provisions of the aforesaid Act and Rules wherever applicable.

(5) In every case in which, by virtue of the provisions of the aforesaid Act or the Rules, the Railway is obliged to pay any amount of wages to a workman employed by the Contractor or his sub contractor in execution of the work or no incur any expenditure on account of the Contingent, liability of the DFCCIL due to the contractor's failure to fulfill his statutory obligations under the aforesaid Act or the rules the DFCCIL will recover from the Contractor, the amount of wages so paid or the amount of expenditure so incurred, and without prejudice to the rights of the DFC under the section 20, subsection

(2) and section 2, sub-section (4) of the aforesaid Act, the Railway shall be at liberty to recover such amount or part thereof by deducting it from the security deposit and/ or from any sum due by the Railway to the contractor whether under the contract or otherwise. The Railway shall not be bound to contest any claim made against it under sub-section (1) of section 20 and sub-section (4) of section 21 of the aforesaid Act except on the written request of the contractor and upon his giving to the Railway full security for all costs for which the DFCCIL might become liable in contesting such claim. The decision of the DFCCIL regarding the amount actually recoverable from the contractor as stated above shall be final and binding on the Contractor.

2-B. Provisions of Employees Provident Fund and Miscellaneous Provisions Act, 1952:

The Contractor shall comply with the provisions of Para 30 & 36-B of the Employees Provident Fund Scheme, 1952; Para 3 & 4 of Employees' Pension Scheme, 1995; and Para 7 & 8 of Employees Deposit Linked Insurance Scheme, 1976; as modified from time to time through enactment of "Employees Provident Fund & Miscellaneous Provisions Act, 1952", wherever applicable and shall also indemnify the Railway from and against any claims under the aforesaid Act and the Rules. {Authority: Railway Board's letter no. 2012/CE-I/CT/O/22, dated 14.12.2012}

2-C. Implementation of "the building and other construction worker's (Regulation of Employment and condition of service) Act, 1996" and "The building and other construction worker's welfare Cess Act, 1996."

The tenderers for carrying out any construction work must get themselves registered from the Registering officer under section-7 of the "Building and construction worker's Act, 1996." And rules made there to by the concern state government and submit certificates of registration issued from the registering officer of the concern state government (Labour Dept.). as per this act, the tenderer shall be levied a Cess @ 1% of cost of construction work, which would be deducted from each bill. Cost of

material, when supplied under separate schedule item, shall be outside the purview of Cess. {Authority : Railway Board's letter no. 2008/CE-1/CT/O/6, dated 29.11.2013}

3. Reporting of Accidents of Labour:-The Contractor shall be responsible for the safety of all employees directly or through petty contractors or sub-contractor employed by him on the works and shall report serious accidents to any of them however and wherever occurring on the works to the Engineer or the Engineers Representative and shall make every arrangement to render all possible assistance.

4. Provision of Workmen's Compensation Act:- In every case in which by virtue of the provisions of section 12 sub-section (1) of the Workmen's Compensation Act 1923, Railway is obliged to pay compensation to a workman directly or through petty contractor or subcontractor employed by the Contractor in executing the work, DFCCIL will recover from the Contractor the amount of the compensation so paid, and, without prejudice to the rights of Railway under Section 12 Sub-section (2) of the said Act, DFCCIL shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by DFCCIL to the Contractor whether under these conditions or otherwise, Railway shall not be bound to contest any claim made against it under Section 12 Sub-section (1) of the said Act except on the written request of the Contractor and upon his giving to Railway full security for all costs for which DFCCIL might become liable in consequence of contesting such claim.

4-A Provision of Mines Act:-The contractor shall observe and perform all the provisions of the Mines Act, 1952 or any statutory modifications or re-enactment thereof for the time being in force and any rules and regulations made there under in respect of all the persons directly or through the petty contractors or sub-contractors employed by him under this contract and shall indemnify the Railway from and against any claims under the Mines Act, or the rules and regulations framed there under, by or on behalf of any persons employed by him or otherwise.

5 Railway not to provide quarters for Contractors:-No quarters shall normally be provided by the Railway for the accommodation of the contractor or any of his staff employed on the work.

5(1) Labour Camps:-The contractor shall at his own expense make adequate arrangements for the housing, supply of drinking water and provision of latrines and urinals for his staff and workmen, directly or through the petty contractors or sub-contractors and for temporary crèche (Bal-mandir) where 50 or more women are employed at a time. Suitable sites on Railway land, if available, may be allotted to the contractor for the erection of labour camps, either free of charge or on such terms and conditions that may be prescribed by the Railway. All camp sites shall be maintained in clean and sanitary conditions by the contractor at his own cost.

(2) Compliance to rules for employment of labour:-The contractor(s) shall conform to all laws, by-laws rules and regulations for the time being in force pertaining to the employment of local or imported labour and shall take all necessary precautions to ensure and preserve the health and safety of all staff employed directly or through petty contractors or sub-contractors on the works.

(3) Preservation of peace:-The contractor shall take requisite precautions and use his

best endeavours to prevent any riotous or unlawful behaviour by or amongst his workmen and other employed directly or through the petty contractors or subcontractors on the works and for the preservation of peace and protection of the inhabitants and security of property in the neighbourhood of the works. In the event of the Railway requiring the maintenance of a special Police Force at or in the vicinity of the site during the tenure of works, the

expenses thereof shall be borne by the contractor and if paid by the Railway shall be recoverable from the contractor.

(4) Sanitary arrangements:-The contractor shall obey all sanitary rules and carry out all sanitary measures that may from time to time be prescribed by the Railway Medical Authority and permit inspection of all sanitary arrangements at all times by the Engineer, the Engineer's Representative of the Medical staff of the Railway. Should the contractor fail to make the adequate sanitary arrangements, these will be provided by the Railway and the cost therefore recovered from the contractor.

(5) Outbreak of infectious disease:- The contractor shall remove from his camp such labour and their families as refuse protective inoculation and vaccination when called upon to do so by the Engineer or the Engineer's representative on the advice of the Railway Medical Authority. Should cholera, plague or other infectious disease break out, the contractor shall burn the butts, beddings, clothes and other belongings of or used by the infected parties and promptly erect new huts on health sites as required by the engineer, failing which within the time specified in the Engineer's requisition, the work may be done by the Railway and the cost therefore recovered from the contractor.

(6) Deleted

(7) Medical facilities at site: - The Contractor shall provide medical facilities at the site as may be prescribed by the Engineer on the advice of the Railway Medical Authority in relation to the strength of the Contractor's resident staff and workmen.

(8) Use of intoxicants: - The sale of ardent spirits or other intoxicating beverages upon the work or in any of the buildings, encampments or tenements owned, occupied by or within the control of the contractor or any of his employees shall be forbidden and the Contractor shall exercise his influence and authority to the utmost extent to secure strict compliance with this condition.

(9) Non-employment of female labour: - The Contractor shall see that the employment of female labour on in Cantonment areas, particularly in the neighborhood of soldier's barracks, should be avoided as far as possible.

(10) Restrictions on the employment of retired Engineers of Railway services within two years of their retirement:- The Contractor shall not, if he is a retired Government Engineer of Gazetted rank, who has not completed two years from the date of retirement, in connection with this contract in any manner whatsoever without obtaining prior permission of the President and if the Contractor is found to have contravened this provision it will constitute a breach of contract and administration will be entitled to terminate the contract at the risk and cost of the contractor and forfeit his security deposit.

6. (1) Non-employment of labours below the age of 15:- the Contractor shall not

employ children below the age of 15 as labourers directly or through petty contractors or subcontractors for the execution of work.

(2) Medical Certificate of fitness for labour: - It is agreed that the contractor shall not employ a person above 15 and below 19 years of age for the purpose of execution of work under the contract unless a medical certificate of fitness in the prescribed form granted to him by a certifying surgeon certifying that he is fit to work as an adult is obtained and kept in the custody of the contractor or a person nominated by him in this behalf and the person

carries with him, while at work; a token giving a reference to such certificate. It is further agreed that the responsibility for having the adolescent examined medically at the time of appointment or periodically till he attains the age of 19 years shall devolve entirely on the contractor and all the expenses to be incurred on this account shall be borne by him and no fee shall be charged from the adolescent or his parent for such medical examination.

(3) Period of validity of medical fitness certificate: - A certificate of fitness granted or renewed for the above said purposes shall be valid only for a period of one year at a time. The certifying surgeon shall revoke a certificate granted or renewed if in his opinion the holder or it is, not longer fit for work in the capacity stated therein. Where a certifying surgeon refuses to grant or renew a certificate or revoke a certificate, he shall, if so required by the person concerned, state his reasons in writing for doing so.

(4) Medical re-examination of labourer:- Where any official appointed in this behalf by the Ministry of labour is of the opinion that any person employed in connection with the execution of any work under this contract in the age group 15 to 19 years is

without a certificate of fitness or is having a certificate of fitness but no longer fit to work in the capacity stated in the certificate, he may serve on the Contractor, or on the person nominated by him in the regard, a notice requiring that such persons shall be examined by a certifying surgeon and such person shall not if the concerned official so directs, be employed or permitted to do any work under this contract unless he has been medically examined and certified that he has been granted a certificate of fitness or a fresh certificate of fitness, as the case may be.

EXPLANATIONS:-

(1) only qualified medical practitioners can be appointed as "Certifying Surgeons" and the term "Qualified Medical Practitioners" means a person holding a qualification granted by an authority specified in the Schedule to the Indian Medical Degrees Act, 1916 (VII of 1916) or in the Schedule to the Indian Medical Council Act, 1933 (XXVII) of 1933.

(2) The Certifying surgeon may be a medical officer in the service of State or Municipal Corporation.

DETERMINATION OF CONTRACT

7. (1) Right of DFCCIL of determine the contract: - The DFCCIL shall be entitled to determine and terminate the contract at any time should, in the DFCCIL opinion, the cessation of work becomes necessary owing to paucity of funds or from any other cause whatever, in which case the value of approved materials at site and of work done to date by the Contractor will be paid for in full at the rate specified in the contract. Notice in writing from the DFCCIL of such determination and the reasons therefore shall be

conclusive evidence thereof.

(2) Payment on determination of contract: - Should the contract be determined under sub clause (1) of this clause and the Contractor claims payment for expenditure incurred by him in the expectation of completing the whole of the work, the DFCCIL shall admit and consider such claims as are deemed reasonable and are supported by vouchers to the satisfaction of the Engineer. The DFCCIL decision on the necessity and propriety of such expenditure shall be final and conclusive.

(3) the contractor shall have no claim to any payment of compensation or otherwise, howsoever on account of any profit or advantage which he might have derived from the execution of the work in full but which he did not derive in consequence of determination of contract.

8 (1) Determination of contract owing to default of contractor:- If the Contractor should:-

- (i) Becomes bankrupt or insolvent, or
- (ii) Make an arrangement with or assignment in favour of his creditors, or agree to carry out the contract under a Committee of Inspection of his creditors, or
- (iii) Being a Company or Corporation, go into liquidation (other than a voluntary liquidation for the purposes of amalgamation or reconstruction), or
- (iv) Have an execution levied on his goods or property on the works, or
- (v) Assign the contract or any part thereof otherwise than as provided in clause 7 of these conditions, or
- (vi) Abandon the contract, or
- (vii) Persistently disregard the instructions of the Engineer, or contravene any provision of the contract, or
- (viii) Fail to adhere to the agreed programme of work by a margin of 10% of the stipulated period, or
- (ix) Fail to remove materials from the site or to pull down and replace work after receiving from the Engineer notice to the effect that the said materials or works have been condemned or rejected under clause 25 and 27 of these conditions, or
- (x) fail to take steps to employ competent or additional staff and labour as required under clause 26 of the General condition of contract.
- (xi) fail to afford the Engineer or Engineer's representative proper facilities for inspecting the work or any part thereof as required under clause 28 of the conditions, or
- (xii) promise, offer or give any bribe, commission, gift or advantage either himself or through his partner, agent or servant to any officer or employee of the Railway or to any person on his or on their behalf in relation to the execution of this or any other contract with this DFCCIL.
- (xiii) **(A)** At any time after the tender relating to the contract, has been signed and submitted by the Contractor, being a partnership firm admit as one of its partners or employ under it or being an incorporated company elect or nominate or allow to act as one of its directors or employ under it in any capacity whatsoever any retired engineer of the gazette rank or any other retired gazette officer working before his retirement, whether in the executive or administrative capacity, or whether holding any pensionable post or not, in any Department of the Railways for the time being owned and administered by the President of India before the expiry of two years from the date of retirement from the said service of such Engineer or Officer unless such Engineer or Officer has obtained permission from the President of India or any officer duly authorized by him in this behalf to become a partner or a director or to take employment under the contract as the case may be, or

(B) Fail to give at the time of submitting the said tender:-

(a) The correct information as to the date of retirement of such retired engineer or retired officer from the said service, or as to whether any such retired engineer or retired officer was under the employment of the Contractor at the time of submitting the said tender, or

(b) The correct information as to such engineers or officers obtaining permission to take employment under the contractor, or

(c) Being a partnership firm, the correct information as to, whether any of its partners was such a retired engineer or a retired officer, or

(d) Being in incorporated company, correct information as to whether any of its directors was such a retired engineer or a retired officer, or

(e) Being such a retired engineer or retired officer suppress and not disclose at the time of submitting the said tender the fact of his being such a retired engineer or a retired officer or make at the time of submitting the said tender a wrong statement in relation to his obtaining permission to take the contract or if the contractor be a partnership firm or an incorporated company to be a partner or director of such firm or company as the case may be or to seek employment under the contractor, and or company as the case may be or to seek employment under the contractor, and after expiry of 48 hours notice a final termination notice should be issued. Then and in any of the said clause, the

Engineer on behalf of the DFCCIL may serve the Contractor with a notice in writing to that effect and if the contractor does not within seven days after the delivery to him of such notice proceed to make good his default in so far as the same is capable of being made good and carry on the work or comply with such directions as aforesaid of the entire

satisfaction of the Engineer, the Railway shall be entitled after giving 48 hours notice in writing under the hand of the Engineer to rescind the contract as a whole or in part or parts (as may be specified in such notice) and after expiry of 48 hours notice, a final termination notice should be issued and adopt the following courses: To measure up or the whole or part of the work from which the contractor has been removed and get it completed by another contractor, the manner and method in which such work is completed shall be in the entire discretion of the Engineer whose decision shall be final.

8 (2) Right of DFCCIL after, rescission of contract owing to default of contractor:

In the event of any or several of the courses, referred to in sub-clause (1) of the clause, being adopted.

(a) The contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any commitments or made any advances on account of or with a view to the execution of the works or the performance of the contract and contractor shall not be entitled to recover or be paid any sum for any work thereto for actually performed under the contract unless and until the Engineer shall have certified the performance of such work and the value payable in respect thereof and the contractor shall only be entitled to be paid the value so certified.

(b) The Engineer or the Engineer's representative shall be entitled to take possession of any materials, tools, implements, machinery and buildings on the works or on the property on which these are being or ought to have been executed, and to retain and employ the same in the further execution of the works or any part thereof until the completion of the works without the contractor being entitled to any compensation for the use and employment thereof or for wear and tear or destruction thereof.

(c) The Engineer shall as soon as may be practicable after removal of the contractor fix and determine ex-parte or by or after reference to the parties or after such investigation or enquiries as he may consider fit to make or institute and shall certify what amount (if any) had at the time of rescission of the contract been reasonably earned by or would reasonably accrue to the contractor in respect of the work then actually done by him under the contract and what was the value of any unused, or partially used materials, any constructional plan and any temporary works upon the site. The legitimate amount due to the contractor after making necessary deductions and certified by the Engineer should be released expeditiously.

STATEMENT OF DISPUTES – INDIAN RAILWAY ARBITRATION RULES

9. Matters finally determined by the DFCCIL - All disputes and differences of any kind whatsoever arising out of or in connection with the contract, whether during the progress of the work or after its completion and whether before or after the determination of the contract, shall be referred by the contractor to the General Manager and the General Manager shall within 120 days after receipt of the contractor's representation make and notify decisions on all matters referred to by the contractor in writing provided that matter for which provision has been made in clauses 8, 18, 22(5), 39, 43(2), 45(a), 55, 55-A(5), 57, 57A, 61(1), 61(2) and 62(1)(i) to (xiii) (B) of General Conditions of contract IR or in any special clause of the conditions of the contract shall be deemed as 'excepted matters' (matters not arbitrable) and decisions of the Railway authority, thereon shall be final and binding on the contractor; provided further that 'excepted matters' shall stand specifically excluded from the purview of the arbitration clause.

10 Demand for Arbitration

10(1)

(i) Demand for Arbitration:-In the event of any dispute or difference between the parties hereto as to the construction or operation of this contract, or the respective rights and liabilities of the parties on any matter in question, dispute or difference on any account or as to the withholding by the Railway of any certificate to which the contractor may claim to be entitled to, or if the Railway fails to make a decision within 120 days, then and in any such case, but except in any of the 'excepted matters' referred to in clause 63 of these conditions, the contractor, after 120 days but within 180 days of his presenting his final claim on disputed matters shall demand in writing that the dispute or difference be referred to arbitration.

(ii) The demand for arbitration shall specify the matters which are in question, or subject of the dispute or difference as also the amount of claim item wise. Only such dispute(s) or difference(s) in respect of which the demand has been made, together with counter claims or set off, given by the Railway, shall be referred to arbitration and other matters shall not be included in the reference.

(ii)(a) The arbitration proceedings shall be assumed to have commenced from the day, a written and valid demand for arbitration is received by the DFCCIL.

(b) The claimant shall submit his claim stating the facts supporting the claims along with all the relevant documents and the relief or remedy sought against each claim within a period of 30 days from the date of appointment of the Arbitral Tribunal.

(c) The Railway shall submit its defence statement and counter claim(s), if any, within a period of 60 days of receipt of copy of claims from Tribunal thereafter, unless otherwise extension has been granted by Tribunal.

(d) The place of arbitration would be New Delhi

(iii) No new claim shall be added during proceedings by either party. However, a party may

amend or supplement the original claim or defence thereof during the course of arbitration proceedings subject to acceptance by Tribunal having due regard to the delay in making it.

(iv) If the contractor(s) does/do not prefer his/their specific and final claims in writing, within a period of 90 days of receiving the intimation from the DFCCIL that the final bill is ready for payment, he/they will be deemed to have waived his/their claim(s) and the Railway shall be discharged and released of all liabilities under the contract in respect of these claims.

10 (2) Obligation During Pendency of Arbitration – Work under the contract shall, unless otherwise directed by the Engineer, continue during the arbitration proceedings, and no payment due or payable by the Railway shall be withheld on account of such proceedings, provided, however, it shall be open for Arbitral Tribunal to consider and decide whether or not such work should continue during arbitration proceedings.

10 (3)(a)(i) For value of claims upto 1.5 crore a sole arbitrator shall be appointed out of a panel of arbitrators. For claims above Rs.1.5 crore, the arbitral tribunal will comprise three Members, one each to be appointed by DFCCIL and the contractor. The Third member, who will also act as the presiding member, will be appointed by mutual consent of the first two members. If these two members fail to reach an agreement on the third member then, on request by either or both parties, appointment will be made by the Managing Director/DFCCIL. The sole arbitrator shall be appointed within 60 days from the day when a written and valid demand for arbitrator is received by MD/DFCCIL.

(a)(ii) The Arbitral Tribunal shall consist of a Panel of three officials, as the arbitrators. For this purpose, the DFCCIL will send a panel of more than 3 names of DFCCIL officers which may also include the name(s) of Officer(s) empanelled to work as Arbitrator to the contractor within 60 days from the day when a written and valid demand for arbitration is received by the MD. Contractor will be asked to suggest to MD at least 2 names out of the panel for appointment as contractor's nominee within 30 days from the date of dispatch of the request by Railway /DFCCIL. The MD shall appoint at least one out of them as the contractor's nominee and will, also simultaneously appoint the balance number of arbitrators either from the panel or from outside the panel, duly indicating the 'presiding arbitrator' from amongst the 3 arbitrators so appointed. MD shall complete this exercise of appointing the Arbitral Tribunal within 30 days from the receipt of the names of contractor's nominees. While nominating the arbitrators it will be necessary to ensure that one of them is from the Accounts department.

(a)(iii) If one or more of the arbitrators appointed as above refuses to act as arbitrator, withdraws from his office as arbitrator, or vacates his/their office/offices or is/are unable or unwilling to perform his functions as arbitrator for any reason whatsoever or dies or in the opinion of the MD fails to act without undue delay, the MD shall appoint new arbitrator/arbitrators to act in his/their place in the same manner in which the earlier arbitrator/arbitrators had been appointed. Such reconstituted Tribunal may, at its discretion, proceed with the reference from the stage at which it was left by the previous arbitrator(s).

(a)(iv) The arbitral Tribunal shall have power to call for such evidence by way of affidavits or otherwise as the arbitral Tribunal shall think proper, and it shall be the duty of the parties hereto to do or cause to be done all such things as may be necessary to enable the arbitral Tribunal to make the award without any delay. The arbitral Tribunal should day-to-day proceedings. The proceedings shall normally be conducted on the basis of documents and written statements.

(a)(v) While appointing arbitrator(s) under sub-clause (i), (ii) & (iii) above, due care shall be taken that he/they is/are not the one/those who had an opportunity to deal with the

matters to which the contract relates or who in the course of his/their duties as Railway servant(s) expressed views on all or any of the matters under dispute or differences. The proceedings of the arbitral Tribunal or the award made by such Tribunal will, however, not be invalid merely for the reason that one or more arbitrator had, in the course of his service, opportunity to deal with the matters to which the contract relates or who in the course of his/their duties expressed views on all or any of the matters under dispute. **(b)(i)** The arbitral award shall state item wise, the sum and reasons upon which it is based. The analysis and reasons shall be detailed enough so that the award could be inferred there from.

(b)(ii) A party may apply for corrections of any computational errors, any typographical or clerical errors or any other error of similar nature occurring in the award of a tribunal and interpretation of a specific point of award to tribunal within 60 days of receipt of the award.

(b)(iii) A party may apply to tribunal within 60 days of receipt of award to make an additional award as to claims presented in the arbitral proceedings but omitted from the arbitral award.

11 (4) In case of the Tribunal, comprising of three Members, any ruling on award shall be made by a majority of Members of Tribunal. In the absence of such a majority, the views of the Presiding Arbitrator shall prevail.

11(5) Where the arbitral award is for the payment of money, no interest shall be payable on whole or any part of the money for any period till the date on which the award is made.

11(6) The cost of arbitration shall be borne by the respective parties. The cost shall inter-alia include fee of the arbitrator(s), as per the rates fixed by the DFCCIL from time to time and the fee shall be borne equally by both the parties.

11(7) Subject to the provisions of the aforesaid Arbitration and Conciliation Act 1996 and the rules there under and any statutory modifications thereof shall apply to the arbitration proceedings under this clause.

SPECIAL CONDITION AND SPECIFICATION FOR BRIDGE WORKS

1. The tenderer are required to inspect the site and carry out careful examination so as to satisfy themselves as to the nature of work involved and facilities available at site. They should also note carefully all the existing structures and those under construction through other agency (if any), and should take adequate protection to all such structures, including Railway track during course of execution of work under this contract. The rates quoted by the tenderer(s) and accepted by the DFCCIL Administration must cover all such charges.

2. Railway land as existing and as sparable will be made available to the contractor free of charge for building their stores Godown, camp office, girder casting/fabrication yard etc. The contractor shall make their own arrangement at their cost for leveling and dressing the ground or developing the land.

3. WATER: Water required for the work and also for drinking purpose should be arranged by the contractor from his own source and at his cost.. Water used for cement concrete/RCC/PSC and all sorts of concrete work should be tested as per codal Provision for its suitability for the work and test report should be obtained initially from the approved Govt. laboratory at Contractor' s cost and submitted CPM/MGS . Source of water should not be changed without prior approval of the CPM/MGS. Locally available water, which is not suitable for concrete work, may be allowed to be used for curing purpose only.

4. ELECTRICITY : The contractor shall make his own arrangement for electricity required for running machinery and illumination at his own cost. The DFCCIL will recommend his application to the Civil Electricity Board/Company and render necessary assistance as possible.

5. CORRINATION WITH OTHER CONTRACTORS : The other works for bridge may be done simultaneously by the other agency of State Govt./Central Govt./Railway .Therefore the contractor should ensure that the works of the other contracts are not hampered in any way, rather he should coordinate/draw the programs in consultation with the Engineer-in-charge of the work, so that the work of this contract as a whole is completed within the target fixed. In case of any conflict between the two contractors in respect of working facilities at site, the decision of the Engineer-in charge of the work shall be final and binding on both the contractors.

- 6. DAMAGE TO ADJACENT PROPERTIES/WORKS:** The contractor shall be held responsible for any damage of Railway/Public property including telephone line, cable etc., which may be caused by any of his action in connection with or in the execution of the work.
- 7. SETTING OF THE WORK :**The contractor shall arrange without any additional charges requisite number of men with all the equipments and materials as necessary for the purpose of setting out of the work. Similar arrangement will have to be made by him at the time of measuring the work whenever required to be carried out by the Engineer-in-charge of the work.
- 8. LOCATION AND LEVEL :**The contractor shall be responsible for the correct location, level and alignment according to the approved drawing notwithstanding that the Engineer-in-charge or his authorized representative shall have periodically checked the same.
- 9. SUSPENSION OF WORK :** Engineer-in-charge may order the contractor to suspend any work for any reason whatsoever and no compensation for such suspension of work shall be payable to the contractor, However, the additional time of completion of the work that may be sanctioned by the DFCCIL Administration on written application of the contractor to complete such suspension of work.
- 10. NIGHT WORK :** The contractor shall have to carry on with the work during night if considered essential to maintain the progress of the work and his quoted rates should be inclusive of any additional expenditure involved in the working at night.
- 11.** The contractor must provide all plants and machinery with crew i.e. Drivers, cleaners and necessary consumable store like coal, fuel, oil, lubricating oils for Engine and provide adequate number of transport vehicle for bringing materials at site. They should undertake all temporary arrangement required for carrying out the work. The tenderer should submit a list of tools and plant in their possession for carrying out the work along with his offer.
- 12.** Shoring on all sides of foundation trench will have to be adopted where necessary and as will be directed by the Engineers to return earth, at Contractor's cost.
- 13.** The work involved in head and/or truck leading of materials and crossing of tracks will not be paid extra. The rate quoted should cover all such expenditure.
- 14. UNFORSEEN / NEW ITEM of Work :**For unforeseen item of work for construction if required to be done, payment will be made by USSOR 2012 of E.C.Rly's Schedule of Rate with percentage above and below quoted by tenderer .If any items are not covered by the USSOR 2012 E.C Rly.Schedule of Rate , the rate for such work will be arrived at by analysis based on labour and materials rate provide in the USSOR 20012 schedule of rate . If no such analysis is possible from Schedule of Rates, the analysis will be made from prevailing market rates with 12 ½% contractors' overhead and profit.
- 15.** The contractor shall provide all appliances, efficient and sufficient staff & labour for setting out and shall set out the works and every part thereof and shall be responsible for the accuracy of the lines, Levels and dimensions of the work in accordance with the drawings, further drawings, directives or instructions issued at any time to him and every facility shall be given to the Engineer and all persons, duly deputed or authorized by him in writing for checking the same. The Contractor shall also allow or amend any error in the dimensions, lines or levels to the satisfaction of the Engineer or his authorized representative without claiming any compensation for the same.
- 16.** The contractor shall make his own arrangement on his own sole account for procuring all materials to be used on works under this Agreement with the DFCCIL Administration. The rates quoted by him, against the Schedule of items, should be entirely inclusive so as to cover any purchase price and/or royalties and/or compensation for surface damage paid or payable by the contractor to land owners Mining authority etc. and all other charges incurred by him whatsoever including all lead, lift etc.
- 17.** If the contractor enters on land not belonging to or held by the Railway Administration for collection or quarrying of materials or any other purpose whatsoever he shall make his own arrangements with the owner or owners of such land, with regard to, and shall be solely/personally liable for the payment of any purchase price and/or royalties and/or compensation for surface damage, and the DFCCIL Administration shall in no circumstance be purport to be made party to any such arrangements and be liable for any such payment and/or compensation.
- 18.** The contractor will not be entitled to any compensation for any delay for execution of the work arising from delay from the DFCCIL Administration side. The delay so caused will be assessed and accepted by the Engineer determining any extension of the time required to complete the work for which purpose only accepted period of delay will be taken into consideration. If the matter is not brought to the notice of the Engineer immediately such delays occur, no consideration for extension of time will be made later on. The

contractor must accept as final and binding the decision of the Engineer-in-charge of the work.

19. QUALITY CONTROL :

19.1 To ensure that the materials used for the work are as per the approved specifications, it is necessary for the contractor to have a small field laboratory with complete equipments at the site of work which will enable carrying out of standard tests for the quality of water, sand and aggregate etc. The rates should also provide for equipment for casting, Curing and testing of sufficient number of 6" cubes for compressive tests. Testing of the cubes should be got done through Alipore National Test House or any other approved Government Testing Laboratory as and when necessary, Periodical testing of water may also be got done through Alipore Test House or any other approved Government.

19.2 The Concrete work shall be done in accordance with Indian Railway Standard code of Practice for plain reinforce and pre-stressed concrete for general bridge construction (Concrete Bridge Code) or IS-456-2000 or relevant IRC codes as applicable. 19.3 All concrete items will be measured without any reduction for the volume of reinforcement as and steel structural.

19.4 Concrete will be as per IS code (IS-456-2000). All concrete should be vibrated except for concrete placed in water for the bottom plug. Strength specified for various concrete in Schedule of Items is for 28 days strength of the well foundation. 19.5 The mix of all controlled concrete to be used shall be designed suitably as per IS-10262-1982 to meet requirements or strength and economy. Number of cubes may be made by trial mixes and tested to achieve the desired strength of the concrete.

20. AGGREGATE AND SAND : Periodical sieve analysis of the aggregate and sand will be carried out as necessary to ensure that the percentage of different sizes of aggregate and sand do not vary from the worked out during designing the concrete Mix

21. WORK TESTS AND STANDARD OF ACCEPTANCE: Number of cubes to be taken and tested should be in accordance with the provisions made in IS code 456-2000 and the results should satisfy the minimum requirements given therein.

22. The work under DFC Traffic or by temporarily or by blocking DFC Traffic, should be carried out under the supervision of Engineers/Supervisors of the contractor who have adequate experience of carrying out such works.

23. The contractor should carry out the work in such a way that would ensure safety to DFCCIL Traffic and Railway properties. The works whose execution is having safety implication, should be carried out only under the direct supervision of competent Bridge Supervisors from DFCCIL.

24. TRAFFIC BLOCK REQUIRED: The contractor should specify the requirement of temporary block required for the work. Temporary blocks will be arranged by the Engineer-in-charge of the work. Temporary blocks will be arranged by the Engineer-in charge of the work for the minimum period as suits the operating Department of the DFCCIL/RAILWAY.

25. The contractor shall keep sufficient stand-by equipment like mixer vibrator etc. for concrete work so that concreting is not affected by break down of tools and plants.

26. On C.C. or R.C.C. work, no cement plaster shall be permitted. The shuttering with cement/line plaster finish may be adopted for roof slabs, lintels etc.

27. Where the concrete is cast on ground i.e. in foundation, bottom slab of R.C.C. Box etc. a water proof film of polythene shall be spread on the ground after ground is leveled and compacted, to prevent soaking of moisture/water of the concrete into the ground.

28. All the materials like aggregate, sand and bricks shall be as per specifications laid down in respective code. Before use, all materials shall be approved by the Engineer-at-site, Before use, they shall be cleaned of all mud, muck, grit etc. and shall be washed with clean water, if directed by Engineer, before use.

29. The payment of the following items of R.C.C. will be made under relevant items of USSOR 2012 ECR Schedule of Rates, as detailed below.

30. ADMIXTURE: Admixture confirmed as per RDSO guidelines (Report No. BS-25) may be used in concrete with Engineer's prior approval, if required.

31. Weep holes shall be kept in wing wall and abutment of bridges by placing thick gauge 50 mm Dia PVC pipe in the concrete before casting spaced 1.0 m vertically & horizontally staggered. No deduction in volume of contract will be made.

Witness

1.

Signature of Tenderer

ANNEXURE - I

TENDERER(S)'S GENERAL INFORMATION		PROOF ATTACHED AT PAGE
1.Name of firm.		
2.Full name of Contractor/s:		
3. Year of Establishment.		
4.Registered Head Office :-Address: -		
5.Operation Address if different from above:		
6.Branch Office in India:		
7. Constitution of firm give full details including name of Partners/Executive/s power of Attorney holders etc.		
8. Particulars of Registration with Government Semi-Government Organization, Public sector under-Taking and local bodies etc.		
9. Bank A/C No of Firm with RTGS code for electronic clearance of the payment		
10.Telephone Number		
11.E-mail address & Web Site		
12.Telefax Number		
13. ISO Certification, if any {If yes, please furnish details}		
11.Pan No:		
12. PF / EPF Registration No:		
13.Service Tax Registration No:		
1. The information furnished above shall be supported by authentic documents including registration number of the firm. 2.The copies of documents submitted shall be duly attested by a Gazetted officer.		

Signature of the Tenderer/s: -

Self Certificate

- a. I/We have downloaded the tender form from the internet site www.dfcc.in and www.dfccil.org.and I/we have not tampered/ modified the tender documents in any manner. In case the same is found tampered/modified, I/We understand that my/our offer shall be summarily rejected and I/we are liable to be banned from doing business with the DFCCIL and/or prosecuted as per law.

- b. I/we are submitting a demand draft No.....
datedissued byor original money
receipt No deposited
withstation for
Rs..... towards the cost of tender form.

- c. I/We certified that I/we am/are not black listed or debarred by DFCCIL or Railways or any other Ministry/Department of the Government of India/State Government from participation in tenders/contract on the date of opening of tenders/Tenders.

Signature of the Tenderer/s:

**FORM OF IRREVOCABLE GUARANTEE BOND FOR PERFORMANCE
GUARANTEE (PG).**

(The Bank Guarantee(BGs) to be submitted by the suppliers/ contractors should be sent directly to“Chief Project Manager; DFCCIL, Mughalsarai, Swarna Complex,2ndFloor,Susuwahi (Near Union Bankof India), PO-Susuwahi, Thana-Lanka, Varanasi-221011”by the issuing Bank under Registered Post A. D.).

To.
Chief Project Manager;
DFCCIL;
Swarna Complex
2nd Floor, Susuwahi (Near
Union Bank of India),
Post –Susuwahi,
District - Varanasi

In consideration of the Chief Project Manager; DFCCIL (hereinafter called “ DFCCIL”) having agreed to accept from..... hereinafter called "the said Contractor/s”), under the terms and conditions of an Agreement/ Acceptance letter dated.....made between.....and... (hereinafter called "the said Agreement”)the Performance Guarantee for the due fulfillment by the Contractor/s of the terms and conditions in the said Agreement on production of Bank Guarantee for Rupees.....only). We,(indicate the name of the Bank hereinafter referred to as “the Bank”) at the request of

.....contractor/s do hereby under take to pay the Government an amount not exceedingRs..... against any loss or damage caused to or suffered by or would be caused to or suffered by Government by reason of any breach by said Contractor(s) of any of the terms or conditions contained in the said Agreement.

1. We.....indicate the name of the Bank) do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on demand from the DFCCIL stating that the amount claimed is by way of loss or damage caused to or suffered by the DFCCIL by reason of breach by the said contractor/s of any of the terms or conditions contained in the said agreement or by reason of the contractor/s failure to perform the Agreement, any such demand made on the Bank shall be conclusive as regards the amount due and payable to the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs.
2. We under take to pay to the DFCCIL any money so demanded notwithstanding any dispute or disputes raised by contractor(s)/ suppliers(s) in any suit or proceeding pending before any Court or Tribunal relating thereto our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the contractors(s)/ supplier(s) shall have noagainst us for making such payment.

3. We,(indicate the name of the bank) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Agreement, including Maintenance/ Warrantee Period, and it shall continue to be enforceable till dues of the DFCCIL under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged or tilloffice/Department/ DFCCIL certifies that the terms and conditions of the Agreement have been fully and properly carried out by the said Contractor(s) and accordingly discharged this guarantee, unless a demand or claim under this guarantee is made on us in writing on or before the we shall discharge from all liability under this guarantee thereafter.
4. We,(indicate name of the Bank) further agree with the DFCCIL that the DFCCIL shall have the fullest liberty without our consent and conditions of the said agreement or to extend time of performance by the said contractor(s) from time to time or to postpone from any time or from time to time any of the powers exercisable by the DFCCIL against the said contract and to forebear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the contractor/s or for any forbearance act or omission on the part of the DFCCIL or indulgence by the DFCCIL to the said contractor(s) or such any matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.
5. This guarantee will not be discharged due to change in the constitution of the bank or the Contractor(s)/ Supplier(s).
6. We,(indicate the name of Bank)undertake not to revoke this guarantee during its currency except with the previous consent of the DFCCIL in writing.

Dated thisday of.....2015

For. _____

(Indicate the name of the Bank)

Signature of Tenderer(s)

Annexure - IV

FORM OF AGREEMENT
(To be executed on requisite value of stamp papers)

AGREEMENT

THIS AGREEMENT made on _____ day of _____
(Month/year) between DFCCIL, acting through Chief Project Manager, DFCCIL, Swarna Complex, 2ndFloor,Susuwahi (Near Union Bank of India), PO-Susuwahi, Thana-Lanka, Varanasi-221011 (herein after called the “DFCCIL”)of the one part and (Name / address of the contractor) (herein after called the contractor) of the other part.

WHEREAS the DFCCIL is desirous that certain works should be executed by the Contractor viz. Contract No. _____ (hereinafter called “the works”, and has accepted a Bid by the Contractor for the execution and completion of such works and the remedying of any defects therein.

NOW THIS AGREEMENT WITNESSETH as follows:

1. In this Agreement, words and expressions shall have the same meaning as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement:
 - a) Letter of Acceptance of Tender
 - b) Notice Inviting Tender
 - c) Instructions to the Tenderers
 - d) Conditions of the Contract
 - e) Schedule of approximate quantity
3. In consideration of the payments to be made by the DFCCIL to the contractor as hereinafter mentioned, the contractor hereby covenants with the DFCCIL to execute and complete the Works and remedy any defects therein in conformity in all respects with the provisions of the Contract.
4. The DFCCIL hereby covenant to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement executed the day and year first before written.

(Name, Designation and address of the signatory)
Signed for and on behalf of the Contractor in the presence of: Witness:

- (i)
- 1.

Name and address of the witnesses to be indicated.

(Name, Designation and address of the authorised authorised signatory)
Signed for and on behalf of the DFCCIL in the presence of: Witness:

- 1.
- 2.

CERTIFICATE OF NO RELATIVE BEING AN EMPLOYEE OF DFCCIL

I/WE THE UNDER SIGNED HEREBY SOLEMNLY DECLARE AND CERTIFY THAT I /WE DO NOT HAVE ANY OF OUR RELATIVE/RELATIVES EMPLOYED IN THE DFCCIL EXCEPT THE NAMES MENTIONED HEREIN UNDER :

1.....

2.....

3.....

AND SO ON

NOTE:- NAMES, DESIGNATION, NAME OF OFFICE, HEADQUARTER OF THE TENDERER(S)“S RELATIVE IN DFCCIL TO BE MENTIONED BY THE TENDERER(S)/TENDERER(S)S IN 1,2,3 AND SO ON ABOVE.

SIGNATURE OF TENDERER(S)/TENDERER(S)S



Annexure-VII

Details of works under progress in last three financial years including current financial year

S . No	Name of Work	Acceptance letter no	Date of Acceptance letter	Organization for whom work is being done	Final Cost of Work	Date of commencement of Work	Date of Actual completion of Work	Certificate /Credential available at Page No	Remarks
1	2	3	4	5	6	7	8	9	10

NOTE:-
 The tenderer/s must attach performance certificate issued by the organizations for whom the work was carried out.
 The information furnished above shall be supported by authentic documents with page no mentioned clearly above. The copies of documents submitted should be duly attested by a gazetted officer.

Signature of the Tenderer/s:



END OF PART-I (TECHNICAL BID)

Part-II

Price Bid document

(SPECIAL NOTE -ALL THE QUOTED RATES AND AMOUNT SHALL BE LAMINATED BY THE TENDERER)

Note –

1. After completing the tender document Part-II, it should be separately sealed in an envelopes super scribed as **Packet-II (Price Bid)** along with name of work and Tender no..
2. The part-I of tender document should be separately sealed in another envelop super scribed as **Packet-I (Technical Bid)** along with name of work and Tender No.
3. **These two envelopes** should be sealed in a larger envelope super scribing the name ofwork & Tender No.)
4. The bidder shall prepare and submit two copies of the bid duly marked as
 - (i) Original
 - (ii) Copy

**DEDICATED FREIGHT CORRIDOR CORPORATION OF INDIA
LIMITED A GOVERNMENT OF INDIA ENTERPRISE**

TENDER NOTICE NO.MGS/EN/LC-RUB/Approches-6/15

Name of work :-CONSTRUCTION OF RUB/LHS at DFC CH 69.540 and Rly. Km 619/22-24 onDFC line at BBU yard and construction of DFC side approaches of RUB/LHS at LC no. 35C (556/26-28), 37C (562/12-14), 44C (576/11-13), 48C (585/5-7), 51C (590/23-25), 52C (594/17-19), 54C603/17-19), 57C (612/25-27), 58C/615/3-5), 64C630/9-11), 65C (633/7-9), 66C/637/5-7), 67C (638/7-9), 77C (659/13-15) AND 79C (662/7-9) IN BETWEEN SONNAGAR—MUGHALSARAI SECTION

Sl. No	Description of work	Basic value as per Schedule of Quantities	Percentage(%) above/below/at par	Amount
1	Percentage above or below on the items of Annexure - A.	Rs 8,09,472.36		
2	Percentage above or below on the items of Annexure - BI	Rs 64,75,211.91		
3	Percentage above or below on the items of Annexure - BII	Rs 31320783.68		
4	Percentage above or below on the items of Annexure - BIII	Rs 172008.95		
5	Percentage above or below on the items of Annexure - BIV	Rs 32953144.57		
6	Percentage above or below on the items of Annexure - BV	Rs 45982.30		
7	Percentage above or below on the items of Annexure - BVI	Rs 1500000.00		
8	Percentage above or below on the items of Annexure - CI	Rs 32766876.03		
9	Percentage above or below on the items of Annexure - CII	Rs 57919050.42		

SPECIAL NOTE -ALL THE QUOTED RATES AND AMOUNT SHALL BE LAMINATED

Note :-

- i) The approximate quantities of principal items of work to be executed and the amount of the schedule rates have been tabulated in Schedule of Quantities enclosed with this tender document.
- ii) The Tenderer should quote a flat percentage at per / above / below for the total amount of the above individual schedule (Schedule wise i.e. Schedule A, Schedule BI to BVI & Schedule CI & CII) separately. **Tenders where more than one flat percentage is quoted against any individual Schedule (i.e. Schedule A, Schedule BI to BVI & Schedule CI & CII) will be summarily rejected.**
- iii) The Tenderer should quote the percentage both in figures and words. Where there is a difference between percentages, percentage quoted in words will be taken as correct.
- iv) This work is to be executed by Cut and Cover Method with Precast Segmental Box for RUB/BBU and construction of RUB/LHS approaches at DFC side.

END OF PART-II (PRICE BID)

End of Document