

CONTRACT DOCUMENT

STRUCTURE STABILITY/RETROFITTING WORK

AT

STAR PAPER LTD. SAHARANPUR (U.P)

STRUCTURAL CONSULTANT

SANRACHNA SOLUTIONS LLP

T: +91 11 28545881, 25543281

NOTICE INVITING TENDER

1. Item Rate tenders in the prescribed form are hereby invited on behalf of the client of **M/s Star Paper Ltd.** for Structure Stability Work of the project.
2. Tender documents being mailed on
3. **Sealed tenders will be received by Up to ...:00 hrs onDay of.....2021.**
4. The time allowed to carry out the work will beDayscalendar days (for complete works) for the completion from the 10th day after the date on which letter of intent for award of work is issued to the tenderer.
5. The tenderers are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders as to the nature of the site, the characteristics of the sub soil, soil bearing capacity, proposed system of the sub structure, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender. A tenderer shall be deemed to have full knowledge of the site, whether he inspects the site or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed.
6. Submission of the tender by a tenderer implies that he has made himself aware with all the conditions and rates at which materials if any will be issued to him by the Employer.
7. Submission of a tender by a tenderer implies that he has made himself aware with all the General and Special Laws, Acts, Ordinances, Rules and Regulations of the Area Development Authority, Municipal, District, State, central Government and any other concerned Government body that may affect work, its performance or personnel employed therein.
8. The contractors should quote in figures as well as in words the rate quoted by them for each item. The amount for each item should be worked out and requisite totals given.
9. The employers do not bind themselves to accept the lowest or any tender and reserve the right of accepting the whole or any part of the tender and the tenderer shall be bound to perform the same at the rate quoted.
- 10 GST, Labour Cess, Octroi, Royalty, or any other Tax, Duty or Levy on materials and work contract tax if any in respect of this contract shall be payable by the contractor and the employer will not entertain any claim whatsoever in this respect.
- 11 The tender shall attach a list of similar works done in the recent past.
- 12 The tender for works shall remain open for acceptance for a period of Ninety days from the date of opening of tenders.
- 13 This is a fixed rate contract and no escalation is allowed. The basic price will be declared in the tender for cement, ready mix concrete, reinforcement steel and structural steel and other items.

GST will be paid over the difference in the basic rate of material disclosed in the tender.
- 14 **Only unconditional tenders shall be considered for evaluation.**

TENDER FORM

To,

M/s Star Paper Ltd.

I / We have read and examined the following documents relating to Structure Stability Work for M/s Star Paper Ltd..

Notice Inviting Tender
General Conditions of Contract
Special Conditions
Schedules of Quantities
Technical Specifications
Tender Drawings
List of Make

I / We here by tender for the execution of works referred to in to the aforesaid documents upon the terms and conditions contained or referred to therein and in accordance in all respect with the specifications, designs, & drawings and other relevant details at the rates contained in the Schedule of Quantities and with in the period of completion as stipulated in Annexure I.

In consideration of I /We being invited to tender, I / We agree to keep the tender open for acceptance for a period of 90 days from the date of submission thereof and not to make any modifications in its terms and conditions which are not acceptable to the employer.

Signature
(With Seal)

Witness

ARTICLES OF AGREEMENT

Articles of agreement made the _____ **day of 2021**, between **M/s Star Paper Ltd** hereinafter called the "Employer" (which expression shall include it's successors and nominees wherever the context or meaning shall so requires or permit) of the one part and **M/s.....** through its Proprietor / Authorized partner **Mr.S/o _____** hereinafter called the "**contractor**" (which expression shall include it's successors and assigns wherever the context or meaning shall so requires or permit) of the other part.

WHEREAS the employer is desirous for Structure Stability Works at **Star Paper Ltd.** and as provided drawings, specifications and schedule of Quantities showing and describing the work to be done as prepared by and / or under the direction of Architects.

AND WHEREAS the contractor has supplied the employer with a fully priced copy of the said bill of Quantities (which copy is hereinafter referred to as the "**Contract Bills**") amounting to the "**Contract Sum**" of **Rs...../- (.....RupeesOnly)**, AND WHEREAS the said drawings (hereinafter referred to as the "**Contract Drawings**") and the contract bill have been signed by or on behalf of the parties hereto:

NOW IT IS HEREBY AGREED AS FOLLOWS:-

1. For the consideration hereinafter mentioned the contractor will upon and subject to the conditions annexed carry out and complete the work shown upon the contract drawings and described by or referred to in the Contract bill and in the said conditions.
2. The employer shall pay the contractor the sum of **Rs...../- (.....RupeesOnly)**, (hereinafter referred to as the: "**Contract Sum**") or such other sum as shall become payable hereunder at the time and in the manner specified in the said conditions.
3. The said conditions and Appendices thereto shall be read and construed as forming part of this Agreement, and the parties hereto shall respectively abide by and submit themselves to the conditions and perform the Agreement on their parts respectively in such conditions contained in.
4. Only _____ (_____) alterations have been made in these documents and as evidence that these alterations were made before the execution of Contract Agreement they have been initialed by the contractor and the Employer.

AS WITNESS our hand this _____ day of _____ 2021.

Signed by the said in the presence of

EMPLOYER.

Witness:

M/s Star Paper Ltd.

Name : _____

Address: _____

Signed by the said in the presence of

CONTRACTOR.

Witness:

.....

Name: _____

Address: _____

SPECIAL CONDITIONS

1.0 GENERAL:

The following special conditions shall be read in conjunction with General Conditions of Contract. If there are any provisions in the special conditions which are at variance with the provisions in the other conditions of these conditions of these tender documents, the provisions in these special conditions shall take precedence.

- 1.1 The work in general shall be carried out as per Technical Specifications attached or CPWD or IS specifications if item is not covered under Technical Specifications. Unless otherwise specified in the nomenclature of the individual item.
- 1.2 For item not covered under CPWD Specifications, the work shall be done as per latest relevant IS:Code(Indian Standard code) of practice and CPWD Specifications. In case of any discrepancy between the specifications of IS: code of practice and CPWD specifications in IS: code shall take precedence.
- 1.3 For items not covered by para 1.1 and 1.2 above, the work shall be done as per sound engineering practice as directed in written by the Project Manager on the written advise by the employer whose decision in this regard shall be final binding on the contractor.

2.0 LAND AND LABOUR CAMPS :

The contractor shall examine the site and satisfy himself regarding the space available for labor camps, workshops, cement godown, site office, storage of steel and other building materials. Any additional space required by the contractor shall be arranged by him at his own cost.

The contractor shall prepare a plan showing location of temporary offices, stores, godowns, labor camps, fabrication platforms, workshops in consultation with and approval of Project Manager before creating these facilities. The contractor shall make all the above arrangements at his own cost and the employer will not entertain any claim whatsoever in this respect.

The contractor shall ensure that the labor camps are vacated on completion / termination of the contract. In case of his failure to vacate the area, the employer will be at liberty to withhold his payment and initiate legal action for eviction. The legal actions will be initiated against the contractor and not the individual laborers.

3.0 WATER SUPPLY :

Water for construction purposes shall be arranged by the Client. The Client shall have to bear the water charges during the period of construction. The contractor shall obtain certificate(s) showing that the water obtained by Client from whatever source is suitable for construction in accordance with relevant clauses of relevant IS codes. The contractor shall make the necessary arrangements to draw the respective lines from the point of supply.

4.0 POWER SUPPLY :

Power for construction purposes shall be arranged by the Client. The Contractor shall bear all the electrical expenses during the period of construction. If any Power backup like Generator will be required, it will be arranged by Contractor.

5.0 STANDARD WORKMANSHIP :

To determine the acceptable standard of workmanship, the contractor shall execute a portion of the items of work as sample for the approval of the Project Manager before taking up actual execution of the particular items of work. These samples on approval of the architect shall be the guiding samples for the execution of the particular items of work. These approved samples of work shall be kept without any damages until the completion of the construction activity. Work not conforming to the approved samples shall be rejected. Rates quoted for the items shall include for such preliminary work and shall not be paid separately. The use of helmets will be mandatory for all workers and safety belts for the people working at heights above 3 metres. Protection around excavation pits to be strictly provided and safety displays and drills will form part of the contract.

6.0 PROGRAMME FOR WORKS AND PROGRESS REPORTS :

The contractor shall submit within 10 days from the date of acceptance of the tender, detailed schedule showing the program and order in which the contractor proposes to carry out the work with dates and estimated completions times for various parts of the work in form of PERT/CPM. Such schedules shall be got approved from the Project Manager on the written advice of the employer before starting of the work and shall be binding on the contractor. The contractor shall furnish fortnightly or other periodical progress reports.

7.0 CO-ORDINATION :

The contractor shall co-operate with Employer's other contractors, departmental construction work if any, laying of services etc. He shall study the plans, specifications and time schedules of other contractors and so plan his work in consultation with the Project Manager and other contractors so that all the related activities of other agencies are dove-tailed and co-ordinated. The contractor shall forward to the Project Manager all correspondences and drawings so exchanged with other agencies. Failure on the part of the contractor to check plans and conditions of other agencies affecting his work will render the contractor responsible for bearing the cost of any necessary consequent changes.

8.0 STORES AND MATERIALS :

All the stores and materials (confirming to specifications in relevant IS: codes / CPWD specifications) except the materials stipulated for issue by the Employer, required for the satisfactory completion of the work shall be arranged by the contractor from his own sources/open market. No claim whatsoever shall be entertained by the Employer on account of delay in either providing these materials or non-availability of any of the materials in the market.

9.0 CONSTRUCTION PERIOD:

The works shall be completed incalendar days, starting from 10th day after the issue of the LOI/work order.

10.0 MOBILISATION ADVANCE :

An interest free mobilization advance of **Rs.20,00000/-** may be paid to the contractor, against an irrevocable equivalent bank guarantee from any nationalized bank, valid

for a period of Thirteen months, that shall be deducted from each running bill on pro-rata basis.

11.0 INCOME TAX :

Employer will deduct the required amount towards TDS as per the latest Income Tax rules, from all payments made to the contractor.

12.0 CONTRACT SIGNING :

After acceptance of the tender, the tenderer shall sign the necessary contract papers within 7 days of the intimation. Expenses for all agreement including cost of stamp papers etc. shall be borne by the contractor. Contractor will have to submit 2 No's of Non Judicial stamp papers each of the value of Rs. 100 or equivalent bond paper for a Nationalised bank to our architects for the purpose of preparing the necessary contract agreement to be entered into between ourselves.

GENERAL CONDITIONS OF CONTRACT

1.0 HEADINGS AND SUB HEADINGS:

Headings and sub-headings to these general conditions shall not be deemed to form part thereof, or be taken into consideration in the interpretation or construction thereof, or of the contract.

2.0 SINGULAR AND PLURAL :

Where the context so requires, words imparting the singular only also include the plural and vice versa.

3.0 DEFINITIONS :

“**Employer**” shall mean **M/s Star Paper Ltd**, having and includes a duly authorized representative of the Employer, or any other person empowered in this behalf by the Employer to discharge all or any of its functions.

The “**Accepting Authority**” shall mean the Employer or his nominee on behalf of the Employer.

The “**Contract**” shall mean, the Notice Inviting Tender, the Tender Form, the Tender and the acceptance thereof, the Letter of Agreement between the Employer and the contractor together with all the documents specifically referred to therein including these conditions with the appendices, the special conditions, the specifications, the Designs and Drawings, the Schedule of quantities with the rates and amounts. All these form one contract and the documents shall be treated as complementary to one another.

The “**Contractor**” shall mean the individual or firm or company whether incorporated or not, undertaking the works and shall include legal representatives of such individuals or persons composing such firm or incorporated / unincorporated company, or successors of such firm or company as the case may be and permitted assignees of such individual or firm or company.

The “**Contract Sum**” shall mean in the case of Item Rate Contracts the cost of the work arrived at after extension of the quantities shown in schedule of Quantities by the item rates quoted by the tenderer for the various items.

“Structural Consultants/Project Manager” shall mean **"M/s Sanrachna Solutions LLP."** appointed by **M/s Star Paper Ltd.** for the Works, who will supervise the project on behalf and advice of the employer.

A **“Day”** shall mean a day of 24 hours from midnight to midnight irrespective of the number of hours worked in that day.

A **“week”** shall mean seven days without regard to the number of hours worked in any day in that week.

The **“Site”** shall mean lands and / or other places on, under, in, or through which the work is to be executed under the contract including any adjacent lands or places which may be allotted by the Employer or used for the purpose of the contract.

The **“Works”** shall mean the works to be executed in accordance with the Contract or part(s) thereof as the case may be and shall include all extra or additional, altered or substituted works or temporary and urgent works as required for performance of Contract.

“Temporary works” shall mean all temporary works of every kind required in or about the execution, completion or maintenance of Contract.

“Urgent Works” shall mean any urgent measures which in the opinion of the Project Manager, on the written advice of the employer become necessary during the progress of the work to obviate any risk of accident or failure or which become necessary for security.

“Market Rate” shall be the rate as decided by the Project Manager on the basis of the cost of material inclusive of any taxes, octroi or such statutory imposition at the time of work, and cost of labor at site where the work is to be executed plus 15% as overheads, supervision and profit.

“Excepted Risks” are risk due to riots (other than among Contractor's employee) and civil commotion (in so far as both these are uninsurable), war (whether declared or not), invasion, act of foreign enemies, hostilities, civil war, rebellion, revolution, insurrection, military or usurped power or any acts of Government, damages from aircraft, acts of god, such as earthquakes, lightning and unprecedented floods and other causes over which the Contractor has no control and accepted as such by the accepting Authority or cause solely due to use or occupation by the Employer of the part of work in respect of which a certificate of completion has been issued or a cause due to Employer's faulty design of works.

“Act of Insolvency” means any act of insolvency as defined by the Insolvency and Bankruptcy code, 2016 Presidency Towns Insolvency Act or the Provincial Insolvency Act or any amending statutes.

4.0 CONTRACT DOCUMENTS:

4.1 The contractor shall be furnished free of charge with one certified true copy of the contract documents at the beginning of the construction period.

The contractor shall give adequate notice of minimum four weeks in advance, in writing to the Project Manager, of the drawings or any further specifications they may be required for the execution of the works. One copy of all the drawings necessary for the execution of work will be issued to the contractor during the progress of the work, free of charge. One copy of the drawings furnished to the contractor as aforesaid shall be kept at the site and the same shall at all reasonable times of available for

inspection and use by Project Manager or his representative. The contractor may request for additional copies of the drawings on payment.

None of these documents and drawings shall be used by the contractor for any other work or project or any purpose whatsoever other than that of this contract.

5.0 WORKS TO BE CARRIED OUT:

5.1 The work to be carried out under the Contract shall, except as otherwise provided in these conditions, include all materials, labor, equipment, supplies, plant tools, scaffoldings, transportation, superintendence, temporary construction of every nature, GST/Taxes, work contract tax, service tax, excise, octroi, insurance, water, electricity and all other services and facilities required in preparation of and in full and entire execution and completion of the work. The description given in the Schedule of Quantities shall, unless otherwise stated be held to include wastage on materials, including overlaps of reinforcement in concrete, carriage and cartage and return of empties, hoisting, fitting and fixing in position and all other labour necessary in and for the full and entire execution and completion as aforesaid in accordance with good practice and recognized principles.

5.2 Before ordering any material or doing any work, the contractor shall verify the pertinent field dimensions for the project and shall be responsible for the correctness of same. No extra charge or compensation will be allowed on account of difference existing between actual dimensions and dimensions indicated on the drawings. Any difference which may be found shall be submitted to the Architects/Project Manager for consideration before proceeding with the work. Dimensional variation in any items of work between as shown in drawings and as built shall be rectified by the contractor at his own cost as directed by the Project Manager.

6.0 SITE AND LOCAL CONDITIONS:

6.1 By executing the contract, the contractor represent that he has visited the site of the proposed work, fully acquainted and familiarized himself with the conditions as they exist and the nature of the operation to be carried out under the proposed contract and made all such necessary investigation so that he shall fully understand the facilities, physical conditions and restrictions attending the work under the contract.

The contractor also agree that he has carefully examined the drawings, specifications and associated documents and the site, and that from his own investigation he has satisfied himself as to the nature and location of the work, the general and local conditions, and all matters which may in any way affect the work or it's performance, and that as a result of such examination and investigation he has fully understood the intent and purpose of the contract documents. Claims for additional compensation or extension of time because of contractor's failure to follow the forgoing procedure and to familiarize himself with the contract documents and all conditions which might affect the work will not be allowed.

7.0 SUFFICIENCY OF TENDER:

7.1 The contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and of the rates and prices quoted in the Schedule of Quantities. These rates and prices, shall except as other wise provided, cover all his obligations under the contract and all matters and things necessary for the proper completion and maintenance of the works

If there are varying or conflicting provisions made in any one of the documents forming part of the contract and also in case of discrepancy between Schedule of Quantities, specifications, drawings, the tender shall immediately inform the

Accepting Authority or consultants for necessary clarification with regard to the intention of the document, before submitting his tender.

8.0 DISCREPANCIES AND ADJUSTMENT OF ERRORS:

8.1 The several documents forming the contract are to be taken as mutually explanatory of one another, another drawings being followed in preference to small scale drawings and figured dimensions in preference to scale and Special Conditions in preference to General Conditions.

8.2 In case of discrepancy between Schedule of Quantities, the Specifications and / the Drawings, the following order of performance shall be observed :

8.2.1 Detailed construction drawings

8.2.2 Description in Schedule of Quantities

8.2.3 Special Conditions

8.2.4 Particular Specifications

8.2.5 General Specifications

If there are varying or conflicting provisions made in any one document forming part of the contract, the Accepting Authority shall be the deciding Authority with regard to the intention of the document.

Any error in description, quantity, or rates in Schedule of Quantities or any omission therefrom shall not vitiate the Contract or release the contractor from the execution of the whole or any part of the works comprised therein according to drawings and specifications or from any of his obligations under the Contract.

If on checking, there are found to be difference between the rates given by the contractor in words and figures or in the amount worked out by him in the Schedule of Quantities and General Summary, the same shall be adjusted in accordance with the following rules:

In the event of a discrepancy between description in words and figures quoted by a tenderer, the rate which corresponds to the amount worked out by the Contractor shall be taken as correct. When the amount of an item is not worked out by the Contractor, or it does not correspond to the rate written either in figures or in words, the rate quoted by the contractor in 'WORDS' shall be taken as correct.

In the event of an error occurring in the amount column of Schedule of Quantities as a result of wrong extension of the unit rate and the quantity, the Unit Rate shall be regarded as firm and extension shall be amended on the basis of rate.

All errors in totaling in the amount column and carrying forward totals shall be corrected.

The total of various sections of Schedule of Quantities as amended shall be carried over to the General Summary and the tendered sum amended accordingly. The tendered sum so altered shall, for the purpose of tender, be substituted for the sum originally tendered and considered for acceptance instead of the original sum quoted by the tenderer. Any rounding off totals in various sections of Schedule of Quantities or in the General Summary by the tenderer shall be ignored.

9.0 SECURITY DEPOSIT:

- 9.1** At the time of making payment to the contractor for the work done under this contract, the employer shall deduct 5 % of the gross amount of the bill as security deposit.
- 9.2** When the Security Deposit reaches a limit of **Rs.1, 00,00, 000/-** (Rupees One Crore only) the contractor, if so desires, may convert 75 % of the amount into Bank Guarantee from any scheduled bank. The validity of this Bank Guarantee shall extend up to the expiry of the defects liability period. The remaining one fourth of the total Security deposit shall remain in cash/ CDR form until the expiry of the defects liability period.
- 9.3** All compensation or other sums of money payable by the contractor under the terms of this contract or any other contract or any other account whatsoever may be deducted from or paid by the sale of sufficient part of this security deposit or from any sums which may be due or become due to the contractor by the Employer on any account whatsoever and in the event of his security deposit being reduced by reason on any deduction or sale as aforesaid, the contractor shall within fourteen days of receipt of notice of demand from the Project Manager make good the deficit.
- 9.4** Refund of Security Deposit – One half of the security deposit shall be released after 6 months of the virtual completion against Bank Guarantee valid upto the completion of Defect Liability Period and balance shall be released after the completion of defect liability period.
- 9.5** On expiry of the defect liability period Project Manager shall on demand from the contractor, refund to him the remaining portion of security deposit provided Project Manager on the written advice of the employer is satisfied that there is no demand outstanding against the contractor.

10.0 VARIATIONS, DEVIATIONS-EXTENT AND PRICING:

- 10.1** The quantities shown against individual items in Schedule of Quantities are approximate and may vary with variation in details / design.
- 10.2** The Project Manager on the written advice of the employer shall have power to make alteration in, omission from, addition to, or substitution for the original specifications, drawings, designs, and instructions that may appear to him to be necessary or advisable during the progress of the work.
- 10.3** The Project Manager shall be empowered to omit a part of the works in case of non-availability of a portion of the site or for any other reason, and the contractor shall be bound to carry out the works in accordance with any instructions given to him in writing signed by the Project Manager and such alterations, omissions, additions, or substitutions shall from part of the contractor may be directed to do in the manner above specified as part of the works, shall be carried out by the contractor on the same conditions in all respects including price on which he agreed to do the main work except as herein after provided. However no work which radically changes the original nature of the contract shall be ordered by the Project Manager as a deviation.
- 10.4** In the event of any deviation being ordered which in the opinion of the contractor changes the original nature of the contract, he shall never the less carry it out and the disagreement as to the nature of the work and the rate to be paid therefor shall be resolved according to condition 11.0

- 10.5 The time for the completion of the work shall, in the event of any deviations resulting in additional cost over the contract sum being ordered, be extended as follows if requested by the contractor.
- 10.6 In the proportion which the additional cost of the altered, additional, or substituted work, bears to the original contract sum: plus 25 % of the time calculated in 10.5 above or such further additional time as may be considered reasonable by the Project Manager on the written advice of the employer.

11.0 EXTRA ITEMS:

- 11.1 The rates of all authorized extra items of additional, altered or substituted work, shall be worked out as follows:
- 11.1.1 If the rate for additional, altered, or substituted items of work is specified in the Schedule of Quantities, the contractor shall carry out the additional, altered, or substituted items in the same rate. In the case of composite tenders, where two or more schedules of quantities may form part of the contract, the applicable rate shall be taken from the schedule of quantities of that particular part in which the deviation is involved, failing that at the lowest applicable rate for the same item of work in the other schedule of quantities.
- 11.1.2 If the rate for any additional, altered, or substituted item of work is not specified in the Schedule of Quantities, the rate for that item shall be derived from the rate for the nearest similar item specified there in. In case of composite tenders where two or more schedules of quantities form part of the contract, the rate shall be derived from the nearest similar item in the Bills of Quantities of the particular part of works in which the deviation is involved, failing that from the lowest of the nearest of the lowest items in other schedules of quantities.
- 11.1.3 Where the rates cannot be derived in the manner described in 11.1.1 and 11.1.2, the same shall be worked out on the basis of Market rates of the actual expenditure incurred in the execution of the item inclusive of any taxes, gst, octroi, excise, transportation etc. plus the contractor's overheads, supervision charges and profit as 15%.
- 11.2 The contractor shall, within 7 days of the date of receipt of an order to carry out the above work, submit the rates which he propose to claim for such items of work, supported by rate analysis and vouchers, Project Manager on the written advice of the employer shall communicate to the contractor the rate admissible for these items. The decision of Project Manager shall be final and binding on the contractor in this regard. The items shall not be executed unless the rates are approved by the Project Manager, on the written advice of the employer.

12.0 SUSPENSION OF WORKS:

- 12.1 The contractor shall, on receipt of the order in writing of the Project Manager suspend the progress of the works or any part thereof for such time in such a

manner as the Project Manager may consider necessary for any of the following reasons:

- 12.1.1** On account of any default on part of the contractor.
- 12.1.2** For immortal execution of the works or part there of for reasons other than the default of the contractor.
- 12.1.3** For safety of the works or part thereof.

The contractor shall, during such suspension, properly protect and secure the works to the extent necessary and carry out the instructions given in that behalf by the Project Manager.

- 12.1.4** If the suspension is ordered for reason described in 12.1.2 and 12.1.3, then the contractor shall be entitled to an extension of time equal to the period of every suspension PLUS 25 % of the suspension period.

13.0 TIME AND EXTENSION FOR DELAY :

- 13.1** The time allowed for execution of the works, or the extended time in accordance with these conditions shall be the essence of the contract. The work shall be commence from the 05th day after the date of work order issued by the Project Manager or from the date of handing over of the site whichever is later. If the contractor commits default in commencing the work as aforesaid, the employer shall without prejudice to any other right or remedy be at liberty to cancel the contract.

- 13.2** The contractor shall produce before starting of the work at site, a time and planned progress chart in the form of PERT/CPM chart. This PERT/CPM chart shall, after acceptance by the Project Manager, become part of the tender documents and the contractor shall ensure a good progress accordingly.

- 13.3** If the works be delayed by force majeure, or abnormally bad weather, or serious loss or damage by fire, or civil commotion, local combination of workmen, strike or lockout, affecting any of the trades employed on the work, or delay on the part of other contractors or trades men engaged by the Employer in executing work not forming part of the contract, or non availability of the material and stores, which are the responsibility of the Employer to supply , or non availability of Tools and plant to be supplied by the Employer , or any other cause whatsoever, which in the absolute discretion of the Employer, is beyond the contractor's control, then upon the happening of any such event causing delay, the contractor shall immediately give notice thereof in writing to the Project Manager but shall never the less use constantly his best endeavour to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of the Project Manager to proceed with the works

- 13.4** Request for extension of time, to be eligible for consideration, shall be made by the contractor in writing as per hindrance register (Clause no.28) within fourteen days of the happening of the event causing delay. The contractor may also, if practicable, indicate in such a request the period for which extension is desired.

- 13.5** In any such case the Accepting Authority may give a fair and reasonable extension of time for completion of the work. Such extension shall be communicated to the contractor by the Project Manager in writing within one month of the date of receipt of such request by the Project Manager

14.0 PLANT AND EQUIPMENT:

The contractor shall arrange at his own expense all tools, plants and equipment required for the satisfactory execution of the work, in such numbers or quantity as to meet the time of completion specified in the contract and to meet the approval of Project Manager.

15.0 MATERIALS TO BE PROVIDED :

15.1 Materials to be provided by the contractor.

The contractor shall, at his own expense, provide all materials required for the works other than those which are to be supplied by the Employer.

15.1.1 All materials to be provided by the contractor shall be in conformity with the specifications laid down in the contract or relevant IS: Codes or CPWD specifications and the contractor shall, if requested by the Project Manager furnish proof to the satisfaction of the Project Manager that the materials so comply.

15.1.2 The contractor shall, at his own expense and without delay, supply to the Project Manager samples of materials proposed to be used in works. If samples are not approved, the contractor shall forth with arrange to supply to the Project Manager for his approval fresh samples complying with the specifications laid in the contract. No claim whatsoever shall be entertained by the Employer on account of expenses involved in arranging material samples for the approval of Project Manager.

15.1.3 The Project Manager on the written advice of the employer shall have full powers to require removal of any or all of the materials brought to site by the contractor which are not in accordance with the Contract specifications or do not conform in character or quality to samples approved by him. In case of default on the part of the contractor in removing the rejected materials the Project Manager shall be at a liberty to have them removed by other means. The Project Manager shall have full powers to procure other proper materials to be substituted for rejected materials and in the event of the contractor refusing to comply, he may cause the same to be supplied by other means. All costs, which may attend upon such removal and / or substitution shall be borne by the contractor.

15.1.4 All charges on account of GST octroi, terminal or sale tax and other duties on materials obtained for the works from any source (excluding materials supplied by the Employer) shall be borne by the contractor.

15.1.5 The Project Manager shall be entitled to have tests carried out as specified in the contract or relevant IS: code or CPWD specifications for any material supplied by the contractor other than those for which as stated above, satisfactory proof has already been furnished, at the cost of the contractor and the contractor shall provide at his expense all facilities which the Project Manager required for the purpose and the charges for these tests shall be borne by the contractor only if the tests disclose that the said materials are not in accordance with the provisions of the contract or relevant IS: codes or CPWD specifications.

How ever the cost of materials consumed in all the tests shall be borne by the contractor in all cases except when otherwise provided.

15.2 The materials to be supplied by the Employer:

Materials to be supplied by the Employer for the purpose of incorporation or use on the main works only, are **Concrete (Ready Mix Concrete) and Reinforcement Steel** which also stipulates place of issue and rate(s) inclusive of sale tax, excise duty, GST, octroi and local taxes to be charged in respect thereof. No materials shall be provided by the Employer for the contractor's temporary works (site offices, stores, godowns, platforms etc.) and the contractor has to make his own arrangements. The contractor should satisfy himself before incorporating the materials in items of work, that all the materials being provided by the Employer to him are in conformity with the specifications laid down in the contract or relevant IS codes or CPWD specifications and the contractor shall, if necessary obtain the proof from the Project Manager that the materials so comply.

15.2.1 If after acceptance of the tender the contractor desires the Employer to supply any other materials, such materials may be supplied by the Employer, if available, at rates to be fixed by the Accepting Authority.

15.2.2 The contractor shall give adequate notice of minimum four weeks in advance, in writing to the Project Manager, of the quantum of materials (to be supplied by the Employer) he may be required for the execution of the works. The contractor shall keep himself in touch with day to day position regarding the supply of materials from the Employer and so adjust the progress of the works that the labor may not remain idle nor there be any other claim due to or arising from delay in obtaining the materials.

15.2.3 The Employer shall bear the cost of loading, transporting to site from place of issue, unloading, storing under cover as required, assembling and joining the several parts together as necessary and incorporating or fixing materials in the works including all preparatory work of whatever description as may be required.

15.2.4 All materials issued by the Employer for incorporation or fixing in the works (including preparatory work) shall, on completion or on foreclosure of the works, be returned by the contractor at his expense, at the place of issue, after making due allowance for actual consumption, reasonable wear and tear and / or waste. The decision of Project Manager regarding the wear and tear and / or wastage of materials is final and binding on the contractor. If the contractor is required to deliver such materials at a place other than the place of issue, he shall do as and the transportation charges from the Site to such place, less the transportation charges which would have been incurred by the contractor had such materials been delivered at the place of issue, shall be borne by the Employer.

15.2.5 Surplus materials returned by the contractor shall be credited to him by the Project Manager at rates not exceeding those at which these were originally issued to him after taking into consideration any deterioration or damage, which may have been caused to the said materials which in the custody of the contractor. The decision of the Project Manager regarding the wastage, damage and deterioration of the materials shall be final and binding on the contractor.

15.2.6 If on completion of works, the contractor fails to return surplus materials out of those supplied by the Employer, then in addition to any other liability which the contractor would incur, the Project Manager may, be a written notice to the contractor, require him to pay within a fortnight of receipt of the notice, for such un returned surplus materials, except scraps, at double the issue rates. Scraps of reinforcing steel (bars which are shorter than 1.5 meter length shall be considered as scrap), structural steel (members which are shorter than 1.0 meter length shall be considered as scrap). CGI and plain GI sheets will not be accepted.

- 15.2.7 Cement godown shall be provided with two locks on each door. The key of one lock at each door shall remain with the Project Manager or his representative and that of other lock with the contractor's authorized agent at site of works so that cement is removed with the knowledge of both parties.

General

- 15.3.1 Any defects arising in items of work due to the use of poor quality of materials whether supplied by the Employer or the contractor, shall be rectified by the contractor at his own cost without any extra claim.
- 15.3.2 Materials required for the works, whether brought by the contractor or supplied by the Employer, shall be stored by the contractor only at places approved by the Project Manager. Storage and safe custody of materials shall be the responsibility of the contractor.
- 15.3.3 Employer's official and consulting architects & Project Manager representatives concerned with the contract shall be entitled at any time to inspect and examine any materials intended to be used in or on the works, either on the site or at factory or workshop or other place(s) where such materials are assembled /fabricated/ manufactured or at any place(s) where these are lying or from which these are being obtained and the contractor shall give such facilities as may be required for such inspection and examination.
- 15.3.4 All materials brought to the site shall become and remain the property of the Employer and shall not be removed off the site without the prior written approval of the Project Manager. But whenever the works are finally completed and advance, if any, in respect of any such material is fully recovered, the contractor shall, at his own expense, forthwith remove from the site all surplus materials originally supplied by him and upon such removal, the same shall become the property of the contractor.

16.0 LABOUR :

- 16.1 The contractor shall employ labor in sufficient numbers either directly or through sub-contractors, where such subletting is permitted, to maintain the required rate of progress and of quality to ensure workmanship of the degree specified in the contract and to the satisfaction of the Project Manager. The contractor shall not employ in connection with the works any person who has not completed his Eighteenth year of age.
- 16.2 The contractor shall comply with the provisions of the payment of Wages Act-1936, Minimum Wages Act-1948, Employer's Liability Act-1938, Work Men Compensation Act-1923, Industrial Dispute Act-1947, Maternity Benefit Act-1961, Mines Act-1952, The Employees State Insurance Act-1948, Contract Labor (Regulation and Abolition) Act-1970, Safety Code and Labor Welfare Acts, or rules or any modifications thereof or any other law relating thereto and rules made there under from time to time.
- 16.3 The contractor shall indemnify the Employer against any payments to be made under and for observance of the Regulations aforesaid without prejudice to his right to claim indemnity from his sub- Contractors.

- 16.4 Medical facilities at site: The contractor shall provide medical facilities at site as may be prescribed by the Project Manager on the advise of employer in relation to the strength of the contractors resident staff and work man directly or through petty contractors or sub contractors employed on the work.
- 16.5 Use of intoxicants: the sale of ardent spirits or other intoxicating beverages upon the work or in any of the building, encampments or tenements owned, occupied by or within the control of the contractors or any of his employees directly or through petty contractors or sub contractors employed on the work shall be forbidden and contractor shall exercise his influence and authority to the utmost extent to secure strict compliance with this condition.

17.0 SETTING OUT THE WORKS:

The contractor shall provide all labor and setting out apparatus required and set out the works and be responsible for the true and perfect setting of the same and for the correctness of the positions, levels, dimension and alignments of all parts thereof. He shall amend at his own cost to the satisfaction of the Project Manager, any error found at any stage which may arise through inaccurate setting out.

18.0 SITE DRAINAGE:

- 18.1 All water that may accumulate on the site during the progress of the works, or in trenches and excavations, from other than the expected risks shall be removed from the site to the satisfaction of the Project Manager and at the contractor's expense.
- 18.2 Nuisance: The contractor shall not at any time do, cause or permit any nuisance on the site or do anything which shall cause unreasonable disturbance or inconvenience to owners, tenants or occupiers of other properties near the site and to the public generally.

19.0 MATERIALS OBTAINED FROM EXCAVATION:

Materials of any kind obtained from excavation on the site shall remain in the property of the Employer and shall be disposed of as the Project Manager may direct.

20.0 TREASURE TROVE, FOSSIL ETC.

- 20.1 All fossils, coins, articles of value or antiquity and structures and other remains or things of geographical interest discovered on the site shall be the absolute property of the Employer and the contractor shall take reasonable precautions to prevent his workmen or any other persons from removing or damaging any such articles or things and shall immediately upon discovery thereof and before removal acquaint the Project Manager with such discovery and carry out the Project Manager's directions as to the disposal of the same at the expense of the Employer.

21.0 PROTECTION OF TREES, WATCHING AND LIGHTING.

- 21.1 Trees designated by the Project Manager shall be protected from damages during the course of the works and earth level within 1 meter of each such tree shall not be changed. Where necessary, such tree shall be protected by providing temporary fencing at the contractor's expense.
- 21.2 The contractor shall provide and maintain at his own expense all lights, guards, fencing and watching when and where necessary or required for the protection and safety of all the material, equipment on the site and also the safety and convenience of those employed on the works or the public.

22.0 PATENT RIGHTS:

- 22.1 The contractor shall indemnify the Employer against all claims in respect of patent rights and shall defend all actions arising from such claims unless he has informed the Employer before any such infringement and received his permission to proceed and shall himself pay all royalties, license fees, damages, costs and charges that may be legally incurred in respect thereof.

23.0 CONTRACTORS SUPERVISION :

- 23.1 The contractor shall either himself supervise the execution of the works or shall appoint a qualified engineer approved by the Project Manager to act in his stead. If the contractor fails to appoint a suitable agent as directed by the Project Manager, the Project Manager shall have full powers to suspend the execution of the work until such date as a suitable agent is appointed and the contractor shall be held responsible for the delay so caused to the works. The contractor shall furnish qualified, competent and adequate staff as necessary for the proper administration, coordination and supervision of the work.

- 23.2 The contractor shall efficiently supervise his work using his best skill and attention. He shall carefully study and compare all drawings, specifications, and other instructions and shall at once report to the Project Manager, any error or omission which he may discover and shall subsequently proceed with the work in accordance with instructions from the Project Manager concerning such error or omission. Directions given to any contractor's superintendent for the project shall be binding as given to the contractor.

24.0 INSPECTION AND APPROVAL :

- 24.1 All works embracing more than one process shall be subject to examination and approval at each stage thereof and the contractor shall give due notice to the Project Manager or his authorized representative when each stage is ready. In default of such notice, the Project Manager shall be entitled to appraise the quality and extent thereof at the contractor's expense.

- 24.2 No work shall be covered up or put out of view without the approval of the Project Manager or his Authorized representative and the contractor shall accord full opportunity for examination and measurement of all elements of the substructure before permanent work is placed therein and all other works which are about to be covered up or put out of view. The contractor shall give due notice to Project Manager or his authorized representative whenever any such work of foundation is ready for examination and the Project Manager or his representative shall, without unreasonable delay, unless he considers it unnecessary and advises the contractor accordingly,

attend for the purpose of examining and measuring such work or of examining such foundation. In the event of failure of the contractor to give such notice he shall, if required by the Project Manager uncover such work at the contractor's expense.

24.3 Project Manager or any of his authorized representative concerned with the contract shall have power at any time to inspect and examine any part of the works and the contractor shall give such facilities as may be required for such inspection and examination.

25.0 REMOVAL OF WORKMEN:

25.1 The contractor shall employ in and about the execution of works only such persons as are skilled and experienced in their several trades and the Project Manager shall be at liberty to object to and require the contractor to remove from the works any person employed by the contractor in or about the execution of the works who in the opinion of the Project Manager misconduct himself or is incompetent or negligent in the proper performance and of his duties and such person shall not be again employed upon the works without permission of the Project Manager.

26.0 UNCOVERING AND MAKING GOOD:

The contractor shall uncover any part of the works and or make openings in or through the same as the Project Manager may from time to time direct for his verification and shall make good such part to the satisfaction of the Project Manager and if subsequently found on uncovering, to be executed in accordance with the contract, the expenses of uncovering and or making openings in or through reinstating and making good the same shall be borne by the Contractor. In any other case all such expenses shall be borne by the contractor.

27.0 WORK DURING NIGHT OR ON SUNDAYS AND HOLIDAYS:

Subject to any provisions to the contrary contained in the contract, if works have to be carried out during night or on Sundays or on authorized holidays, permission in writing of the Project Manager shall be obtained except when the work is unavoidable or absolutely necessary for the safety of life, property or works in which case the contractor shall immediately advise the Project Manager accordingly.

28.0 COMPLETION CERTIFICATE:

28.1 As soon as the work is completed the contractor shall give notice of such completion to the Project Manager and within 30 days of receipt of such notice Project Manager shall inspect the work and shall furnish the contractor with a certificate of Virtual Completion, indicating the date of such completion, defects to be rectified by the contractor, items for which payment shall be made at reduced rates and balance minor works if any, to be done by the contractor. The certificate of Virtual Completion shall be issued after it is verified by the Project Manager.

28.2 When the separate periods of completion have been specified for items or groups of items, the Project Manager shall issue separate Virtual Completion certificates for such items or groups of items. Such certificate shall be issued.

28.3 No Certificate of virtual Completion shall be issued, nor shall the work be considered to be completed till the contractor shall have removed from the premises on which the work has been executed all scaffolding, sheds labour and surplus materials (except such as are required for rectification defects), rubbish and all huts and sanitary arrangements required for his workmen on

the site in connection with the execution of the work and cleaned floor, gutters and drains, eased doors and sashes, oiled locks and fastenings, labeled keys clearly and handed them over to the Project Manager or his representative and made the whole premises fit for immediate occupations or use to satisfaction of the Project Manager.

28.4 If any time before completion of work, items or groups of items for which separate periods of completion have been specified, have been completed, the Project Manager with the consent of the contractor may take possession of any part of the same (any such part(s) being hereinafter in this condition referred to as 'the relevant part') then notwithstanding anything expressed or implied elsewhere in this contract.

28.4.1 Within thirty days of the date of completion of such item or group of items or possession of the relevant part, the Project Manager shall issue Virtual Completion certificate for the relevant part.

28.4.2 The defects liability period in respect of such items and the relevant part shall be deemed to have commenced from the certified date of Virtual Completion of such items or the relevant part as the case may be.

28.4.3 For the purpose of ascertaining compensation for delay under condition 29 in respect of any period during which the works are not complete, the relevant part will be deemed as a separate item or group, with date of Virtual Completion as given in the contract or as extended under condition 13 and actual date of Virtual Completion as certified by the Project Manager under this condition.

28.5 Hindrance Register :

A Hindrance Register shall be maintained at the site of work showing the items affected, the date on which the delay occurred and the date on which the delay was cleared. These entries shall be initialed by Project Manager as well as the contractor's authorized representative.

29.0 COMPENSATION FOR DELAY :

29.1 If the contractor fails to maintain the required progress as per clause 13 or to complete the work and clear the site on or before the contract period or extended date-period of completion, he shall without prejudice to any other right or remedy of the Employer on account of such breach, pay as agreed, compensation amount calculated as stipulated in Appendix-I as "Compensation for delay" for the period during which the said work shall remain incomplete and or for the period during which the progress remains unsatisfactory or not conforming to that agreed as per clause 13.

29.2 This will also apply to items or groups of items for which separate period of completion has been specified.

29.3 The total compensation for delay shall further be subject to an overall maximum of 5 % (Five percent) of the contract amount as awarded. In case of compensation for delay, in accordance with the above provision accrue to a maximum limit of 5% of the contract amount, the Employer shall be at liberty to rescind the contract and get it completed entirely at all the risk and cost of the contractor, through any agency the Employer decided to appoint. All extra expenses incurred shall be recoverable from any money due to the contractor or lying to his credit with the Employer.

- 29.4 The amount of compensation may be adjusted or set off against any sum payable to the contractor under this or any other contract with the employer.

30.0 DEFECTS LIABILITY PERIOD:

- 30.1 The Defects Liability period shall commence from the date of virtual completion as mentioned in the certificate of Virtual Completion issued by the Project Manager to the contractor by a letter, hand delivered or sent by registered post. The duration of the defects liability period shall be specified in Appendix-1 . The contractor shall be responsible to make good and remedy at his own expense any defects, shrinkage, settlement or other faults which may be developed or may be noticed by the Project Manager or the consulting Architect or the Employer, within the defects liability period. For materials and workmanship not in accordance with the contract upon directions in writing of the Project Manager and within such reasonable time specified there in, the contractor shall amend and make good these at his own cost, unless the Project Manager shall decide that the contractor ought to be paid for such amendments and for making good. In case of default, the Employer may employ and pay other persons to amend and make good such defects, shrinkage, settlement or other faults, all damages, loss and expenses consequent therein or incidental thereto shall be made good and borne by the contractor and shall be recoverable from him by the Employer or may be deducted from any money due or that may become due to the contractor.

31.0 CONTRACTOR'S LIABILITY AND INSURANCE :

- 31.1 From commencement to completion of works, the contractor shall take full responsibility for the care thereof and for taking precautions to prevent or minimize loss or damage to the greatest extent possible and shall be liable for any damage or loss that may happen to the works or any part thereof and to all Employers Tools & Plants from any cause whatsoever (except the Expected Risks) and shall at his own cost repair and make good the same so that at completion of the works, all works and all Employer's Tools and Plants shall be in good order and condition and conforming in every respect with the requirements of the contract and instruction of the Project Manager.
- 31.2 The contractor shall be responsible for all injuries or damages to any person or animals or any property whatsoever, which may arise from carelessness, accident or any other cause whatsoever in any way connected with the carrying out of the contract. The contractor shall fully indemnify the Employer and hold him harmless in respect of all losses and claims and any expenses arising from such injuries or damage to any person or animals or any property whatsoever which may arise out of or in consequence of the construction and maintenance of the works and against all claims, demands, proceedings, damages, costs, charges and expenses whatsoever in respect of or in relation thereto. The contractor shall not be bound to indemnify the employer against any compensation or damage caused by the Expected Risks.
- 31.3 Before commencing execution of the work, the contractor shall, without in any way limiting his obligations and responsibilities under this condition, insure against any damage, loss or injury which may occur to any property (excluding that the Employer but including the employer's building rented by the contractor wholly or in a part and any part of which is used by him for storing combustible materials) or to any persons(including any employee of the Employer) by or arising out of the carrying out of the contract, by

keeping in force the " All Risk Policy " that shall cover Rs,100000/- (Rupees one lac only) for each accident for a maximum of ten accidents initially and to be renewed if required to cover subsequent accidents.

- 31.4 The contractor shall at all times indemnify the Employer against all claims, damages or compensation under the provision of payment of Wages Act-1936, Minimum Wages Act-1948, Employer's Liability Act-1938, Workmen's Compensation Act-1923, Industrial Disputes Act-1947, Maternity Benefit Act-1961, Mines Act-1952, The Employees State Insurance Act-1948, Contract Labor (Regulation and Abolition) Act-1970, Safety Code and Labor welfare Act or any modifications thereof or any other law relating thereto and rules made thereunder from time to time or as a consequence of any accident or injury to any workman or other persons in or about the works, whether in the employment of the contractor or not, except where such accident or injury has resulted from any act of Employer, his agent or servants and also against all costs, charges and Expenses of any law suit, action or proceedings arising out of such accident or injury and against all sum or sums which may, with the consent of the contractor, be paid to compromise or compound any claims, damages or compensation payable under the Workmen's Compensation Act- 1923, or any modification thereof or any other law relating thereto.
- 31.5 Immediately on signing of the contract, the contractor shall insure the work and keep them insured throughout the contract period including the defects liability period, at his own cost against loss or damage by fire and or earthquake with any Nationalized General Insurance Company in the Joint name of the Employer and Contractor for 15% of the value of the contract and the amount shall be progressively increased in advance as the work progress till it reaches the full amount or the modified amount of the contract. The contractor shall deposit the policy and receipt for the premium with the Employer within one month of the date of the commencement of the work. In the event of any fire and earthquake the contractor shall, as soon as the claim under the policy is settled or the work is reinstated by the Insurance Office should they elect to do so, proceed with all due diligence with the completion of the work in the same manner as though the fire and or earthquake had not occurred and in all respect under the same conditions of the contract. However, in case of rebuilding or reinstatement after fire and or earthquake, the contractor shall be entitled to such extension of time for completion as the Project Manager may deem fit.
- 31.6 The aforesaid Insurance policy / policies shall provide that they shall not be cancelled till the Project Manager has agreed to their cancellation. The contractor shall prove to the Project Manager from time to time that he has taken out all the Insurance policies' referred above and has paid the necessary premiums for keeping the policies alive till expiry of the Defects Liability Period.
- 31.7 The contractor shall ensure that similar insurance policies are taken out by his sub-contractors (if any) and shall be responsible for any claims or losses to the Employer resulting from their failure to obtain adequate insurance protection in connection thereof. The contractor shall produce or cause to be produced by his sub-contractors(if any) as the case may be, which may become due to the contractor or recover the same as a debt due from the contractor.
- 31.8 If the contractor and /or his sub-contractors (if any) shall fail to effect and keep in force the insurance referred to above or any other insurance which he /they may be required to effect under the terms of the contract then and

in any such case the Employer may without being bound to, effect and keep in force any such insurance and pay such premium or premiums as may be necessary for that purpose and from time to time deduct the amount so paid by the Employer from any money due or which may become due to the contractor or recover the same as a debt due from the contractor.

32.0 FACILITIES TO THE CONTRACTORS:

The contractor shall, in accordance with the requirement of the Project Manager afford all reasonable facilities to other contractors engaged simultaneously on separate contracts in connection with the works and for departmental labor and labor of any other properly authorized authority or statutory body which may be employed at the site on execution of any work not included in the contract or of any contract which the Employer may enter into in connection with or ancillary to the works.

33.0 NOTICES FROM LOCAL BODIES:

The contractor shall comply with and give all notices required under any Governmental authority, rule or order made under any Act of parliament, state laws or any regulation or bye-laws of any local authority relating to the works. The contractor shall before making any variation from the contract shall, before making any variation from the contract drawings necessitated by such compliance, give to the Project Manager and consulting Architects a written notice giving reasons for the proposed variation and obtain the instructions therein from the Project Manager and Consulting Architects.

The contractor shall pay and indemnify the Employer against any liability in respect of any fees or charges payable under any Act of Parliament, State laws or any Government Instrument, rule or order and any regulation or bye laws of any local authority in respect of the works, in force before the work is awarded to the contractor.

34.0 SUB-CONTRACTS:

The contractor shall not sublet any portion of the contract without prior written permission of the Accepting Authority.

35.0 INSTRUCTIONS AND NOTICES.

- 35.1 Subject as otherwise provided in the contract, all notices to be given on behalf of the Employer and all other actions to be taken on its behalf may be given or taken by the Project Manager or his authorized representative.
- 35.2 All instructions, notices and communications etc. under the contract shall be given in writing and if sent by registered post to the last known place of above or business of the contractor shall be deemed to have been served on the date when in the ordinary course of postal service these would have been delivered to him.
- 35.3 The contractor or his agent shall be attendance at the site during all working hours and shall superintend the execution of the works with such additional assistance in each trade as the Project Manager may consider necessary. Orders given to the contractor's agent shall be considered to have the same force as if they had been given to the contractor himself.

35.4 The Project Manager shall communicate or confirm his instructions to the contractor in respect of the execution of the work in a 'Works Site Order Book' maintained in the office of the Project Manager and the contractor or his authorized representative shall confirm receipt of such instructions by signing the relevant entries in this book. If required by the contractor, he shall be furnished a certified true copy of such instruction(s)

36.0 FORECLOSURE OF CONTRACT IN FULL OR IN PART DUE TO ABANDONMENT OR REDUCTION IN SCOPE OF WORK.

36.1 If at any time after acceptance of the tender, the Employer decided to abandon or reduce the scope of the works for any reason whatsoever and hence not require the whole or any part of the works to be carried out, the Project Manager shall give notice in writing to that effect to the contractor and the contractor shall have no claim to any payment of compensation or otherwise whatsoever, on account of any profit or advantage which he might have derived from the execution of the works in full but which he did not derive in consequence of the foreclosure of the whole or part of the works.

36.2 The contractor shall be paid at contract rates full amount for works executed at Site and in addition, a reasonable amount as certified by the Project Manager for the items hereunder mentioned which could not be utilized on the work to the full extent because of the foreclosure:

36.3 Any expenditure incurred on preliminary Site work, eg. Temporary access roads, temporary labor huts, staff quarters and site office, storage accommodation and water storage tanks.

36.4 The employer shall have the option to take over contractor's materials or any part thereof either brought to site or of which the contractor is legally bound to accept delivery from suppliers (for incorporation in or incidental to the work) provided however, the Employer shall be bound to take over the materials or such portions thereof as the contractor does not desire to retain.

36.5 For materials taken over or to be taken over by the Employer, cost of such materials is derived taking into account the purchase price, the cost of transportation and deterioration or damage which may have been caused to materials whilst in the custody of the contractor.

36.6 For contractor's materials not retained by the Employer, reasonable cost of transporting such materials from site to contractor's permanent stores or to his other works, whichever is less shall be paid. If materials are not transported to either of the said places, no cost of transportation shall be payable.

36.7 Reasonable compensation for transfer of equipment, tools and plant from site to contractor's permanent stores or his other works whichever is less. If these are not transported to either of the said places, no cost of transportation shall be payable.

36.8 If any material(s) supplied by the Employer are declared surplus, the same shall be returned by the contractor to the Employer at rates not exceeding those at which these were originally issued less allowance for any deterioration or damage which may have been caused whilst the materials were in the custody of the contractors. Cost of transporting such materials from site to the Employer's stores, if so required by the Project Manager will be borne by the Employer.

- 36.9 The contractor shall, if required by the Project Manager, furnish to him books of account, wage book, time sheets and other relevant documents as may be necessary to enable him to certify the reasonable amount payable under this condition.

37.0 TERMINATION OF CONTRACT FOR DEATH:

- 37.1 If the contractor is an individual or a proprietary concern and the individual or proprietor dies, and if the contractor is a partnership concern and one of the partner dies, then unless the Accepting Authority is satisfied that the legal representative of the individual contractor or of the proprietor of the proprietary concern, and in the case of partnership, the surviving partners are capable of carrying out and completing the contract, the Accepting Authority shall be entitled to cancel the contract as to its uncompleted part without the Employer being in any way liable to payment of any compensation to the estate of the deceased contractor and /or to the surviving partners of the contractor's firm on account of the cancellation of the contract.
- 37.2 The decision of the Accepting Authority that the legal representatives of the deceased contractor or the surviving partners of the contractor's firm cannot carry out and complete the contract shall be final binding on the parties. In the event of such cancellation, the Employer shall not hold the estate of the deceased contractor and /or surviving partners of the contractor's firm liable in damages for not completing the contract.

38.0 CANCELLATION OF CONTRACT IN FULL OR PART :

- 38.1 The Employer shall be empowered to cancel the contract in full or part without paying any compensation:
- 38.2 If the contractor, at any time makes default in proceeding with the works with due diligence and continues to do so after a notice in writing of 15 days from the Project Manager.
- 38.3 If the contractor, commits defaults in complying with any of the term and conditions of the contract and does not remedy it or take effective steps to remedy it within 15 days after a notice in writing is given to him in that behalf by the Project Manager.
- 38.4 If the contractor fails to complete the work or items work with individual dates of completion, as per the agreed PERT/CPM chart mentioned in clause 13 on or before the date(s) of completion, and does not complete them within the period specified in a notice given in writing in that behalf by the Project Manager.
- 38.5 If the contractor shall offer or give or agrees to give to any person in the Employer's service or to any other person on his behalf any gift or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of this or any other contract for the Employer.
- 38.6 If the contractor shall obtain a contract with the Employer as a result of ring tendering or other non-bonafide methods of competitive tendering; or
- If the contractor being an individual or if a firm, any partner thereof, shall at any time be adjusted insolvent, or have a receiver's order, or order for administration of his estate, made against him, or shall take up any proceedings for liquidation / composition (other than a voluntary liquidation

for the purpose of amalgamation or reconstruction) under any insolvency Act in force, or make any agreement for assignment of his effects or composition for the benefit of his creditors, or purport to do so, or if a trust deed be executed by him for the benefit of his creditors; or

If the contractor being a company, shall pass a resolution, or the Court shall make an order, for the liquidation of its affairs or a receiver or Manager on behalf of the debenture holder(s) shall be appointed, or circumstances shall arise which entitle the Court or debenture holder(s) to appoint a receiver or manager ; or

If the contractor assigns, transfer, sublets (engagement of labor on a piecework basis or of labor with materials not to be incorporated in the work, shall not be deemed to be subletting) or attempts to assign, transfer or sublet the entire works or any portion thereof without the prior written approval of the Accepting Authority, Accepting Authority may by written notice, without prejudice to any other right to remedy which shall have accrued or shall accrue thereafter to the Employer, cancel the contract as a whole or only such item of work in default from the contract.

- 38.7 The Accepting Authority shall on such cancellation have powers to:
- Take possession of the site and any materials, construction plant, implements, stores, etc. therein; and or
- 38.9.2** Carryout the incomplete work by any means AT THE RISK AND COST OF THE CONTRACTOR
- 38.10** On cancellation of the contract, in full or in part, the Project Manager shall determine what amount, if any, is recoverable from the contractor for completion of the work or part of the works or in case the works or part of the works is not to be completed, the loss or damage suffered by the Employer. In determining the amount, credit shall be given to the contractor for the value of the work executed by him up to the time of cancellation, the value of contractor's materials taken over and incorporated in the work, and use of plant and machinery belonging to the contractor.
- 38.11** Any excess expenditure incurred, or to be incurred by the Employer in completing the works or part of the works or the excess loss or damage suffered or may be suffered by the Employer as aforesaid, after allowing such credit as mentioned herein before shall be recovered from any money due to the contractor on any account; and if such money are not sufficient, the contractor shall be called upon in writing to pay the same within 30 days.
- 38.12 If the contractor shall fail to pay the required sum within the aforesaid period of 30 days, the Project Manager shall have the right to sell or any or all of the contractor's temporary buildings, equipment, materials etc. and apply the proceeds of sale thereof towards the satisfaction of any sum due from the contractor under the contract, and if thereafter any balance is outstanding from the contractor, it shall be recovered in accordance with the provisions of the contract.
- 38.13 Any sum in excess of the amounts due to the Employer and unsold materials, constructional plant etc. shall be returned to the contractor, provided always that if cost or anticipated cost of the works is less than the amount which the contractor would have been paid had he completed the works or part of the works, such benefit shall not accrue to the contractor.

39.0 CLAIMS AGAINST OBLIGATION OF THE CONTRACTOR OR SUB CONTRACTOR:

- 39.1 A payment made pursuant to article 39.1 is to the extent of the payment, a discharge of the employer liability to the contractor under the contract and may be deducted from an amount payable to the contractor under the contract.
- 39.2 To the extent that the circumstances of the work being performed for the employer permit, the contractor shall comply with all laws in force in the country where the work is being performed relating to the payment periods, mandatory hold backs, and creation and enforcement of mechanics liens.
- 39.3 The contractor shall discharge his entire lawful obligation and shall satisfy all lawful claims against him arising out of the performance of the work at least as often as the contract requires the employer to pay the contractor.
- 39.4 The contractor shall, whenever requested to do so by the employer's representative, make a statutory declaration depositing to existences and condition of any claims referred to in article 39.4
- 39.5 Article 39.1 shall only apply to claims and obligations that have been received by the employer's representative in writing before payment to the contractor pursuant to the 'Terms of Payment' and within 120 days after a claimant.

should have been paid in full under his contract with the contractor or subcontractor where the claim is for money that was lawful required to be held back from the claimant ; or

performed the last of the services, work or labor, or furnished the last of the material pursuant to his contract with the contractor or sub contractor, where the claim is not for money referred to in article 39.6.1

40.0 LIABILITY FOR DAMAGES, DEFECTS, IMPERFECTIONS AND RECTIFICATIONS THERE OF.

- 40.1 If the contractor or his work men or employees shall injure or destroy any part of the building in which they may be working, or any building, road, fence etc. contiguous to the premises on which the work or any part of it is being executed, or if any damages shall happen to the work while in progress, the contractor shall, upon receipt of a notice in writing in that behalf, make the same good as his own expense. If it shall appear to the Project Manager or his representative at any time during construction or re-construction or prior to the expiration of the defects liability period, that any work has been executed with unsound, imperfect or unskilled workmanship or that any materials or articles provided by the contractor for execution of the work are unsound or of a quality inferior to that contracted for, or otherwise not in accordance with the contract, or that any defect, arising out of defective or improper materials or workmanship, the contractor shall upon receipt of a notice in writing in that behalf from the Project Manager forthwith rectify or remove and re-construct the work so specified in whole or part, and/ or remove the materials or articles so specified and provide other proper and suitable materials or articles at his own expense, notwithstanding that the same may have been inadvertently passed, certified and paid for, and in the event of his failing to do so within the period to be specified by the Project Manager in his notice aforesaid, the Project Manager may rectify or remove and replace with other the materials or articles complained of by other means AT THE RISK AND EXPENSE OF THE CONTRACTOR.

40.2 In case of repairs and rectification works, splashes and droppings from white washing, painting, etc. shall be removed and surfaces cleaned simultaneously with completion of these items of work in individual rooms, areas etc. where the work is done, without waiting completion of all other items of work in the contract. In the case the contractor fails to comply with the requirements of this condition, the Project Manager shall have the right to get the work done by other means at the cost of the contractor. Before taking such action, however, the Project Manager shall give three days notice in writing to the contractor.

41.0 URGENT WORKS:

If any urgent work (in respect whereof the decision of the Project Manager shall be final and binding) becomes necessary and the contractor is unable or unwilling at once to carry it out, the Project Manager may, by his own or other working people, carry it out as he may consider as necessary. If the urgent work shall be such as the contractor is liable under the contract to carry out at his expense, all expenses incurred on it by the employer shall be recoverable from the contractor and be adjusted or set off against any sum payable to him.

42.0 CHANGES IN CONSTITUTION:

Where the contractor is a partnership firm, prior approval in writing of the Accepting Authority shall be obtained before any change is made in the constitution of the firm. Where the contractor is an individual or a Hindu Undivided Family business concern, such approval as aforesaid shall likewise be obtained before the contractor enters into any partnership agreement where under the partnership firm would have the right to carry out the work hereby undertaken by the contractor. If prior approval as aforesaid is not obtained the contract shall be deemed to have been assigned in contravention of condition 38.0 hereof and same action may be taken and the same consequences shall ensure as provided for in the said condition 38.0.

43.0 VALUATION AND PAYMENT:

43.1 The Project Manager shall, except as otherwise stated, ascertain and determine by measurement the value in accordance with the contract of the work done in accordance therewith.

43.2 All items having a financial value shall be entered in measurement Book(s), prescribed by the Employer, so that a complete record is obtained of all work performed under the contract.

43.3 Measurement shall be taken jointly by the Project Manager, and by the contractor or his authorized representative.

43.4 Before taking measurement of any work, the Project Manager or the person reputed by him for the purpose shall give a reasonable notice of one weeks time to the contractor. If the contractor fails to attend or send an authorized representative for measurement after such a notice or fails to countersign or to record the measurements within a week from the date of giving such notice, then in any such event measurements taken by the Project Manager or by the person deputed by him shall be taken to be the correct measurements of the work.

- 43.5** The contractor shall, without extra charges, provide assistance with every appliance, labor and other things necessary for measurements.
- 43.6** Measurement shall be signed and dated by both the parties each day on the site on completion of measurements. If the contractor objects to any of the measurements recorded on behalf of the Employer, a note to that effects shall be made in the Measurement Book against the item objected to and such note shall be signed and dated by both parties engaged in taking the measurements.
- 43.7** Measurement shall be taken only for complete work. Measurement of any incomplete work will not be considered in Bill
- 43.8** The Contractor's representative will submit the RFI (Request for Inspection) to the Project Manager one day before to start the any Work.
- 43.9** The Contractor will keep the record of every materials received on site and They will submit the challan of materials to the Project Manager.

44.0 METHODS OF MEASUREMENT:

Measurements shall be taken as per specification set forth in the Specifications and Schedule of Quantities notwithstanding any provision in the relevant Standard Method of Measurement or any general or local custom. In case of items which are not covered by the specifications and Schedule of Quantities, measurement shall be taken in accordance with the relevant Standard Method of Measurement issued by the Indian Standards Institution.

45.0 PAYMENT ON ACCOUNT:

45.1 The contractor shall submit interim bills, for the work executed, at intervals mentioned in Appendix I on or before the date fixed by the Project Manager and the amount of interim bill should be minimum **Rs 10,00,000/-**.. The Project Manager shall then arrange to have the bill verified within a span of 10 days from the date of bill submission by the contractor, by taking or causing to be taken where necessary, the requisite measurement of the work and issue the certificate of payment with in a span of 12 days from the date of bill submission by the contractor. The Employer shall make the payment to the contractor within 7 days from the date of issue of the certificate of payment.

45.2 **The Interim Bill shall be supported by:-**

- 45.2.1 Detailed Measurement and duly signed JMR Copy.
- 45.2.2 Reconciliation of Consumed Materials Which are calming in Bill.
- 45.2.3 Challan/Invoice of materials.
- 45.2.4 MTC (Material Testing Certificate)
- 45.2.5 MIR (Material Investigation Report)
- 45.2.6 IR (Inspection Reprt)

45.3 Payment on account for the amount admissible shall be made by the Project Manager, certifying the sum to which the contractor is considered entitled by way of interim payment for the following:

45.3.1 All works executed, after deducting therefrom the amount already paid, the security deposit and such other amounts as may be deductible or recoverable in terms of the contract.

45.3.2 The advance payment under clause 45.2.2 shall be adjusted as and when materials are utilized in the works.

45.3.3 All interim payment made to the contractor shall be considered as advance payments made to him towards the final bill. Any interim certificate given to the work done or materials delivered may be modified or corrected by any subsequent interim certificate or by the final certificate. No certificate of the Project Manager, supporting an interim payment shall itself be conclusive evidence that any work or materials to which it relates is/ are in accordance with the contract.

Pending consideration of extension of date of completion interim payment shall continue to be made as herein provided.

45.3.4 ESI and PF of workers will be included as part of the rates.

46.0 TIME LIMIT FOR PAYMENT OF FINAL BILL:

46.1 The contractor shall submit the final bill WITHIN ONE MONTHS of Virtual Completion of the works to be certified by the Project Manager. No further claim shall be made by the contractor after submission of the final bill and these shall be deemed to have been waived and extinguished. The final bill shall be accompanied by the same detail as for the Interim bills, except for the following additional details:

46.1.1 All written guarantees and warranties required by the contract documents.

46.1.2 Two copies of as built drawings including one set of drawings on reproducible tracing film.

46.1.3 Operation and maintenance manuals and instructions for equipment and apparatus.

Payment of those items of the final bill in respect of which there is no dispute, and for those items which are in dispute, payment shall be made as per quantities and rates approved by the Project Manager, within 3 months, the period being reckoned from the date of receipt of the bill by Project Manager.

After payment has been made of the amount of the final bill payable as aforesaid, the contractor may, if he so desires, reconsider his position in respect of the disputed portion of the final bill and if he fails to do so within 90 days, his disputed claim shall be dealt with as provided in the contract.

47.0 ESCALATION:

47.1 Rates quoted shall be firm for the entire duration of the execution of the project in all respects in. If after submission of the tender and/ or during the progress of the work under this contract, increase in price of the materials and / or labor wages and / or diesel takes place more than 3%, then rate will be revised and paid by Employer .

48.0 OVER PAYMENTS AND UNDER PAYMENTS :

48.1 Whenever any claim for the payment of a sum of money to the Employer arises out of or under this contract against the contractor, the same may be deducted by the Employer from any sum then due or which at any time thereafter may become due to the contractor under this contract, and failing that under any other contract, with the Employer or from any other sum due to the contractor from the Employer (which may be available with the Employer) or from his security deposit, or he shall pay the claim on demand.

The Employer reserves the right to carry out post payment audit and technical examination of the final bill, including all supporting vouchers, abstracts etc. The Employer further reserves the right to enforce recovery of any over payment when detected, notwithstanding the fact that the amount of final bill may be included by one of the parties as an item of dispute before an arbitrator appointed under Condition 48 of this contract, and notwithstanding the fact that the amount of the final bill figures in the arbitration award.

If as a result of such audit and technical examination any overpayment is discovered in respect of any work done by the contractor or alleged to have been done by him under the contract, it shall be recovered by the Employer from the contractor by any or all of the methods prescribed above, or if any underpayment is discovered, the amount shall be duly paid by the contractor / by the Employer.

Provided that the aforesaid right of the Employer to adjust overpayments against amount due to the contractor under any other contract with the Employer shall not extend beyond the period of two years from the date of payment of final bill or in case the final bill is a MINUS bill, from the date the amount payable by the contractor under the Minus final bill is communicated to the contractor.

Any amount due to the contractor under this contract for under payment may be adjusted against any amount then due or which may at any time thereafter become due before payment is made to the contractor, from him to the Employer on any other contract or account whatsoever.

49.0 ARBITRATION :

The parties shall endeavor in good faith to resolve amicably all questions, differences or disputes whatsoever which may arise between the Parties, regarding the interpretation of any provision of this Contract or any other agreements entered into pursuant to this Contract.

All questions, disputes or difference between the parties connected with the terms, construction of this Contract or otherwise shall be referred to arbitration of a sole arbitrator to be appointed by **M/s Star Paper Ltd.** The provisions of the Arbitration & Conciliation Act, 1996 or any re-enactment or statutory modification thereof for the time being in force shall be applicable for the settlement of the dispute. The decision of the arbitrator shall be final and binding on the parties. The venue of arbitration shall be at **Uttar Pradesh** and the language of arbitration shall be ENGLISH.

50.0 LAWS GOVERNING THE CONTRACT :

This contract shall be governed by the Indian laws for the time being in force and the court of jurisdiction will be **Uttar Pradesh.**

51.0 DETERMINATION OF CONTRACT :

51.1 Right of Owner to determine contract : The Owner shall be entitled to determine and terminate the contract at any time should, in the owners 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 rates specified in the contract. notice in writing from the Owner of such determination and the reason therefor shall be conclusive evidence thereof.

51.2 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 works, the owner shall admit and consider such claims as are deemed reasonable and are supported by the vouchers to the satisfaction of the Project Manager. The contractor shall have no claim to any payment of compensation or otherwise how so ever 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 the determination of the contract. The owners decision on the necessity and propriety of such expenditure shall be final and conclusive.

52.0 Determination of contract owing to default of contractor :

If the contractor should :-

- a. Become Bankrupt or insolvent, or
- b. Make an arrangement with or assignment in favor of his creditors, or agree to carry out the contract under a Committee or Inspection of his creditors, or
- c. Being a Company or Corporation, go into liquidation (other than a voluntary liquidation for the purpose of amalgamation or reconstruction) or
- d. Have an execution levied on his good or property on the works, or
- e. Assign the contract or any part thereof otherwise than as provided in the Clause g of these conditions, or
- f. Abandon the contract, or
- g. Persistently disregard the instructions on the Project Manager or contravene any provision of the contract, or
- h. Fail to adhere to the agreed program of work by a margin of 10% of the stipulated period, or
- i. Fail to remove materials from the site or to pull down and replace work after receiving from the Project Managers notice to the effect that said materials or works have been condemned or rejected.
- j. Fail to take steps to employ competent or additional staff and labor as required or.
- k. Fail to afford the Project Manager or Project Manager's representative proper facilities for inspecting the works or any part thereof as required

- I. 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 owner or to any person on his – or – on their behalf in relation to the execution of this or any other contract with the owner.

Right of owner after rescission of contract owing to default of contractor.

- 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 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 there to for actually performed under the contract, unless and until the Project Manager shall have certified the performance of such work and the value payable in respect there of and the contractor shall only be entitled to be paid the value so certified.
- b) The Project Manager or the Project Manager'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 retain and employ the same in the future execution of the works or any part there of 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 Project Manager shall, as soon as may be practicable after removal of the contract fix and determine ex-part or by or after reference to the parties or after such investigation or inquires 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 plant and any temporary works upon the site.
- d) The owner shall not be liable to pay contractor any moneys on account of the contract until the expiration of the period of the maintenance and thereafter until the costs of completion and the maintenance damages for delay in completion (if any) and all other expenses incurred by the owner have been ascertained and the amount there of certified by the Project Manager. The contractor shall then be entitled to receive only such sum or sums (if any) as the Project Manager may certify would have been due to him upon due completion by him after deduction the said amount, but if such amount shall exceed the sum which would have been payable to the contractor, then the contractor shall upon demand pay to the owner the amount of such excess and it shall be deemed a debit due by the contractor to the owner and shall be recoverable accordingly.

53.0 Records to be kept by contractor :

53.1 The contractor shall :

53.1.1 Maintain full record of his estimated and actual cost of the work together with all tender calls, quotations, contracts, invoices, receipts and vouchers relating thereto and

53.1.2 Make all records and material available to audit and inspection by the owner representative or person acting on behalf of them, when requested.

53.2 The records maintained by the contractor shall be kept intact by the contractor until the expiration of two years after the date of Final Certificate

of Completion was issued or until the expiration of such other period of time as the 6 months.

53.3 The contractor shall cause all subcontractors and all other persons directly or indirectly controlled by or affiliated with the contractor and all persons directly or indirectly having control of the contractor to comply as if they were the contractor.

54.0 Coordination of Traders :

54.1 The contractor shall coordinate, organize, control and be responsible for the work of all traders. Each trade must obtain approval of the contractor, prior to performing work ensuring the work does not conflict with the work of other traders and / or existing work.

54.2 where the work of any trader shall be installed in close proximity to or shall interfere with, existing work or the work of the other trades necessary modifications shall be made under the direction of the contractor and the owners representatives approval at no additional cost to the owner.

54.3 All additional costs to remove, replace, correct and / or modify the work of traders to achieve proper coordination shall be paid by the contractor.

54.4 It is the responsibilities of the general contractor to coordinate with the mechanical and electrical traders so that all their items, such as electrical switches, lights, pull stations, outlets, etc are not installed prior to review of their location with the owner representative. These items when located on a delineated wall surface, or between a patterned grooved revealed or trimmed surface, or on a column, post etc. must be centered and mounted at the same height, or mounted one directly above the other, regardless of the mounting heights shown on the electrical or mechanical drawings and specifications.

54.5 All end of line resistors must be located in non-public or low –use corridors or rooms whether shown on the electrical drawings in these locations or not. All their location must be approved by the owner representative before installation.

54.6 This project is designed to conform to imperial measurement and standards. If any specified materials or equipment are available only in metric measurements, the contractor shall be responsible for the coordination of all imperial and metric measurement and shall ensure all trades and all parts of the work fit to together properly.

54.7 Any discrepancies in the drawings, details, schedules or specifications or between these documents and the site conditions, shall be clarified with the owner representative prior to doing the work. Contractor shall include, at no cost to the owner, the most expensive condition.

55.0 Return Security deposit:

55.1 After an Interim Certificate of completion has been issued, the owner shall, if the contractor is not in breach of or in default under the contract, return to the contractor all or any part of the security deposit that, in the opinion of the owner, is not required for the purpose of the contract.

55.2 After a final certificate of completion has been issued, the owner shall return to the contractor the remainder of any security deposit unless the contract stipulates otherwise.

56.0 Matters Finally Determined by the Owner :

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 owner, and the owner shall within a reasonable time after receipt of the contractor's representation make and notify decision on all matters referred to by the contractor in writing, provided that matters for which provision has been made of the General Conditions of the contract or in any clause of the special conditions of the contract shall be deemed as 'excepted matters' and decisions 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 and not be referred to arbitration.

57.0 Eligibility Criteria of Contractor.

57.1.1 The Contractor has completed a project of minimum cost of 6Crores in the last one year.

57.1.2 The Contractor has completed two projects of minimum cost of 3Crores in last one year.

APPENDIX-1

1	Accepting Authority	M/s Star Paper Ltd.
2	Percentage addition to cover profit and over heads of contractor in rate analysis while working out market rates	15%
3	Security Deposit	Deducted 5% of each interim bill
4	Date of completion Days after commencement of work
5	Liquidated Damages	2% of the value of unfinished work per week of delay, up to a maximum of 10%
6	Defects Liability Period	Twelve months from the date of issue of Virtual Completion Certificate by the Consultant Ten years for all Water proofing works viz. Toilets, tanks
7	Interim Bills	Fortnightly subject to a minimum of Rs. 10,00,000.00(rupees Ten Lacs Only)
8	Escalation	No-admissible
9	Period of final Measurement	One month after the completion

10	Date of commencement	From 10th day after issue of Letter of Intent/Work order whichever is earlier
11	Period of honouring	75% of payment will be made within 7 days of submission of Interim Certificate of bill and balance as per terms.
12	Retention Percentage	5% of the total cost of work executed for Interim certificate The retention money/security deposit would be in the form of bank guarantee
13	Instalments of refund of retention money after virtual completion.	50% (Fifty percent) of total retention money.
14	Court of Jurisdiction	Uttar Pradesh

Kind att. Mr.

DATE:- 31-08-2021

SUB: Pre-Bill of Quantity Of Retrofitting of Slab at Star Paper Ltd. Saharanpur

Ref. No: SC/1156/2021-22

S.NO.	DESCRIPTIONS	UNIT	QUANTITY	RATES	TOTAL
1	Removing/Chipping the weak/ affected carbonated concrete up to carbonated depth (50 mm average thick) by mechanical methods from R.C.C. structures including making square shoulders complete including removal of debris from all heights & levels.	SQM	3691.68		0
2	Cleaning reinforcement of total rust using alkaline chemical rust remover with paint brush and removing loose particles after 24 hours of its application with wire brush and thoroughly washing with water and allowing it to dry.	SQM	3691.68		0
3	Providing, mixing and applying over reinforcement bars, anti rust agent as per specifications and direction of engineer-in -charge	SQM	3691.68		0
4	Providing, mixing and applying bonding coat of epoxy adhesive on chipped portion of RCC for Micro concrete as per manufactures specifications and direction of Engineer-in-charge complete in all respects at all heights.	SQM	3691.68		0
5	Providing and fixing Reinforcement for RCC work including straightening, cutting, bending, binding welding and placing in position including the cost of 18 gauge annealed steel binding wire complete Cold twisted bars.	MT	41.25		0
6	Centering and shuttering including strutting, propping etc. and removal of form work for horizontal fins and chajjas etc. using ply/steel plates/steel mould	SQM	3589.91		0

7	Introducing new reinforcement bars for structural connections in RCC columns including power drilling holes of appropriate diameters in reinforced or plain cement concrete to a minimum depth of 150 mm up to 200 mm, fixing the reinforcement in position using epoxy (Hitly HY-HT-150 or Equivalent) at all height and level. (Rate shall include cost of labour, T & P for power drilling in concrete, epoxy cartridges, plastic nozzle etc. complete including cleaning the drilled holes and loose dust by blowing air. The cost of reinforcement shall be payable separately. (work may be executed by special agency as approved by Engineer-in-Charge				
A	10mm dia x 100 mm depth	NOS	11919.60		0
8	shear connector : providing & fixing of shear connector with uSing chemical fischer make hilti make hy170				
A	8 mm dia x 80 mm depth	NOS	39248.00		0
9	Providing and placing in portion Micro-concrete in columns, beams and Slab, which shall be ent based piepacked single component. chloride free, non-shrick, free flow, self denpacking, ready to use after mixing water in specified proportion obtained from approved ninsulin hures as per specification and directions of engineer-in-charge (payment under this item shall be made only after proper wet curing has been done and surface has been nisfactorily evaluated by sounding/tapping with a blunt metal instrument) as per direction of engineer-in-charge. Polymer used to have a minimum solid polymer content of 6% by weight				
9a	Without adding aggregate for small patch work	CUM			0
9b	With adding of 50% of agreegate for jacketing	CUM	269.24		0
10	Providing mixing and laying reinforced cement concrete of M25 grade as defined by IS 456 with 20 mm and down size aggregate in the beams/columns etc, vibrating temping.curing complete as per drawing and specification but excluding the cost of centering shuttering and reinforcement at all level and height,	CUM			0
10	Providing mixing and laying lean 75 mm thick Plain cement concrete of M7.5 grade as defined by IS 456 with 20 mm and down size aggregate on the terrace.	CUM	206.10		0
11	Shifting/Removal of mulba/rubbish from work site to outside the premises including unloading/shifting from roof level to ground level and disposal to the approved dumping	CUM			0
12	Cleaning the surface moistening and applying polymer based bonding coat slurry of approved brand and make then providing and placing in the position moicro-concrete,(PMC) which shall be cement based prepacked single component chloride free Non-shrink free flow self compacting ready to use after mixing water in specified proportion obtained from approved manufacturer as per specification and direction of Engineer-In-charge. Grade M-25 (average Thickness 50mm)	Sqm			
13	Providing mixing and applying upto 50 mm average thick acrylic based polymer modified mortar in columns and beams including trowelling etc. complete in the required proportion or polymner, cement and sand as per specifications and direction of engineer-in-charge. Polymer used shall have a minimum solid polymer content of 10% by weight of cement strength on 28 days Nmm2	SQM			0
14	Plaster work upto a thickness of 12-15mm with cement and scaffolding.	SQM			0
15	Removing old protection plaster on old waterproofed surface ,for doing fresh waterproofing using Fastflex of Pidilite and thereafter collecting and disposal of Malba.	SQM	4326.99		0

16	<p>Supplying and applying two coats Crystalline water proofing with 2 Component cementitious & acrylic flexible water proofing treatment at the top of slab of Non Tower area, i/c treating all joins and cracks , cutting groove along the junction of the base slab and wall, filling the opened joints with Dry Pack or polymer mortar (non-shrink mortar) using Dr. Fixit Fastflex of Pidilite industries as per manufacturer specifications and to the satisfaction of site incharge. Surface preparation on the entire area by dismantling to remove existing old mortar and by chiseling to remove any other loose lumps from the concrete. Surface Preparation by using Mechanical tools or by manually etc. (Contractor shall submit 10 years Guarantee Bond after completion of work)</p>	SQM	4327.00		0
TOTAL					0

For SANRACHNA SOLUTIONS LLP

Measurement Book

SI No	Description	Unit	Nos		Measurement			Quantity	Remarks
			N1	N2	Length (L)	Breadth (B)	Height/Depth (H)		
1.0	Chipping								
	First Floor								
	Slab	Sqm	11	1	26.53	5.200		1517.52	
	Slab	Sqm	5	1	34.16	5.200		888.16	
	Ground Floor	Sqm	16	1	5.50	10.800		950.40	
					Total Qty. (Sqm)			3356.08	
								3691.68	
2.0	10mm Rebar								
	S1	Nos	11	2	213			4686	
	S2	Nos	5	2	263			2630	
	Ground Floor	Nos	16	2	110			3520	
								10836	
3.0	Shuttering								
	First Floor								
	Slab	Sqm	11	1	26.53	5.000		1459.15	
	Slab	Sqm	5	1	34.16	5.000		854.00	
	Ground Floor	Sqm	16	1	5.50	10.800		950.40	
								3263.55	
								3589.91	
4.0	Micro Concreting								
	First Floor								
	Slab	Cum	11	1	26.53	5.000	0.075	109.44	
	Slab	Cum	5	1	34.16	5.000	0.075	64.05	
	Ground Floor	Cum	16	1	5.50	10.800	0.075	71.28	
								244.77	
								269.24	
5.0	PCC								
	First Floor								
	Slab	Cum	11	1	26.53	5.400	0.075	118.19	
	Slab	Cum	5	1	34.16	5.400	0.075	69.17	
								187.37	
6.0	Waterproofing								
	First Floor								
	Slab	Sqm	11	1	26.53	5.400		1575.88	
	Beam	Sqm	11	1	26.53	1.000		291.83	
	Slab	Sqm	8	1	40.35	5.400		1743.12	
	Beam	Sqm	8	1	40.35	1.000		322.80	
								3933.63	

STAR PAPER LTD.																		
STEEL QUANTITY																		
Sl No.	Description	Dia.	N1	N2	Length					Cutting Length	Total Length in Meters							Weight in KGS
					A	B	C	D	E		8mm	10mm	12mm	16mm	20mm	25mm	32mm	
	Footing+Plinth Beam										0.00	37502.92	0.00	0.00	0.00	0.00	0.00	
	Total Quantity of Steel in KGS										0.00	37502.92	0.00	0.00	0.00	0.00	0.00	
	Total Quantity of Steel in MT										37.503							
BAR BENDING SCHEDULE																		
	Description	Dia.	N1	N2	Length					Cutting Length	Total Length in Meters							Weight in KGS
					A	B	C	D	E		8mm	10mm	12mm	16mm	20mm	25mm	32mm	
	S1(26.53X5.2)																	
	Main Bar T10 @150C/C	10	11	178	0.49	5.20	0.49			6.18		12100.44					7465.97	
	Binder Bar T10 @150C/C	10	11	35	0.49	26.53	0.49			27.51		10591.35					6534.86	
	Lap	10	11	70	0.49					0.49		377.30					232.79	
	Shear Connector T10@150C/C	10	11	1602	0.10	0.05				0.25		4405.50					2718.19	
	S1(34.16X5.2)																	
	Main Bar T10 @150C/C	10	5	228	0.49	5.20	0.49			6.18		7045.20					4346.89	
	Binder Bar T10 @150C/C	10	5	35	0.49	34.16	0.49			35.14		6149.50					3794.24	
	Lap	10	5	70	0.49					0.49		171.50					105.82	
	Shear Connector T10@150C/C	10	5	2070	0.10	0.05				0.25		2587.50					1596.49	
	S1(10.8X5.5)																	
	Main Bar T10 @150C/C	10	16	73	0.49	5.50	0.49			6.48		7568.64					4669.85	
	Binder Bar T10 @150C/C	10	16	37	0.49	10.80	0.49			11.78		6973.76					4302.81	
	Shear Connector T10@150C/C	10	16	703	0.10	0.05				0.25		2812.00					1735.00	
	Diawise Total Quantity in Rmt										0.00	60782.69	0.00	0.00	0.00	0.00	0.00	
	Unit Weight in Kg/Rmt										0.40	0.62	0.89	1.58	2.47	3.86	6.32	
	Dia.wise total weight in Kgs										0.00	37502.92	0.00	0.00	0.00	0.00	0.00	

Kind att. Mr.

DATE:- 31-08-2021

SUB: Pre-Bill of Quantity Of Retrofitting of Columns at Star Paper Ltd. Saharanpur

Ref. No: SC/1154/2021-22

S.NO.	DESCRIPTIONS	UNIT	QUANTITY	RATES	TOTAL
1	Providing and erecting self supported steel scaffolding double row type using steel pipes for vertical, horizontal, diagonal bracing and ties etc, where ever required so as to make it rigid frame. Working platform shall be provided by using steel challies over MS pipes and per requirement complete in all respects including removing of scaffolding etc. as per directions of engineer-in-charge (elevation area shall be measured).	SQM	4019.31		0
2	Dismanteling unsound weak tie beams,RCC Floor and etc. manually or with power driven (Hilti-TE 504 or pneumatic chisel) as per direction of engineer-in-charge complete including lowering down and removing debris from site including necessary platform at all level and height etc.	SQM	816.80		0
3	Earth work in excavation by manually in foundations,trenches,side,pits and etc.including surface dressing.	CUM	1493.42		0
4	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering.	CUM	1349.06		0
5	Removing/Chipping the weak/ affected carbonated concrete up to carbonated depth (50 mm average thick) by mechanical methods from R.C.C. structures including making square shoulders complete including removal of debris from all heights & levels.	SQM	3667.42		0
6	Cleaning reinforcement of total rust using alkaline chemical rust remover with paint brush and removing loose particles after 24 hours of its application with wire brush and thoroughly washing with water and allowing it to dry.	SQM	3667.42		0
7	Providing, mixing and applying over reinforcement bars, anti rust agent as per specifications and direction of engineer-in -charge	SQM	3667.42		0
8	Providing, mixing and applying bonding coat of epoxy adhesive on chipped portion of RCC for Micro concrete as per manufactures specifications and direction of Engineer-in-charge complete in all respects at all heights.	SQM	3667.42		0
9	Providing and fixing Reinforcement for RCC work including straightening, cutting, bending, binding welding and placing in position including the cost of 18 gauge annealed steel binding wire complete Cold twisted bars.	MT	83.68		0
10	Centering and shuttering including strutting, propping etc. and removal of form work for horizontal fins and chajjas etc. using ply/steel plates/steel mould	SQM	4707.10		0

11	Introducing new reinforcement bars for structural connections in RCC columns including power drilling holes of appropriate diameters in reinforced or plain cement concrete to a minimum depth of 150 mm upto 200 mm, fixing the reinforcement in position using epoxy (Hitly HY-HT-150 or Equivalent) at all height and level. (Rate shall include cost of labour, T & P for power drilling in concrete, epoxy cartridges, plastic nozzle etc. complete including cleaning the drilled holes and loose dust by blowing air. The cost of reinforcement shall be payable separately. (work may be executed by special agency as approved by Engineer-in-Charge				
A	10mm dia x 100 mm depth	NOS			0
B	16mm dia x 160 mm depth	NOS	1272.00		0
C	20mm dia x 200 mm depth	NOS	1874.00		0
12	shear connector : providing & fixing of shear connector with uSing chemical fischer make hilti make hy170				
A	8 mm dia x 80 mm depth	NOS	88442.00		0
13	Providing and placing in poration Micro-concrete in columns and beams, which shall be ent based piepacked single component. chloride free, non-shrick, free flow, self denpacting, ready to use after mixing water in specified proportion obtained from approved ninsulin hures as per specification and directions of engineer-in-charge (payment under this item shall be made only after proper wet curing has been done and surface has been nisfactorily evaluated by sounding/tapping with a blunt metal instrument) as per direction of engineer-in-charge. Polymer used to have a minimum solid polymer content of 6% by weight				
13a	Without adding aggregate for small patch work	CUM			0
13b	With adding of 50% of agreegate for jacketing	CUM	319.00		0
14	Providing and laying in position Plain cement concrete of M7.5 grade including the cost of centering and shuttering - at all level and height.	CUM	62.23		0
15	Providing mixing and laying reinforced cement concrete of M25 grade as defined by IS 456 with 20 mm and down size aggregate in the beams/columns etc, vibrating temping.curing complete as per drawing and specification but excluding the cost of centering shuttering and reinforcement at all level and height,	CUM	82.14		0
16	Providing and constructing brick masonry of thickness 230 mm in foundation, plinth and super structure for all heights and any shapes, fins, making opening , projections, in shafts using selected quality burnt clay bricks of class designation 75 laid in cement mortar 1:6 (1 cement :6 coarse sand) mix, joints finished, flush/ raked to 6mm depth including scaffolding, curing complete as per specification and drawing or as directed by Project Manager.	CUM	R.O		
17	Plaster work upto a thickness of 12-15mm with cement and scaffolding.	SQM	R.O		
18	Shifting/Removal of mulba/rubbish from work site to outside the premises including unloading/shifting from roof level to ground level and disposal to the approved dumping	CUM	R.O		
19	Providing mixing and applying upto 50 mm average thick acrylic based polymer modified mortar in columns and beams including trowelling etc. complete in the required proportion or polymner, cement and sand as per specifications and direction of engineer-in-charge. Polymer used shall have a minimum solid polymer content of 10% by weight of cement strength on 28 days Nmm2	SQM	R.O		
TOTAL					0

Measurement Book

SI No	Description	Unit	Nos		Measurement			Quantity	Remarks
			N1	N2	Length (L)	Breadth (B)	Height/Depth (H)		
1.0	Scaffolding								
	Column Ground to First								
	C1	Sqm	18	4	1		8.23	592.56	
	C2	Sqm	10	4	1		8.23	329.2	
	C3	Sqm	15	4	1		8.23	493.8	
	C4	Sqm	28	4	1		8.23	921.76	
	C5	Sqm	7	4	1		8.23	230.44	
	C6	Sqm	17	4	1		8.23	559.64	
	C7	Sqm	4	4	1		8.23	131.68	
	C8	Sqm	1	4	1		8.23	32.92	
	C9	Sqm	6	4	1		8.23	197.52	
	Column up to Ground Roof								
	C4	Sqm	3	4	1		2.74	32.88	
	C6	Sqm	10	4	1		2.74	109.6	
	C10	Sqm	2	4	1		2.74	21.92	
					Total Qty. (Sqm)			3653.92	
					Total Qty. (Sqm) with adding 10% Extra			4019.312	
2.0	Dismanteling								
	Column Ground to First								
	C1	Sqft	18	2	9.06	3.28		1069.80	
		Sqft	18	2	1.5	3.28		177.12	
	C2	Sqft	10	2	9.06	3.28		594.34	
		Sqft	10	2	1.5	3.28		98.40	
	C3	Sqft	15	2	8.56	3.28		842.30	
		Sqft	15	2	1.5	3.28		147.60	
	C4	Sqft	31	2	8.56	3.28		1740.76	
		Sqft	31	2	1.5	3.28		305.04	
	C5	Sqft	7	2	8.56	3.28		393.08	
		Sqft	7	2	1.5	3.28		68.88	
	C6	Sqft	27	2	8.06	3.28		1427.59	
		Sqft	27	2	1.5	3.28		265.68	
	C7	Sqft	4	2	8.39	3.28		220.15	
		Sqft	4	2	1.5	3.28		39.36	
	C8	Sqft	1	2	9.66	3.28		63.37	
		Sqft	1	2	1.8	3.28		11.81	
	C9	Sqft	6	2	8.39	3.28		330.23	
		Sqft	6	2	1.5	3.28		59.04	
	C10	Sqft	2	2	8.56	3.28		112.31	
		Sqft	2	2	1.75	3.28		22.96	
					Total Qty. (Sqft)			7989.82	
					Total Qty. (Sqm)			742.55	
					Total Qty. with adding 10% Extra			816.80	

3.0	Excavation								
	Column Ground to First								
	C1	Cuft	18	2	9.06	3.28	6	6418.83	
		Cuft	18	2	1.5	3.28	6	1062.72	
	C2	Cuft	10	2	9.06	3.28	6	3566.02	
		Cuft	10	2	1.5	3.28	6	590.40	
	C3	Cuft	15	2	8.56	3.28	6	5053.82	
		Cuft	15	2	1.5	3.28	6	885.60	
	C4	Cuft	31	2	8.56	3.28	6	10444.57	
		Cuft	31	2	1.5	3.28	6	1830.24	
	C5	Cuft	7	2	8.56	3.28	6	2358.45	
		Cuft	7	2	1.5	3.28	6	413.28	
	C6	Cuft	27	2	8.06	3.28	6	8565.52	
		Cuft	27	2	1.5	3.28	6	1594.08	
	C7	Cuft	4	2	8.39	3.28	6	1320.92	
		Cuft	4	2	1.5	3.28	6	236.16	
	C8	Cuft	1	2	9.66	3.28	6	380.22	
		Cuft	1	2	1.8	3.28	6	70.85	
	C9	Cuft	6	2	8.39	3.28	6	1981.38	
		Cuft	6	2	1.5	3.28	6	354.24	
	C10	Cuft	2	2	8.56	3.28	6	673.84	
		Cuft	2	2	1.75	3.28	6	137.76	
					Total Qty. (Cuft)			47938.91	
					Total Qty. (Cum)			1357.66	
					Total Qty. with adding 10% Extra			1493.42	
4.0	Filling								
	Column Ground to First								
	C1	Cuft	18	2	9.06	3.28	6	6418.83	
		Cuft	18	2	1.5	3.28	6	1062.72	
	C2	Cuft	10	2	9.06	3.28	6	3566.02	
		Cuft	10	2	1.5	3.28	6	590.40	
	C3	Cuft	15	2	8.56	3.28	6	5053.82	
		Cuft	15	2	1.5	3.28	6	885.60	
	C4	Cuft	31	2	8.56	3.28	6	10444.57	
		Cuft	31	2	1.5	3.28	6	1830.24	
	C5	Cuft	7	2	8.56	3.28	6	2358.45	
		Cuft	7	2	1.5	3.28	6	413.28	
	C6	Cuft	27	2	8.06	3.28	6	8565.52	
		Cuft	27	2	1.5	3.28	6	1594.08	
	C7	Cuft	4	2	8.39	3.28	6	1320.92	
		Cuft	4	2	1.5	3.28	6	236.16	
	C8	Cuft	1	2	9.66	3.28	6	380.22	
		Cuft	1	2	1.8	3.28	6	70.85	
	C9	Cuft	6	2	8.39	3.28	6	1981.38	
		Cuft	6	2	1.5	3.28	6	354.24	
	C10	Cuft	2	2	8.56	3.28	6	673.84	
		Cuft	2	2	1.75	3.28	6	137.76	

	Less PCC								
C1	Cuft	18	-2	9.06	3.28	0.25	-267.45		
	Cuft	18	-2	1.5	3.28	0.25	-44.28		
C2	Cuft	10	-2	9.06	3.28	0.25	-148.58		
	Cuft	10	-2	1.5	3.28	0.25	-24.60		
C3	Cuft	15	-2	8.56	3.28	0.25	-210.58		
	Cuft	15	-2	1.5	3.28	0.25	-36.90		
C4	Cuft	31	-2	8.56	3.28	0.25	-435.19		
	Cuft	31	-2	1.5	3.28	0.25	-76.26		
C5	Cuft	7	-2	8.56	3.28	0.25	-98.27		
	Cuft	7	-2	1.5	3.28	0.25	-17.22		
C6	Cuft	27	-2	8.06	3.28	0.25	-356.90		
	Cuft	27	-2	1.5	3.28	0.25	-66.42		
C7	Cuft	4	-2	8.39	3.28	0.25	-55.04		
	Cuft	4	-2	1.5	3.28	0.25	-9.84		
C8	Cuft	1	-2	9.66	3.28	0.25	-15.84		
	Cuft	1	-2	1.8	3.28	0.25	-2.95		
C9	Cuft	6	-2	8.39	3.28	0.25	-82.56		
	Cuft	6	-2	1.5	3.28	0.25	-14.76		
C10	Cuft	2	-2	8.56	3.28	0.25	-28.08		
	Cuft	2	-2	1.75	3.28	0.25	-5.74		
	Less RCC								
C1	Cuft	18	-2	9.06	3.28	0.33	-353.04		
	Cuft	18	-2	1.5	3.28	0.33	-58.45		
C2	Cuft	10	-2	9.06	3.28	0.33	-196.13		
	Cuft	10	-2	1.5	3.28	0.33	-32.47		
C3	Cuft	15	-2	8.56	3.28	0.33	-277.96		
	Cuft	15	-2	1.5	3.28	0.33	-48.71		
C4	Cuft	31	-2	8.56	3.28	0.33	-574.45		
	Cuft	31	-2	1.5	3.28	0.33	-100.66		
C5	Cuft	7	-2	8.56	3.28	0.33	-129.71		
	Cuft	7	-2	1.5	3.28	0.33	-22.73		
C6	Cuft	27	-2	8.06	3.28	0.33	-471.10		
	Cuft	27	-2	1.5	3.28	0.33	-87.67		
C7	Cuft	4	-2	8.39	3.28	0.33	-72.65		
	Cuft	4	-2	1.5	3.28	0.33	-12.99		
C8	Cuft	1	-2	9.66	3.28	0.33	-20.91		
	Cuft	1	-2	1.8	3.28	0.33	-3.90		
C9	Cuft	6	-2	8.39	3.28	0.33	-108.98		
	Cuft	6	-2	1.5	3.28	0.33	-19.48		
C10	Cuft	2	-2	8.56	3.28	0.33	-37.06		
	Cuft	2	-2	1.75	3.28	0.33	-7.58		
				Total Qty. (Cuft)			43304.81		
				Total Qty. (Cum)			1226.42		
				Total Qty. with adding 10% Extra			1349.06		

4.0	Chipping								
	Column Ground to First								
	C1	Sqft	18	1	2.5	1.5	45	6480	
	C2	Sqft	10	1	2.5	1.5	45	3600	
	C3	Sqft	15	1	2	1.5	45	4725	
	C4	Sqft	28	1	2	1.5	45	8820	
	C5	Sqft	7	1	2	1.5	45	2205	
	C6	Sqft	17	1	1.5	1.5	45	4590	
	C7	Sqft	4	1	1.83	1.5	45	1198.8	
	C8	Sqft	1	1	3.1	1.8	45	441	
	C9	Sqft	6	1	1.83	1.5	45	1798.2	
	Column up to Ground Roof								
	C4	Sqft	3	1	2	1.5	21	441	
	C6	Sqft	10	1	1.5	1.5	21	1260	
	C10	Sqft	2	1	2	1.75	21	315	
					Total Qty. (Sqft)			35874	
					Total Qty. (Sqm)			3334.01	
					Total Qty. with adding 10% Extra			3667.42	
5.0	20mm Rebar								
	C1	Nos	18	2	4			144	
	C2	Nos	10	2	11			220	
	C3	Nos	15	2	11			330	
	C4	Nos	31	2	14			868	
	C5	Nos	7	2	4			56	
	C7	Nos	4	2	11			88	
	C9	Nos	6	2	14			168	
					Total Qty. (Nos)			1874	
6.0	16mm Rebar								
	C1	Nos	18	2	12			432	
	C5	Nos	7	2	8			112	
	C6	Nos	27	2	12			648	
	C8	Nos	1	2	18			36	
	C10	Nos	2	2	11			44	
					Total Qty. (Nos)			1272	
7.0	Shuttering								
	Column Ground to First								
	C1	Sqft	18	2	3		45	4860.00	
		Sqft	18	2	2		45	3240.00	
	C2	Sqft	10	2	3		45	2700.00	
		Sqft	10	2	2		45	1800.00	
	C3	Sqft	15	2	2.5		45	3375.00	
		Sqft	15	2	2		45	2700.00	
	C4	Sqft	28	2	2.5		45	6300.00	
		Sqft	28	2	2		45	5040.00	
	C5	Sqft	7	2	2.5		45	1575.00	
		Sqft	7	2	2		45	1260.00	
	C6	Sqft	17	2	2		45	3060.00	
		Sqft	17	2	2		45	3060.00	
	C7	Sqft	4	2	2.33		45	838.80	
		Sqft	4	2	2		45	720.00	
	C8	Sqft	1	2	3.6		45	324.00	
		Sqft	1	2	2.3		45	207.00	
	C9	Sqft	6	2	2.33		45	1258.20	
		Sqft	6	2	2		45	1080.00	

	Column up to Ground Roof								
	C4	Sqft	3	2	2.5		21	315.00	
		Sqft	3	2	2		21	252.00	
	C6	Sqft	10	2	2		21	840.00	
		Sqft	10	2	2		21	840.00	
	C10	Sqft	2	2	2.5		21	210.00	
		Sqft	2	2	2.25		21	189.00	
								Total Qty. (Sqft)	46044.00
								Total Qty. (Sqm)	4279.18
								Total Qty. with adding 10% Extra	4707.10
8.0	Micro Concreting								
	Column Ground to First								
	C1	Cuft	18	2	3	0.25	45	1215.00	
		Cuft	18	2	1.5	0.25	45	607.50	
	C2	Cuft	10	2	3	0.25	45	675.00	
		Cuft	10	2	1.5	0.25	45	337.50	
	C3	Cuft	15	2	2.5	0.25	45	843.75	
		Cuft	15	2	1.5	0.25	45	506.25	
	C4	Cuft	28	2	2.5	0.25	45	1575.00	
		Cuft	28	2	1.5	0.25	45	945.00	
	C5	Cuft	7	2	2.5	0.25	45	393.75	
		Cuft	7	2	1.5	0.25	45	236.25	
	C6	Cuft	17	2	2	0.25	45	765.00	
		Cuft	17	2	1.5	0.25	45	573.75	
	C7	Cuft	4	2	2.33	0.25	45	209.70	
		Cuft	4	2	1.5	0.25	45	135.00	
	C8	Cuft	1	2	3.6	0.25	45	81.00	
		Cuft	1	2	1.8	0.25	45	40.50	
	C9	Cuft	6	2	2.33	0.25	45	314.55	
		Cuft	6	2	1.5	0.25	45	202.50	

	Column up to Ground Roof								
	C4	Cuft	3	2	2.5	0.25	21	78.75	
		Cuft	3	2	1.5	0.25	21	47.25	
	C6	Cuft	10	2	2	0.25	21	210.00	
		Cuft	10	2	1.5	0.25	21	157.50	
	C10	Cuft	2	2	2.5	0.25	21	52.50	
		Cuft	2	2	1.75	0.25	21	36.75	
					Total Qty. (Cuft)			10239.75	
					Total Qty. (Cum)			290.00	
					Total Qty. with adding 10% Extra			319.00	
9.0	PCC								
	Column Ground to First								
	C1	Cuft	18	2	9.06	3.28	0.25	267.45	
		Cuft	18	2	1.5	3.28	0.25	44.28	
	C2	Cuft	10	2	9.06	3.28	0.25	148.58	
		Cuft	10	2	1.5	3.28	0.25	24.60	
	C3	Cuft	15	2	8.56	3.28	0.25	210.58	
		Cuft	15	2	1.5	3.28	0.25	36.90	
	C4	Cuft	31	2	8.56	3.28	0.25	435.19	
		Cuft	31	2	1.5	3.28	0.25	76.26	
	C5	Cuft	7	2	8.56	3.28	0.25	98.27	
		Cuft	7	2	1.5	3.28	0.25	17.22	
	C6	Cuft	27	2	8.06	3.28	0.25	356.90	
		Cuft	27	2	1.5	3.28	0.25	66.42	
	C7	Cuft	4	2	8.39	3.28	0.25	55.04	
		Cuft	4	2	1.5	3.28	0.25	9.84	
	C8	Cuft	1	2	9.66	3.28	0.25	15.84	
		Cuft	1	2	1.8	3.28	0.25	2.95	
	C9	Cuft	6	2	8.39	3.28	0.25	82.56	
		Cuft	6	2	1.5	3.28	0.25	14.76	
	C10	Cuft	2	2	8.56	3.28	0.25	28.08	
		Cuft	2	2	1.75	3.28	0.25	5.74	
					Total Qty. (Cuft)			1997.45	
					Total Qty. (Cum)			56.57	
					Total Qty. with adding 10% Extra			62.23	

10.0	RCC								
	Column Ground to First								
C1	Cuft	18	2	9.06	3.28	0.33	353.04		
	Cuft	18	2	1.5	3.28	0.33	58.45		
C2	Cuft	10	2	9.06	3.28	0.33	196.13		
	Cuft	10	2	1.5	3.28	0.33	32.47		
C3	Cuft	15	2	8.56	3.28	0.33	277.96		
	Cuft	15	2	1.5	3.28	0.33	48.71		
C4	Cuft	31	2	8.56	3.28	0.33	574.45		
	Cuft	31	2	1.5	3.28	0.33	100.66		
C5	Cuft	7	2	8.56	3.28	0.33	129.71		
	Cuft	7	2	1.5	3.28	0.33	22.73		
C6	Cuft	27	2	8.06	3.28	0.33	471.10		
	Cuft	27	2	1.5	3.28	0.33	87.67		
C7	Cuft	4	2	8.39	3.28	0.33	72.65		
	Cuft	4	2	1.5	3.28	0.33	12.99		
C8	Cuft	1	2	9.66	3.28	0.33	20.91		
	Cuft	1	2	1.8	3.28	0.33	3.90		
C9	Cuft	6	2	8.39	3.28	0.33	108.98		
	Cuft	6	2	1.5	3.28	0.33	19.48		
C10	Cuft	2	2	8.56	3.28	0.33	37.06		
	Cuft	2	2	1.75	3.28	0.33	7.58		
				Total Qty. (Cuft)			2636.64		
				Total Qty. (Cum)			74.67		
				Total Qty. with adding 10% Extra			82.14		

STAR PAPER LTD.																	
STEEL QUANTITY																	
Sl No.	Description	Dia.	N1	N2	Length					Cutting Length	Total Length in Meters						Weight in KGS
					A	B	C	D	E		8mm	10mm	12mm	16mm	20mm	25mm	
	Footings+Plinth Beam										0.00	24197.50	0.00	13465.64	38413.00	0.00	0.00
	Total Quantity of Steel in KGS										0.00	24197.50	0.00	13465.64	38413.00	0.00	0.00
	Total Quantity of Steel in MT										76.076						
BAR BENDING SCHEDULE																	
Description	Dia.	N1	N2	Length					Cutting Length	Total Length in Meters						Weight in KGS	
				A	B	C	D	E		8mm	10mm	12mm	16mm	20mm	25mm		32mm
	C1(910X610)																
	Main Bar	20	18	4	0.20	14.00	0.98			16.16					1163.52		2872.73
	Main Bar	16	18	12	0.16	14.00	0.78			15.73			3397.25				5367.65
	Stirrups T10@200C/C	10	18	71	0.83	0.53				2.82	3603.96						2223.64
	Shear Connector T10@200C/C	10	18	852	0.10	0.04				0.24	3680.64						2270.95
	C2(910X530)																
	Main Bar	20	10	16	0.20	14.00	0.98			15.18				2428.80			5996.71
	Stirrups T10@200C/C	10	10	71	0.83	0.45				2.66	1888.60						1165.27
	Shear Connector T10@200C/C	10	10	852	0.10	0.04				0.24	2044.80						1261.64
	C3(760X530)																
	Main Bar	20	15	14	0.20	14.00	0.98			15.18				3187.80			7870.68
	Stirrups T10@200C/C	10	15	71	0.68	0.45				2.36	2513.40						1550.77
	Shear Connector T10@200C/C	10	15	710	0.10	0.04				0.24	2556.00						1577.05
	C4(760X610)																
	Main Bar	20	28	14	0.20	14.00	0.98			15.18				5950.56			14691.93
	Stirrups T10@200C/C	10	28	71	0.68	0.53				2.52	5009.76						3091.02
	Shear Connector T10@200C/C	10	28	710	0.10	0.04				0.24	4771.20						2943.83
	C5(610X530)																
	Main Bar	20	7	4	0.20	14.00	0.98			15.18				425.04			1049.42
	Main Bar	16	7	8	0.16	14.00	0.78			14.94			836.86				1322.25
	Stirrups T10@200C/C	10	7	71	0.53	0.45				2.06	1023.82						631.70
	Shear Connector T10@200C/C	10	7	568	0.10	0.04				0.24	954.24						588.77
	C6(610X610)																
	Main Bar	16	17	12	0.16	14.00	0.78			14.94			3048.58				4816.75
	Stirrups T10@200C/C	10	17	71	0.53	0.53				2.22	2679.54						1653.28
	Shear Connector T10@200C/C	10	17	568	0.10	0.04				0.24	2317.44						1429.86
	C7(710X530)																
	Main Bar	20	4	14	0.20	14.00	0.98			15.18				850.08			2098.85
	Stirrups T10@200C/C	10	4	71	0.63	0.45				2.26	641.84						396.02
	Shear Connector T10@200C/C	10	4	710	0.10	0.04				0.24	681.60						420.55
	C8(1092X710)																
	Main Bar	16	1	18	0.16	14.00	0.78			14.94			268.99				425.01
	Stirrups T10@200C/C	10	1	71	1.01	0.63				3.38	240.26						148.24
	Shear Connector T10@200C/C	10	1	994	0.10	0.04				0.24	238.56						147.19

	C9(760X710)																	
	Main Bar	20	6	14	0.20	14.00	0.98		15.18					1275.12				3148.27
	Stirrups T10@200C/C	10	6	71	0.68	0.63			2.72		1158.72							714.93
	Shear Connector T10@200C/C	10	6	710	0.10	0.04			0.24		1022.40							630.82
	C10(760X610)																	
	Main Bar	16	2	14	0.16	6.40			6.56				183.68					290.21
	Stirrups T10@200C/C	10	2	33	0.68	0.63			2.72		179.52							110.76
	Shear Connector T10@200C/C	10	2	330	0.10	0.04			0.24		158.40							97.73
	C4(760X610)																	
	Main Bar	20	3	14	0.20	6.40			6.60					277.20				684.41
	Stirrups T10@200C/C	10	3	33	0.68	0.53			2.52		249.48							153.93
	Shear Connector T10@200C/C	10	3	330	0.10	0.04			0.24		237.60							146.60
	C6(610X610)																	
	Main Bar	16	10	12	0.16	6.40			6.56				787.20					1243.78
	Stirrups T10@200C/C	10	10	33	0.53	0.53			2.22		732.60							452.01
	Shear Connector T10@200C/C	10	10	264	0.10	0.04			0.24		633.60							390.93
	Diawise Total Quantity in Rmt								0.00	39217.98	0.00	8522.56	15558.12	0.00	0.00			
	Unit Weight in Kg/Rmt								0.395	0.617	0.889	1.580	2.469	3.858	6.321			76076.139
	Dia.wise total weight in Kgs								0.00	24197.50	0.00	13465.64	38413.00	0.00	0.00			

Kind att. Mr.

DATE:- 31-08-2021

SUB: Pre-Bill of Quantity Of Retrofitting for Beam at Star Paper Ltd. Saharanpur

Ref. No: SC/1155/2021-22

S.NO.	DESCRIPTIONS	UNIT	QUANTITY	RATES	TOTAL
1	Removing/Chipping the weak/ affected carbonated concrete up to carbonated depth (50 mm average thick) by mechanical methods from R.C.C. structures including making square shoulders complete including removal of debris from all heights & levels.	SQM	2149.32		0
2	Cleaning reinforcement of total rust using alkaline chemical rust remover with paint brush and removing loose particles after 24 hours of its application with wire brush and thoroughly washing with water and allowing it to dry.	SQM	2149.32		0
3	Providing, mixing and applying over reinforcement bars, anti rust agent as per specifications and direction of engineer-in -charge	SQM	2149.32		0
4	Providing, mixing and applying bonding coat of epoxy adhesive on chipped portion of RCC for Micro concrete as per manufactures specifications and direction of Engineer-in-charge complete in all respects at all heights.	SQM	2149.32		0
5	Providing and fixing Reinforcement for RCC work including straightening, cutting, bending, binding welding and placing in position including the cost of 18 gauge annealed steel binding wire complete Cold twisted bars.	MT	60.76		0
6	Centering and shuttering including strutting, propping etc. and removal of form work for horizontal fins and chajjas etc. using ply/steel plates/steel mould	SQM	2315.87		0

7	Introducing new reinforcement bars for structural connections in RCC columns including power drilling holes of appropriate diameters in reinforced or plain cement concrete to a minimum depth of 150 mm up to 200 mm, fixing the reinforcement in position using epoxy (Hitly HY-HT-150 or Equivalent) at all height and level. (Rate shall include cost of labour, T & P for power drilling in concrete, epoxy cartridges, plastic nozzle etc. complete including cleaning the drilled holes and loose dust by blowing air. The cost of reinforcement shall be payable separately. (work may be executed by special agency as approved by Engineer-in-Charge				
A	10mm dia x 100 mm depth	NOS			0
B	16mm dia x 160 mm depth	NOS	307.20		0
C	25mm dia x 250 mm depth	NOS	444.00		0
8	shear connector : providing & fixing of shear connector with uSing chemical fischer make hilti make hy170				
A	8 mm dia x 80 mm depth	NOS	49888.30		0
9	Providing and placing in portion Micro-concrete in columns and beams, which shall be ent based piepacked single component. chloride free, non-shrink, free flow, self denpacting, ready to use after mixing water in specified proportion obtained from approved ninsulin hures as per specification and directions of engineer-in-charge (payment under this item shall be made only after proper wet curing has been done and surface has been nisfactorily evaluated by sounding/tapping with a blunt metal instrument) as per direction of engineer-in-charge. Polymer used to have a minimum solid polymer content of 6% by weight				
9a	Without adding aggregate for small patch work	CUM			0
9b	With adding of 50% of agreegate for jacketing	CUM	167.44		0
10	Providing mixing and laying reinforced cement concrete of M25 grade as defined by IS 456 with 20 mm and down size aggregate in the beams/columns etc, vibrating temping.curing complete as per drawing and specification but excluding the cost of centering shuttering and reinforcement at all level and height,	CUM	R.O		
11	Shifting/Removal of mulba/rubbish from work site to outside the premises including unloading/shifting from roof level to ground level and disposal to the approved dumping	CUM	R.O		
12	Cleaning the surface moistening and applying polymer based bonding coat slurry of approved brand and make then providing and placing in the position moicro-concrete,(PMC) which shall be cement based prepacked single component chloride free Non-shrink free flow self compacting ready to use after mixing water in specified proportion obtained from approved manufacturer as per specification and direction of Engineer-In-charge. Grade M-25 (average Thickness 50mm)	Sqm	R.O		
13	Providing mixing and applying upto 50 mm average thick acrylic based polymer modified mortar in columns and beams including trowelling etc. complete in the required proportion or polymner, cement and sand as per specifications and direction of engineer-in-charge. Polymer used shall have a minimum solid polymer content of 10% by weight of cement strength on 28 days Nmm2	SQM	R.O		
14	Plaster work upto a thickness of 12-15mm with cement and scaffolding.	SQM	R.O		
15	Dismanteling unsound weak tie beams,RCC Floor and etc. manually or with power driven (Hilti-TE 504 or pneumatic chisel) as per direction of engineer-in-charge complete including lowering down and removing debris from site including necessary platform at all level and height etc.	SQM	R.O		
TOTAL					0

Measurement Book

SI No	Description	Unit	Nos		Measurement			Quantity	Remarks
			N1	N2	Length (L)	Breadth (B)	Height/Depth (H)		
4.0	Chipping								
	First Floor								
	B1	Sqm	4	1	26.53		2.008	213.09	
	B2	Sqm	9	1	26.53		3.838	916.40	
	B1	Sqm	2	1	34.16		2.008	137.19	
	B2	Sqm	4	1	34.16		3.838	524.42	
					Total Qty. (Sqm)			1791.10	
					Total Qty. (Sqm) adding 20% Extra			2149.32	
5.0	25mm Rebar								
	B1	Nos	6	2	7			84	
	B2	Nos	13	2	11			286	
					Total Qty. (Nos)			370	
					Total Qty. adding 20% Extra			444	
6.0	16mm Rebar								
	B1	Nos	6	2	4			48	
	B2	Nos	13	2	8			208	
					Total Qty. (Nos)			256	
					Total Qty. adding 20% Extra			307	
7.0	Shuttering								
	First Floor								
	B1 Bottom	Sqm	4	1	26.53	0.253		26.85	
	Side	Sqm	4	1	26.53		1.905	202.16	
	B2 Bottom	Sqm	9	1	26.53	0.328		78.32	
	Side	Sqm	9	2	26.53		1.905	909.71	
	B1 Bottom	Sqm	2	1	34.16	0.253		17.28	
	Side	Sqm	2	1	34.16		1.905	130.15	
	B2 Bottom	Sqm	4	1	34.16	0.328		44.82	
	Side	Sqm	4	2	34.16		1.905	520.60	
					Total Qty. (Sqm)			1929.89	
					Total Qty. (Sqm) adding 20% Extra			2315.87	

8.0	Micro Concreting								
	First Floor								
	B1 Bottom	Cum	4	1	26.53	0.253	0.075	2.01	
	Side	Cum	4	1	26.53	0.075	1.83	14.56	
	B2 Bottom	Cum	9	1	26.53	0.328	0.075	5.87	
	Side	Cum	9	2	26.53	0.075	1.83	65.54	
	B1 Bottom	Cum	2	1	34.16	0.253	0.075	1.30	
	Side	Cum	2	1	34.16	0.075	1.83	9.38	
	B2 Bottom	Cum	4	1	34.16	0.328	0.075	3.36	
	Side	Cum	4	2	34.16	0.075	1.83	37.51	
					Total Qty. (Cum)			139.54	
			Total Qty. (Cum) adding 20% Extra					167.44	

STAR PAPER LTD.																		
STEEL QUANTITY																		
Sl No.	Description	Dia.	N1	N2	Length					Cutting Length	Total Length in Meters						Weight in KGS	
					A	B	C	D	E		8mm	10mm	12mm	16mm	20mm	25mm		32mm
	Footing+Plinth Beam										0.00	26260.46	0.00	6229.47	0.00	22748.08	0.00	
	Total Quantity of Steel in KGS										0.00	26260.46	0.00	6229.47	0.00	22748.08	0.00	
	Total Quantity of Steel in MT										55.238							
BAR BENDING SCHEDULE																		
Description	Dia.	N1	N2	Length					Cutting Length	Total Length in Meters						Weight in KGS		
				A	B	C	D	E		8mm	10mm	12mm	16mm	20mm	25mm		32mm	
	B1(253X1905)																	
	Main Bar	25	4	7	0.25	26.53	0.25			27.03							756.84	2919.89
	Lap	25	4	14	1.23					1.23							68.60	264.66
	Skin Bar	16	4	4	0.16	26.53	0.16			26.85				429.60				678.77
	Lap	16	4	8	0.78					0.78				25.09				39.64
	Stirrups T10@100C/C	10	4	266	0.22	1.88				2.30		2445.07						1508.61
	Shear Connector T10@200C/C	10	4	2926	0.10	0.05				0.25		2926.00						1805.34
	B1(253X1905)																	
	Main Bar	25	2	7	0.25	34.16	0.25			34.66							485.24	1872.06
	Lap	25	2	14	1.23					1.23							34.30	132.33
	Skin Bar	16	2	4	0.16	34.16	0.16			34.48				275.84				435.83
	Lap	16	2	8	0.78					0.78				12.54				19.82
	Stirrups T10@100C/C	10	2	342	0.22	1.88				2.30		1571.83						969.82
	Shear Connector T10@200C/C	10	2	3762	0.10	0.05				0.25		1881.00						1160.58

	B2(328X1905)																
Main Bar	25	9	11	0.25	26.53	0.25			27.03						2675.97		10323.89
Lap	25	9	22	1.23					1.23						242.55		935.76
Skin Bar	16	9	8	0.16	26.53	0.16			26.85				1933.20				3054.46
Lap	16	9	16	0.78					0.78				112.90				178.38
Stirrups T10@100C/C	10	9	266	0.27	1.88				4.22		10097.89						6230.40
Shear Connector T10@200C/C	10	9	5054	0.10	0.05				0.25		11371.50						7016.22
	B2(328X1905)																
Main Bar	25	4	11	0.25	34.16	0.25			34.66						1525.04		5883.60
Lap	25	4	22	1.23					1.23						107.80		415.89
Skin Bar	16	4	8	0.16	34.16	0.16			34.48				1103.36				1743.31
Lap	16	4	16	0.78					0.78				50.18				79.28
Stirrups T10@100C/C	10	4	342	0.27	1.88				4.22		5770.22						3560.23
Shear Connector T10@200C/C	10	4	6498	0.10	0.05				0.25		6498.00						4009.27
Diawise Total Quantity in Rmt										0.00	42561.52	0.00	3942.70	0.00	5896.34	0.00	55238.010
Unit Weight in Kg/Rmt										0.40	0.62	0.89	1.58	2.47	3.86	6.32	
Dia.wise total weight in Kgs										0.00	26260.46	0.00	6229.47	0.00	22748.08	0.00	