

PUNJAB PWD B&R

HEAD OFFICE COPY

STANDARD BIDDING DOCUMENT

FOR

CONSTRUCTION

OF

GOVT. SR. SEC SCHOOL AT BAJWARA

DISTT: HOSHIARPUR (PUNJAB).

ESTIMATED COST :- Rs. Lacs


HEAD OF ACCOUNT :-


TIME LIMIT MONTHS

CERTIFICATE

It is certified that DNIT for CONSTRUCTION OF GOVT SR. SEC SCHOOL AT BAJWARA, DISTT: HOSHIAUR (PUNJAB). Contains Page from 1 to 132 along with additional pages for technical condition. (Page No.118.1 to 118.) & B.O.Q (Page No 92.1 to 92.) which are intact.

1. Certified that the DNIT has prepared according to the standard Bidding Documents of Department.
2. No additional clauses has been added or deleted in this DNIT.
3. The BOQ has been checked and signed as per provision and specifications of the Estimate.


Superintending Engineer
Construction Circle,
PWD B & R Hoshiarpur.


Executive Engineer
Provincial Division,
PWD B&R Hoshiarpur.

LIST OF IMPORTANT DATES

Website : www.eprocbbpwd.gov.in



1

List of Important Dates of Submission of Online Bids

1. Name of Work : CONSTRUCTION OF GOVT SR. SEC SCHOOL AT BAJWARA, DISTT-HOSHIARPUR (PUNJAB)
2. Completion Period : 12 Months
3. Mode of submission of Tender : To be submitted on-line at www.eprocbbpwd.gov.in
4. Period & Time for download of Bidding Documents from E-procurement portal :
From: Date 01 Month 06 Year 2026
Time 11:00 AM
To: Date 22 Month 06 Year 2026
Time 5:00 PM
Date.....Month.....Year.....
Time.....
Place.....
From: Date 01 Month 06 Year 2026
Time 11:00 AM
To: Date 22 Month 06 Year 2026
Time 5:00 PM
Date 23 Month 06 Year 2026
Time 9:00 AM Hours
will be intimated later on.
Date.....Month.....Year.....
Time.....Hours.....
Address.....
Date 20 Month 10 Year 2026
Executive Engineer,
Provincial Division
PWD (B&R) Hoshiarpur
5. Time, Date & Place of Pre-Bid Meeting
6. Time & Date of online submission of Bids
7. Time & Date of opening of online Technical Bids
8. Time & Date of opening of online Financial Bids
9. Place of opening of online Bids
10. Last Date of Bid validity
11. Officer Inviting Bids



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SECTION 0

**INVITATION FOR BIDS
(IFB)**

12-12-2025



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**GOVERNMENT OF PUNJAB
PWD B&R BRANCH**

NOTICE INVITING ON-LINE BIDS

Bid No.: 08

Date: 29.05.2026

1. On behalf of the Governor of Punjab, Executive Engineer Provincial Division, PWD (B&R) Hoshiarpur invites bids from eligible bidders for the Project/Work(s) detailed in the following table. The bidders may submit bids for any or all of the following Project/Work(s) :

Sr. No	Name of Project/ Work (s)	Bid Security/ Earnest Money (Rs.)	Cost of Document/Tender Fee (Rs.)	Period of Completion	Approx Value of the Project/Work (Rs.)
1	2	3	4	5	6
1.	CONSTRUCTION OF GOVT SR. SEC SCHOOL AT BAJWARA, DISTT: HOSHIARPUR (PUNJAB)	446600/- Rs. 46,92,793/-	Rs. 50,000/-	12 Months	22330012/ Rs. 23,46,39,669/-

[col. 6 to be deleted for Lump sum Project/Works]

2. Important dates are as under :

- i) Period of availability of Tender on-line shall be From 01.06.2026 to 22.06.2026 upto 5.00 PM
- ii) Last date & time for on-line: 22.06.2026 upto 5.00 PM submission of bids shall be
- iii) Date & time of opening of Technical Bid : 23.06.2026 upto 9.00 AM

*For detailed terms and conditions refer to web site <http://eprocbbpwd.gov.in>

Signature of Executive Engineer

Note: - For Publication in Newspapers

Government of Punjab, Public Works Department, Buildings & Roads Branch.



Section 0 - Invitation for Bids

GOVERNMENT OF PUNJAB
PWD B&R BRANCH

NOTICE INVITING ON-LINE BIDS

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Sr. No	Name of Project/ Work (s)	Bid Security/ Earnest Money (Rs.)	Cost of Document/Tender Fee (Rs.)	Period of Completion	Approx Value of the Project/Work (Rs.)
1	2	3	4	5	6
1.	CONSTRUCTION OF GOVT SR SEC SCHOOL AT BAJWARA, DIST: HOSHIARPUR (PUNJAB)	446600/- Rs. 44,66,000/-	Rs. 50,000/-	12 Months	5933006/- Rs. 59,33,006/-

[col. 6 to be deleted for Lump sum Project/Works]

2. Important dates are as under:

- i) The Period of availability of Tender on-line shall be from : From 01.06.2026 to 22.06.2026 upto 5.00 PM
- ii) The last date & time for on-line submission of bids shall be : 22.06.2026 upto 5.00 PM
- iii) Date & time of opening of Technical Bid : 23.06.2026 upto 9.00 AM

3. The Bidding Documents can be down loaded from website: www.eprocbbpwd.gov.in. The document downloaded from website should not be tempered, and if any such tempering is detected before or after the opening of bids, the bidder shall be debarred for a period of 6 months.
4. The bidders should have the necessary Portal enrolment with his/her own Digital Signature Certificate (DSC).
5. The bidders should keep checking the website for any addenda/corrigenda to the notice/bidding documents till the date of on-line submission of bids, and the bidder should incorporate the same in his bid documents.
6. The cost of the bidding documents (non-refundable) shall be paid online through Net Banking at portal www.eprocbbpwd.gov.in.
7. Bid Security/Earnest Money Deposit (EMD) of the amount specified for the Project/Work(s) in the table above shall be paid online through Net Banking at portal www.eprocbbpwd.gov.in.

ATG/NEFT
OR As per copy attached Page NO: 27-28

Government of Punjab, Public Works Department, Buildings & Roads Branch.

OR

Bid Security may be submitted in the form of insurance surety bonds, or bank guarantee (including e Bank Guarantee) issued or confirmed by any of the Scheduled Banks (as defined in section 2 (c) of the Reserve Bank of India Act 1934 or in the electronic format online (NEFT/RTGS/Internet banking) or any other online mode available on e-procurement portal. Bid security/EMD in the form of insurance surety bonds or bank guarantee shall be submitted online only and insurance surety bonds or bank guarantee shall not be accepted in physical form. In case of exemption of Bid Security, the scanned copy of the document in support of exemption will have to be uploaded by the bidder during bid submission.

Further, recognized Micro and Small enterprises (MSEs) and Startups (recognized by the Department of Industries and Commerce, Government of Punjab) are exempted from payment of Bid Security, subject to submission of valid registration or Udyam certificate verified by the General Manager, District Industries Centre of the concerned district, confirming the units locations of units within Punjab and its MSE status or registered Startup with the Department of Industries and Commerce, Government of Punjab and must submit a Bid Security Declaration accepting that if they withdraw or modify their bids during period of validity, they shall be suspended for the time decided by the competent authority.

Note:- It is further clarified that bidders will upload scanned copy of insurance surety bonds, bank guarantee in pdf form along with tender documents and original copy of same will be delivered to this office within 2 working days after opening of technical bid

8. Bid(s) must be submitted online through an e-portal www.eproc.punjab.gov.in before the time specified in the table above (as per server clock). The department does not take any responsibility for the delay caused due to non-availability of internet connection or network traffic jam etc. for online bids.
9. Bid documents consisting of qualification information and eligibility criterion of bidders, plans, specifications, drawings, the bill of quantities of the various classes of work to be done and the set of terms & conditions of contract to be complied with by the Contractor can be seen on website www.eproc.punjab.gov.in and scanned copies of the required documents and information as per section-2 (Formats & Annexure) should be attached in the Technical Bid as prescribed in the SBD.
10. Uploaded documents of valid successful bidders will be verified with the original before signing the agreement. The valid successful bidder has to provide the originals to the concerned authority on receipt of such letter, which will be sent through registered post/E-mail/courier.
11. Standard Bidding Documents (SBD) is not to be uploaded by the bidder. The bidder has to only agree/disagree on the conditions in the SBD. The bidders who disagree on the conditions of SBD, cannot participate in the tender.
12. Technical Bids will be opened on-line on the day & time as specified in the above table, in the presence of the bidders who wish to attend. If the office happens to be closed on the date of receipt of the bids as specified, the bids will be received and opened on the next working day at the same time and venue.
13. Bid(s) once submitted online cannot be resubmitted or withdrawn.
14. Conditional bids and the bids not meeting the qualifying criteria on the date of receipt of bids shall be summarily rejected.
15. The undersigned has the right to accept or reject any or all bids without assigning any reason.

Signature of Executive Engineer

Government of Punjab, Public Works Department, Buildings & Roads Branch.



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SECTION 1

INSTRUCTIONS TO BIDDERS (ITB)



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Section 1: Instructions to Bidders

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A. GENERAL**1. SCOPE OF BID**

- 1.1 The Employer (named in the BDS) invites online bids for the Project/Work(s), as defined in these documents and referred to as "the Project/Work(s)" and detailed in the table given in IFB. The bidders may submit bids for any or all of the Project/Work(s). Bid for each work shall be submitted separately.
- 1.2 The successful bidder will be expected to complete the Project/Work(s) by the Intended Completion Date specified in the **Contract Data**.
- 1.3 Throughout these bidding documents, the terms 'bid' and 'tender' and their derivatives (bidder/tenderer, bid/tender, bidding/tendering etc) are synonymous.

2. AUTHORITY & SOURCE OF FUNDS

- 2.1 The Department of Public Works, Buildings & Roads Branch is mandated to undertake such works under the Rules of Business, Government of Punjab.
- 2.2 The expenditure on the Project/Work(s) will be met from the funds to be released to the Department by the Government of Punjab, Department of Finance/Funding Agency under the.....scheme.
- 2.3 The Department of Public Works, Buildings & Roads Branch shall not be responsible for non-release or delayed release of funds by the Department of Finance/Funding Agency.

3. ELIGIBLE BIDDERS

- 3.1 This **Invitation For Bids** is open to established and reputed contracting agencies who fulfill the requirements laid down in Clause 4.3 of ITB.
- 3.2 All bidders shall provide in Section 2 – Forms of Bid and Qualification Information, a statement that the Bidder is neither associated, nor has been associated, directly, or indirectly, with the Consultant or any other entity that has prepared the design, specifications, and other documents for the Project/Work or being proposed as Project/Work Manager for the contract. A firm that has been engaged by the Employer to provide consulting services for the preparation or supervision of the works, and any of its affiliates, shall not be eligible to bid.
- 3.3 The bidder could be an individual, Limited Company/corporation, Proprietary firm, Partnership firm, Consortium or Joint Venture Companies are not allowed to bid for the Project/Work(s) listed in the Table given in IFB (unless specified in the BDS).

4. QUALIFICATION OF THE BIDDER

- 4.1 All bidders shall provide in Section 2, Forms of the Bid and Qualifications information, a preliminary description of the proposed work method and schedule, including drawings and charts, as necessary. The proposed methodology shall include programme of construction backed with equipment planning and deployment duly supported with quality assurance procedures proposed to be adopted justifying their capability of execution and completion of works as per technical specifications, within stipulated period of completion.



4.2 All bidders shall attach the following information and documents with their on-line Technical Bid along with the information required as per Section 2 :

A. For Works upto Rs. 10.00 Crores

- (a) Copy of the valid enlistment with Punjab PWD B&R Branch under appropriate Class and Category of work; *(building work)*

B. For Works above Rs. 10.00 Crores:

- (a) Copies of original documents defining the constitution or legal status, place of registration and principal place of business; written power of attorney to the signatory of the Bid to commit the Bidder;
- (b) List of similar works completed during previous years duly supported with performance certificate from authority for whom work has been completed and information shall include name of work, estimated cost, date of start and date of completion;
- (c) List of equipment and machinery available with documentary proof of ownership or lease deed of machinery proposed for deployment for execution of work;
- (d) Qualifications and experience of key site management and technical personnel proposed for Contract;
- (e) Reports on financial standing of the Bidders, such as profit and loss statements and auditor's reports for the past 5 (Five) years;
- (f) Evidence of access to line(s) of credit and availability of other financial resources facilities (10% of contract value), certified by the Bankers (Not more than 3 months old)
- (g) Undertaking that the bidder will be able to invest a minimum cash upto 25% of contract value of work, during implementation of work.
- (h) Authority to seek references from the Bidder's banker(s);

C In addition, each bidder shall submit the following information for his qualification :

- (a) Copy of Permanent Account Number (PAN) issued by Income Tax department;
- (b) Affidavit/undertaking of not having been black-listed by any Govt./Semi Govt. Organization/Corporation at any stage and/or debarred by the department of Punjab PWD (B&R).
- (c) Affidavit/undertaking that information being submitted is correct and true, and that any false information shall lead to disqualification at any stage;
- (d) GST Registration Number issued by concerned department;
- (e) EPF registration certificate from Provident Commissioner;
- (f) Details of his available bid capacity with an undertaking that his available bid capacity, calculated as per clause 4.4 below, is more than the estimated value of the project/work; (as specified in BDS).

- (g) Any other qualification information specified in the Conditions of Particular Application.

4.3 To qualify for award of the contract, each bidder in its name should have :

A. For Works upto Rs. 10.00 Crores :

- (a) valid enlistment with Punjab PWD B&R Branch under the appropriate class and category; *(Building work)*

B. For Works above Rs. 10.00 Crores :

- a) achieved a minimum annual financial turnover (in all classes of civil engineering construction works only) equal to 40% of the estimated cost of work in any one of the last three (3) financial years immediately preceding the Financial Year in which bids are invited [For Lump sum works where estimated cost is not to be disclosed, this amount should be given in figures];
- b) satisfactorily completed in the last five (5) years ending last day of month previous to the one in which bids are invited as a prime Contractor (or as a nominated sub Contractor, where the subcontract involved execution of all main items of work described in the bid document, provided further that all other qualification criteria are satisfied)

one similar work (as defined in the Bid Data Sheet) of value not less than 80% of the estimated cost of work

or

two similar works each of value not less than 50% of the estimated cost of work

or

three similar works each of value not less than 40% of the estimated cost of work

[For Lump sum works where estimated cost is not to be disclosed, these amounts should be given in figures]. The values of works can be updated to current price levels by enhancing the value of executed works at the rate given in the BDS;

- c) availability (either owned or leased) of the key and critical equipment for this Project/Work as per Annexure-I.

[The bidders should, however, undertake their own studies and furnish with their bid, a detailed construction planning and methodology supported with layout and necessary drawings and calculations (detailed) as stated in clause 4.1 above to allow the employer to review their proposals. The numbers, types and capacities of each plant/equipment shall be shown in the proposals along with the cycle time for each operation for the given production capacity to match the requirements.];

- d) availability of personnel with adequate experience as required for this work as per Annexure-II;



- e) liquid assets and/or availability of credit facilities of amount not less than that indicated in the **BDS**.
(Credit lines/letter of credit/certificates from Banks for meeting the funds requirement etc. - usually the equivalent of the estimated cash flow for 3 months in peak construction period.);
 - f) submitted an undertaking that he will be able to invest a minimum cash up to 25% of contract value of work, during implementation of work.
 - g) given to the Employer or his representatives the authority to seek references from the bidder's bankers;
- C In addition to above, each bidder to be eligible or qualify should have submitted/attached with his technical bid-**
- (a) an undertaking that his available bid capacity, calculated as per clause 4.4 below, is more than the estimated value of the project/work **(as specified in BDS)**.
 - (b) the proof of PAN issued by Income Tax department;
 - (c) Affidavit/undertaking of not having been black-listed by any Govt. /Semi Govt. Organization/Corporation at any stage and/or debarred by the department of Punjab PWD (B&R).
 - (d) the affidavit/undertaking that information being submitted is correct and true, and that any false information shall lead to disqualification at any stage;
 - (e) the proof of his valid GST Registration Number issued by concerned department;
 - (f) the proof of his valid EPF registration with the Provident Commissioner;
 - (g) an undertaking that he agrees to the terms and conditions of bidding document including the technical requirements and in case there is anything contradictory in his technical proposal with respect to the conditions of bidding document, the latter shall prevail.
 - (h) The undertakings/affidavit/documentary proofs required as per the qualifying conditions laid down in the Conditions of Particular Application.

4.4 Bid Capacity:

The bid capacity of the prospective bidders will be calculated as under:

$$\text{Assessed Available Bid Capacity} = (A * N * 2 - B)$$

Where

A – Maximum value of Civil Engineering works executed in any one year (year means Financial year) during the last five years **(updated to the price level of the Financial year in which bids are received at a rate per year as indicated in the BDS)** taking into account the completed as well as works in progress.



N = Number of years prescribed for completion of the Project/Works for which these bids are being invited. (e.g. 7 months = 7/12 year)

B = Value (updated to the price level of the year indicated in BDS) of existing commitments (only allotted works) on the last date of submission of bids as per bidding document and on-going works to be completed during the period of completion of the Project/Works for which these bids are being invited.

Note: The statement showing the value of existing commitments and on-going works as well as the stipulated period of completion remaining for each of the works listed should be attached along with certificates duly signed by the Engineer-in Charge, not below the rank of an Executive Engineer or equivalent.

4.5 Even though the bidders meet the above qualifying criteria, they are subject to be disqualified if they have:

- made misleading or false representation in the forms, statements and attachments submitted in proof of the qualification requirements; and/or
- record for poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures etc; and/or

5. ONE BID PER BIDDER

5.1 Each bidder shall submit only one bid for one Project/Work/package. A bidder who submits more than one Bid will cause all the proposals with the Bidder's participation to be disqualified.

6. COST & SUFFICIENCY OF BIDDING

6.1 The bidder shall bear all costs associated with the preparation and submission of his Bid, and the Employer will in no case be responsible and liable for those costs.

6.2 The bidder shall be deemed to have satisfied himself before bidding as to the correctness and sufficiency of his bid information for the works and of the rates and prices given in the relevant Schedule or quoted by him, which rates and prices shall, except as otherwise provided, cover all his obligations under the Contract and all matters and things necessary for the proper completion of the works.

7. SITE VISIT

The bidder at the his own responsibility, expenses and risk, is encouraged to visit and examine the Site(s) of Project/Work(s) and its/their surroundings and obtain all information (including that on the risks, contingencies and other circumstances which may affect or influence the bid) that may be necessary for preparing the Bid and entering into a contract. No extra charges consequent on any misunderstanding or otherwise shall be allowed. The bidder may reassure himself at his own cost about the soil properties at the site. The Employer shall not be responsible for any variation in soil strata from that given in this document.

**B. BIDDING DOCUMENTS****8. CONTENTS OF BIDDING DOCUMENTS**

- 8.1 The set of the bidding documents comprises the documents listed below and addendum/corrigendum issued in accordance with Clause 10.

Section	Particulars
0.	Invitation for Bids
1.	Instructions to Bidders
2.	Qualification Information and other forms
3.	General Conditions of Contract & Conditions of Particular Application
4.	Contract Data
5.	Technical Specifications
6.	Rules for Sanitary Arrangements of Workers
7.	Contractors' Labour Regulations
8.	Form of Bid
9.	Bill of Quantities (BOQ)/Schedules of Payment (S-I) & Variation (S-II)
10.	Securities and other forms
11.	Drawings, Site Investigation Data & Other Technical Plans
12.	Documents to be furnished by Bidder

- 8.2 The bidder is expected to examine carefully all instructions, conditions of contract, BDS, forms, terms, and technical specifications, bill of quantities, forms, Annexes and drawings in the Bid Document. Failure to comply with the requirements of Bid Documents shall be at the Bidder's own risk. Pursuant to clause 25 thereof, bids which are not substantially responsive to the requirements of the Bid Documents shall be rejected.

9. CLARIFICATION OF BIDDING DOCUMENTS

- 9.1 A Prospective bidder requiring any clarification of the bidding documents may notify the Engineer in writing or by cable (hereinafter "cable" includes facsimile and e-mail) at the Engineer's Address indicated in the Invitation For Bids. The Engineer will respond to any request for clarification which he received earlier than seven (7) days prior to deadline for submission of bids. The Engineer's response including a description of the enquiry but without identifying its source will be uploaded on the website.

9.2 Pre-Bid Meeting (if provided for in BDS)

- 9.2.1 The Bidder or his official representative is invited to attend a pre-bid meeting which will take place at the address, venue, time and date as indicated in the BDS.
- 9.2.2 The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.
- 9.2.3 The bidder is requested to submit any questions/queries in writing or by

cable/e-mail to reach the Employer not later than three (3) days before the meeting.

- 9.2.4 Minutes of the meeting, including the text of the questions raised (without identifying the source of enquiry) and the responses given will be uploaded on the website. Any modification of the bidding documents listed in Sub-Clause 8.1 which may become necessary as a result of the pre-bid meeting shall be made by the Engineer exclusively through the issue of an Addendum/Corrigendum pursuant to Clause 10 and not through the minutes of the pre-bid meeting.
- 9.2.5 Non-attendance at the pre-bid meeting will not be a cause for disqualification of a bidder.

10. AMENDMENT OF BIDDING DOCUMENTS

- 10.1 Before the deadline for submission of bids, the Employer may modify the bidding documents by issuing addenda/corrigenda.
- 10.2 Any addendum/corrigendum thus issued shall be a part of the bidding documents and shall be uploaded on the website as a corrigendum.
- 10.3 To give prospective bidders reasonable time to take an addendum/corrigendum into account in preparing their bids, the Employer may, at his discretion, extend as necessary the deadline for submission of bids, in accordance with Sub-Clause 20.2 below.

C. PREPARATION OF BIDS

11. LANGUAGE OF THE BID

- 11.1 All documents relating to the Bid shall be in English Language.

12. DOCUMENTS COMPRISING THE BID

- 12.1 The bid to be submitted on-line by the bidder as Section 12 of the Bid document (refer Clause 8.1) shall comprise scanned copies of the following in two separate parts:

Part I: Technical Bid –

~~Envelope I (a) – Earnest Money (Bid security) and Cost of Bidding Document~~ Deleted

Envelope I (b)

- (i) Qualification Information and supporting documents as specified in Clause 4.2.
- (ii) Certificates, undertakings, affidavit/undertakings as specified in Clause 4.2.
- (iii) Any other information pursuant to Clause 4.2 of these instructions.
- (iv) Undertaking that the bid shall remain valid for the period specified in Clause 15.1.



- (v) General Arrangement Drawings including conceptual structural drawings with approximate sizes, type of material and brief specification ensuring conformity to technical requirements. [This requirement applies to Lump Sum Contracts only]

Part II : Financial Bid

Envelope II shall be named on-line "Financial Bid" and shall comprise

- (i) Financial Bid (percentage rate at par, below or above the estimated cost/item wise rates/one fixed sum) written both in figures and words in the prescribed Form of Bid as specified in Section 8.

- 12.2 Following documents, which are not submitted with the bid, will be deemed to be part of the bid.

Section	Particulars
0.	Invitation For Bids (IFB)
1.	Instructions to Bidders
3.	General Conditions of Contract & Conditions of Particular Application
4.	Contract Data
5.	Technical Specifications
6.	Rules for Sanitary Arrangement of Workers
7.	Contractors' Labour Regulations
11.	Drawings & Soil Investigation Report & Other Technical Data

13. BID PRICES

- 13.1 The contract shall be for the whole Project/Work as described in Clause 1.1 of ITB, based on the Bill of Quantities/at the lump sum price submitted by the Bidder online.
- 13.2 i) For Percentage Rate Tenders, the bidder shall make online entries as at par or percent above or percent below the estimated total cost in the Bill of Quantities as specified therein or Form of Bid.
- ii) For Item Rate Tenders, the bidders shall make online entries to fill in rates, prices and line item total (both in figures and words) for all items of work described in the Bill of Quantities alongwith total bid price (both in figures and words). *The items for which no rate or price is entered by the Bidder will not be paid for by the Employer when executed and shall be deemed to be covered by the other rates and prices in the Bill of Quantities.*
- iii) For Lump Sum Tenders, the bidders shall make online entries of lump sum price (both in figures and words) for full scope of project/work described in the Bidding Document.
- 13.3 All duties, taxes and other levies payable by the Bidder under the contract, or for any other cause shall be included in the rates, prices and total Bid Price submitted by the Bidder.
- 13.4 The rates and prices quoted by the bidder are subject to adjustment during the performance of the Contract in accordance with the provisions of the Conditions of



Contract.

14. CURRENCIES OF BID AND PAYMENT

The unit rates and the prices shall be quoted by the bidder entirely in Indian Rupees. All payment shall be made in Indian Rupees.

15. BID VALIDITY

- 15.1 Bids shall remain valid for a period **specified in the BDS** after the deadline date for bid submission specified in Clause 20. A bid valid for a shorter period shall be rejected by the Engineer as non-responsive. In case of discrepancy in bid validity period between that given in the undertaking pursuant to Clause 12.1(iv) and the Form of Bid submitted by the bidder, the period mentioned in the undertaking shall be considered as bid validity period of the bid by the bidder.
- 15.2 In exceptional circumstances, prior to expiry of the original time limit, the Engineer may request that the bidders may extend the period of validity for a specified additional period. The request and the bidder's responses shall be made in writing or by cable. A bidder may refuse the request without forfeiting his bid security. A bidder agreeing to the request will not be required or permitted to modify his bid, but will be required to extend the validity of his bid security for a period of the extension and in compliance with Clause 16 in all respects.

16. BID SECURITY (EARNEST MONEY)

- 16.1 The bidder shall furnish, as part of his Bid, a Bid Security (Earnest Money) **as specified in the BDS**, in original form and, in the amount and currency **specified in the BDS**. This Bid Security shall be in one of the following forms:

OR

"Bid Security may be submitted in the form of insurance surety bonds, or bank guarantee (including e Bank Guarantee) issued or confirmed by any of the Scheduled Banks (as defined in section 2 (e) of the Reserve Bank of India Act 1934 or in the electronic format online (NEFT/RTGS/Internet banking) or any other online mode available on e-procurement portal. Bid security/EMD in the form of insurance surety bond or bank guarantee shall be submitted online only and insurance surety bonds or bank guarantee shall not be accepted in physical form. In case of exemption of Bid Security, the scanned copy of the document in support of exemption will have to be uploaded by the bidder during bid submission.

Further, recognized Micro and Small enterprises (MSEs) and Startups (recognized by the Department of Industries and Commerce, Government of Punjab) are exempted from payment of Bid Security, subject to subdivision of valid registration or Udyam certificate verified by the General Manager, District Industries Centre of the concerned district, confining the units locations of units within Punjab and its MSE status or registered Startup with the Department of Industries and Commerce, Government of Punjab and must submit a Bid Security Declaration accepting that if they withdraw or modify their bids during period of validity, they shall be suspended for the time decided by the competent authority.

Note:- It is further clarified that bidders will upload scanned copy of insurance surety bonds, bank guarantee in pdf form along with tender documents and original copy of same will be delivered to this office within 2 working days after opening of technical bid.

- 16.2 Any bid not accompanied by an acceptable Bid Security and not secured as indicated in Sub-Clause 16.1 above shall be rejected by the Engineer as non-responsive.
- 16.3 The Bid Security of unsuccessful bidder will be returned within ¹⁰~~28~~ days of the end of the bid validity period specified in 15.1.

Bid Security of the bidders whose bid is rejected in technical evaluation shall be returned within 10 days upon the completion of technical evaluation. Further, if the bid process is delayed or extended due to unforeseen circumstances the bid security, where the vendor so asks, will be released within 10 days beyond the bid validity period from the date of initial publication of bid.

- 16.4 The Bid Security of the successful bidder will be adjusted in the retention money as stipulated in the General Conditions of Contract.
- 16.5 The Bid Security may be forfeited.



- a) If the Bidder withdraws the Bid or seeks to modify, alter, add or subtract or put any rider on any ground whatsoever, after Bid opening during the period of Bid Validity; or
- b) In the case of a successful Bidder, if the Bidder fails within the specified time limit to :
 - i) sign the Agreement; or
 - ii) furnish the required Performance Security.

17 ALTERNATIVE PROPOSALS BY BIDDERS

- 17.1 Bidders shall submit offers that fully comply with the requirements of the bidding documents, including the Conditions of Contract (including mobilization advance or time for completion), basic technical parameters and requirements as indicated in the drawing and specifications. Conditional offers will not be considered further in the process of tender evaluation.

18 FORMAT AND SIGNING OF BID

- 18.1 The bidder shall submit the bid online comprising of documents as specified in Clause 12

D. SUBMISSION OF BIDS

19 SUBMISSION SEALING AND MARKING OF BIDS

The Bidder shall place two separate digitally signed files marked "Technical Bid (Envelope-1)" and "Financial Bid (Envelope-11)"

The contents of Technical and Financial Bids will be as specified in Clause 12.1. All documents are to be signed digitally by the bidders.

20 DEADLINE FOR SUBMISSION OF THE BIDS

- 20.1 Complete Bids (including Technical and Financial) shall be received by Engineer online not later than the date and time **indicated in the BDS**. In the event of the specified date for the submission of bids declared a holiday for the Engineer, the Bids will be received up to the appointed time on the next working day.
- 20.2 The Engineer may extend the deadline for submission of bids by issuing an amendment in accordance with Clause 10, in which case all rights and obligations of the Engineer and the bidders previously subject to the original deadline will then be subject to the new deadline.

21 LATE BIDS

The electronic bidding system would not allow any late submission of bids after due date and time as per server time.



E. BID OPENING AND EVALUATION

22. BID OPENING

- 22.1 The Engineer shall open the bids online and the same shall be evaluated by Tender Processing Committee (TPC)/Engineer **as specified in the BDS**. The bids shall be opened in the presence of the Bidders or their representatives who choose to attend at time, date and the place **specified in the BDS** in the manner specified in Clause 20 and 22.3. In the event of the specified date of Bid opening being declared a holiday for the Engineer, the Bids will be opened at the appointed time and location on the next working day.
- 22.2 The Part-I containing Technical Bid shall be opened first.
- 22.3
- (i) The bids will be taken up for evaluation with respect to the Qualification Information and other information furnished in Part-I of the bid pursuant to Clause 12.1.
 - (ii) The bidder will be asked in writing (usually within 10 days of opening of the Technical Bid) to clarify or modify his technical bid, if necessary with respect to any rectifiable defects.
 - (iii) The bidders will respond in not more than 7 days of issue of the clarification letter, which will also indicate the date, time and venue of opening of the Financial Bid.
 - (iv) On receipt of these clarifications, the Tender Processing Committee/Engineer will finalize the list of responsive bidders whose financial bids are eligible for consideration.
 - (v) Evaluation of the technical bids with respect to qualification information and other information furnished in Part-I of the bid in pursuant to Clause 12.1 of ITB, shall be taken up and completed within 21 (Twenty One) working days of the date of bid opening, and a list will be drawn up of the responsive bids whose financial bids are eligible for consideration.
 - (vi) The Employer shall inform, by Post, fax or e-mail, the bidders, whose technical bids are found responsive, date, time and place of online opening of Part-II i.e. Financial Bid **as stated in the BDS**. In the event of the specified date being declared a holiday for the Employer, the bids will be opened at the appointed time and location on the next working day. The Bidders or their representative may attend the opening of financial bids.
- 22.4 At the time of opening of "Financial Bid", the names of the bidders who were found responsive in accordance with Clause 22.3 (iv) will be announced. The bids of only these bidders will be opened. The responsive Bidders' names, the Bid prices, the total amount of each bid, any discounts, and such other details as the Engineer may consider appropriate, will be announced by the Engineer at the time of opening. Any Bid price or discount, which is not read out and recorded, will not be taken into account in Bid Evaluation.
- 22.5 The Engineer shall prepare minutes of the opening of the Financial Bid, including the information disclosed to those present in accordance with Sub-clause 22.4.

23. PROCESS TO BE CONFIDENTIAL

- 23.1 Information relating to the examination, clarification, evaluation, and comparison of



Bids and recommendations for the award of a contract shall not be disclosed to Bidders or any other persons not officially concerned with such process until the award to the successful Bidder has been announced. Any effort by a Bidder to influence the Engineer's processing the Bids, or award decisions may result in the rejection of his bid.

24. CLARIFICATION OF FINANCIAL BIDS

- 24.1 To assist in the examination, evaluation and comparison of Bids, the Engineer may, at his discretion, ask any bidder for clarification of his Bid, including breakdown of unit rates. The request for clarification and the response shall be in writing or by post/facsimile/e-mail.
- 24.2 Subject to sub Clause 24.1, no Bidder shall contact the Engineer on any matter relating to his bid from the time of the bid opening to the time the contract is awarded.
- 24.3 Any effort by the Bidder to influence the Engineer in the Engineer's bid evaluation, bid comparison or contract award decisions may result in the rejection of the Bidder's bid.

25. EXAMINATION OF BIDS AND DETERMINATION OF RESPONSIVENESS

- 25.1 During the detailed evaluation of Qualification Information "Technical Bids", the Engineer will determine whether each Bid (a) meets the eligibility criteria defined in Clause 3 and 4; (b) documents has been properly signed; (c) is accompanied by the required securities and; (d) is substantially and unconditionally responsive to all the requirements of the Bidding documents. During the detailed evaluation of the "Financial Bid" the responsiveness of the bids will be further determined with respect to the remaining bid conditions.
- 25.2 A substantially responsive "Financial Bid" is one which conforms to all the terms, conditions and specifications of the Bidding documents, without material deviation or reservation. A material deviation or reservation is one:
 - (a) which affects in any substantial way the scope, quality, or performance of the Works;
 - (b) which limits in any substantial way, inconsistent with the Bidding documents, the Engineer's right or the Bidder's obligations under the Contract; or
 - (c) whose rectification would affect unfairly the competitive position of other Bidders presenting substantially responsive Bids.
- 25.3 If a "Financial Bid" is not substantially responsive, it will be rejected by the Engineer, and may not subsequently be made responsive by correction or withdrawal of the non-conforming deviation or reservation.

26. EVALUATION AND COMPARISON OF FINANCIAL BIDS

- 26.1 The Engineer will evaluate and compare only the Bids determined to be substantially responsive with Sub Clause 25.2.
- 26.2 The Engineer reserves the right to accept or reject any variation or deviation. Variations and deviations and other factors, which are in excess of the requirements of the Bidding documents or otherwise result in unsolicited benefits for the Engineer shall not be taken into account in Bid evaluation.



- 26.3 The estimated effect of the price adjustment condition under the **General conditions of contract**, during the period of implementation of the Contract, will not be taken into account in Bid evaluation.
- 26.4 If the Bid of the successful Bidder is seriously unbalanced by more than or less than 25% in relation to the Engineer's estimate of the cost of work to be performed under the contract, the Engineer may require the Bidder to produce detailed price analysis for any or all items of the Bill of Quantities, to demonstrate the internal consistency of those prices with the construction methods and schedule proposed. After evaluation of the price analysis, the Engineer may require that the amount of the performance security set forth in Clause 30 be increased at the expense of the successful Bidder to a level sufficient to protect the Engineer against financial loss in the event of default of the successful Bidder under the Contract.

F. AWARD OF CONTRACT

27. AWARD CRITERIA

- 27.1 Subject to Clause 28, the competent authority will award the Contract to the Bidder whose Bid has been determined to be substantially responsive to the Bidding documents and who has offered the lowest evaluated Bid Price.

28. EMPLOYER'S RIGHT TO ACCEPT ANY BID AND REJECT ANY OR ALL BIDS

- 28.1 Notwithstanding Clause 27, the competent authority reserves the right to accept or reject any Bid, and to cancel the Bidding process and rejects all Bids, at any time prior to the award of Contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for the Employer's action.

29. NOTIFICATION OF AWARD AND SIGNING OF AGREEMENT

- 29.1 The Bidder whose bid has been accepted by the competent authority will be notified of the award by the Engineer prior to expiration of the Bid validity period by facsimile or e-mail confirmed by registered letter. This letter (hereinafter and in the **Conditions of Contract** called the "Letter of Acceptance") will state the sum that will be paid to the Contractor in consideration of the execution, completion, and maintenance of the Project/Works as prescribed by the Contract (hereinafter and in the Contract called the "Contract Price").
- 29.2 The notification of award will constitute the formation of the Contract, subject only to the furnishing of a performance security in accordance with the provisions of Clause 30.
- 29.3 The agreement will incorporate all relevant correspondence between the Engineer and the successful Bidder. It will be signed within 28 days following the notification of award along with the Letter of Acceptance.
- 29.4 Upon the furnishing by the successful Bidder of the Performance Security, the Engineer will promptly notify the other Bidders that their Bids have been unsuccessful.



30. PERFORMANCE SECURITY

- 30.1 Within 21 days of receipt of the Letter of Acceptance, the successful Bidder shall deliver to the Engineer a Performance Security [to cover the amount of liquidated damages and/or the compensation of the breach of contract] in any of the forms given below for an amount equivalent to 5% of the Contract Price plus additional security for unbalanced Bids in accordance with clause 26.4 of ITB and as stipulated in the conditions of contract:
- a Bank Guarantee in the form given in Section 10; or
 - Fixed Deposit Receipt as indicated in BDS.
- 30.2 If the performance security is provided by the successful Bidder in the form of a Bank Guarantee, it shall be issued either (a) at the Bidder's option, by a Nationalized/Scheduled Indian Bank or (b) a foreign bank located in India and acceptable to the Employer and the same shall be valid for 28 days from the date of expiry of Defect Liability Period.
- 30.3 Failure of the successful Bidder to comply with the requirements of Sub-clause 30.1 shall constitute sufficient grounds for cancellation of the award and forfeiture of the Bid Security.

31. CORRUPT OR FRAUDULENT PRACTICES

- 31.1 The Employer will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question and will declare the firm ineligible, either indefinitely or for a stated period of time, to be awarded a Contract with Punjab PWD.

For the purpose of this Clause,

"Corrupt Practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution.

"Fraudulent Practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Employer, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish contract prices at artificial non-competitive levels and to deprive the Employer of the benefits of free and open competition.

Section 1 – Instructions to Bidders : Bid Data Sheet

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ITB Clause Reference	Bid Data		
ITB 1.1	The Employer is : Chief Engineer, Punjab, PWD (B&R) Branch, Patiala (For and on behalf of Governor of Punjab)		
ITB 1.1	The name of the contract is : CONSTRUCTION OF GOVT SR. SEC SCHOOL AT BAIWARA, DISTT. HOSHIARPUR (PUNJAB)		
ITB 3.3 & Additional Condition No.6	Rs.	23,46,39,669/-	(for Building works as Prime contractor).
	Rs.	1,68,28,089/-	(for Sub contractor of Public health works).
	Rs.	1,48,70,178/-	(for Sub contractor of Electrical works).
ITB 4.2 C (f)	The details of available bid capacity are required/not required –Required		
ITB 4.3 B (a) & Additional Condition No.6	The minimum turn over amount should be –Required		
	Rs.	9,38,55,867/-	(for Prime contractor).
	Rs.	-NA-	(for Sub contractor of Public health works).
ITB 4.3 B (b)	Rs.	-NA-	(for Sub contractor of Electrical works).
	The "similar works" means Building work		
ITB 4.3 B (b) & Additional Condition No.6	The minimum value of one similar work is –Required		
	Rs.	18,77,11,735/-	(for Prime contractor).
	Rs.	-NA-	(for Sub contractor of Public health works).
ITB 4.3 B (b) & Additional Condition No.6	Rs.	-NA-	(for Sub contractor of Electrical works).
	The minimum value of two similar works (each) is –Required		
	Rs.	11,73,19,834/-	(for Prime contractor).
ITB 4.3 B (b) & Additional Condition No.6	Rs.	-NA-	(for Sub contractor of Public health works).
	Rs.	-NA-	(for Sub contractor of Electrical works).
ITB 4.3 B (b) & Additional Condition No.6	The minimum value of three similar works (each) is –Required		
	Rs.	9,38,55,867/-	(for Prime contractor).
	Rs.	-NA-	(for Sub contractor of Public health works).
ITB 4.3 B (b) & Additional Condition No.6	Rs.	-NA-	(for Sub contractor of Electrical works).

Government of Punjab, Public Works Department, Buildings & Roads Branch.

Bid Data Sheet

ITB Clause Reference	Bid Data
ITB 1.1	The Employer is : Chief Engineer, Punjab, PWD (B&R) Branch, (For and on behalf of Governor of Punjab)
ITB 1.1	The name of the contract is : <u>Construction of Govt. SR. Sec. School at Banjwara, Distt. Hoshiarpur (PUNJAB)</u>
ITB 3.3	
ITB 4.2 C (f)	The details of available bid capacity are required/ not required ✓
ITB 4.3 B (a)	The minimum turn over amount should be Rs.
ITB 4.3 B (b)	The "similar works" means <u>building works</u>
ITB 4.3 B (b)	The minimum value of one similar work is Rs.
ITB 4.3 B (b)	The minimum value of two similar works (each) is Rs.
ITB 4.3 B (b)	The minimum value of three similar works (each) is Rs.
ITB 4.3 B (b)	The value of work may be enhanced at simple rate of 8% per annum.
ITB 4.3 B (e)	Minimum liquid assets and/or availability of credit facilities should be Rs.
ITB 4.3 C (a)	The undertaking regarding available bid capacity is required/ not required ✓
ITB 4.4	The value shall be updated at simple rate of 8% per annum.
ITB 9.2	The Pre Bid Meeting will take place at following date, time and place : Date : Time : Place :

Government of Punjab, Public Works Department, Buildings & Roads Branch.



Section 1 – Instructions to Bidders : Bid Data Sheet

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ITB 4.3 B (b)	The value of work may be enhanced at simple rate of 8% per annum.
ITB 4.3 B (e)	Minimum liquid assets and/or availability of credit facilities should be Rs. 2,34,63,967/-
ITB 4.3 C (a)	The undertaking regarding available bid capacity is required/not required— Required
ITB 4.4	The value shall be updated at simple rate of 8% per annum.
ITB 9.2	The Pre Bid Meeting will take place at following date, time and place : Date : Time: Place :
ITB 15.1	The Bid Validity period is 120 days
ITB 16.1	A Bid Security (Earnest Money) amounting to Rs. 46,92,793/- is required and the same shall be paid online through Net Banking at portal www.eprocbbpw.gov.in .
ITB 20.1	The bid should be submitted latest by (Date & Time)
ITB 22.1	The Technical Bid will be opened in the office of : Address : Executive Engineer, Provincial Division PWD (B&R) Hoshiarpur Telephone No. :
ITB 22.3 (vi)	The Financial Bid shall be opened in the office of : Address : Executive Engineer Provincial Division PWD (B&R) Hoshiarpur Telephone No. :
ITB 30.1	The Performance Security shall be in the name of Executive Engineer, Provincial Division PWD (B&R) Hoshiarpur

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Section 1 – Instructions to Bidders : Bid Data Sheet

	Address : City: State : Telephone No. : Facsimile No. : E- mail address :
ITB 15.1	The bid validity period is <u>120</u> days
ITB 16.1	A Bid Security (Earnest Money) amounting to Rs. <u>44660081</u> is required and the same shall be paid online through Net Banking/NEFT/RTGS at portal www.eproc.punjab.gov.in
ITB 20.1	The bid should be submitted latest by <u>22.06.2025</u> upto <u>5.00 PM</u> (Date & Time)
ITB 22.1	The Technical Bid will be opened in the office of : Address : Executive Engineer, Telephone No. :
ITB 22.3 (vi)	The Financial Bid shall be opened in the office of : Address : Executive Engineer Telephone No. :
ITB 30.1	The Performance Security shall be in the name of

Annexure-I

TYPICAL INDICATIVE LIST OF KEY PLANT & EQUIPMENT TO BE DEPLOYED
ON CONTRACT WORK

(Reference ITB 4)

(Road Works)

Sr. No.	Type of Equipment	Minimum Nos. of Equipment
1.	Motor Grader	/
2.	Dozer	
3.	Front end loader	
4.	Smooth wheeled roller (with automatic water sprayer)	
5.	Vibratory Roller	
6.	Hot mix plant with electronic Controls (Minimum 50-60 TPH Capacity)	
7.	Paver Finisher with Electronic Sensor	
8.	Tipplers	
9.	Water Tanker	
10.	Bitumen Sprayer	
11.	Tandem Roller	
12.	Wet Mix Plant having suitable capacity.	
13.	Wet Mix Paver.	
14.	Air Compressor	

(Reference ITB 4)

(Bridge Works)

Sr. No.	Type of Equipment	Minimum Nos. of Equipment
1.	Concrete mixture	/
2.	Tipplers	
3.	Crane for sinking	
4.	Surface Vibrators	
5.	Needle Vibrators	



Section I – Instructions to Bidders : Bid Data Sheet

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(Reference ITB 4)

(Building Works)

Sr. No	Type of Equipment	Minimum Nos. of Equipment
1.	Concrete mixture batch type with hopper	2
2.	Concrete mixture batch type with hopper & Lift	2
3.	Building hoist	5000 sqm
4.	Steel Centering & Shuttering	5000 sqm
5.	Bar Cutting & Bending machine	2
6.	Surface Vibrators, Power Floater	1 Set
7.	Needle Vibrators	4
8.	Water Tanker	2
9.	Bar Bending Machine	2
10.	Front & Loader/Hydraulic Excavator	1
11.	Tractor Trolley	1
12.	Computerized Concrete Batch mixing Plant (12 cum per hour capacity)	1
13.	Elevator Crain	1
14.	Transit Mixer	2
15.	Grader	1
16.	Vibratory Power roller	1
17.	Total Station Surveying Instrument	1
18.	Concrete Pump	2

- Note :-
1. The requirement of machinery will be works specific to be identified by the Engineer and approved by the Employer.
 2. The agency will have to produce the original documents regarding the ownership or lease deed of the above said plant & equipments on the date of receipt of bids failing which his bid will be rejected.



**TYPICAL INDICATIVE LIST OF KEY PERSONNEL TO BE
DEPLOYED ON CONTRACT WORK**

(Reference ITB 4)

(Road Works)

Sr. No.	Personnel	Min. Qualification	Minimum No.
1.	Project/Work Manager	BE (Civil) with atleast 2 years experience	/
2.	Site Engineer	BE (Civil) or Diploma (Civil) with atleast 2 years experience.	
3.	Plant Engineer	B.E. (Mech.) or Dip. (Mech.) with atleast 2 years experience.	
		Total	

(Reference ITB 4)

(Bridge Works)

Sr. No.	Personnel	Min. Qualification	Minimum No.
1.	Project/Work Manager	BE (Civil) with atleast 2 years experience	/
2.	Site Engineer	BE (Civil) or Diploma (Civil) with atleast 2 years experience.	
3.	Plant Engineer	Dip. (Mech.) with atleast 2 years experience.	
4.	Quality Control Engineer	B.E. (Civil) or Dip. (Civil) with atleast 2 years experience	
5.	Survey Engineer	ITI qualified Surveyor	
		Total	

(Reference ITB 4)

(Building Works)

Sr. No.	Personnel	Min. Qualification	Minimum No.
1.	Project/Work Manager	BE (Civil) atleast 2 years experience	1
2.	Site Engineer (Civil)	BE (Civil) & BE (Elect.) or Diploma (Civil / Elect.) with atleast 2 years experience.	2
3.	Quality Control Engineer	B.E. (Civil) or Dip. (Civil) with atleast 2 years experience	2
4.	Site Engineer (Elect)	BE Elect. or Diploma (Elect.) (Having minimum Experience 2 Years)	1
5.	Site Engineer for Water Supply, Sewerage & Sanitation.	BE Civil or Diploma (Civil) (Having minimum Experience 2 Years)	1
6.	Plant Engineer	(BE) Mechanical with 2 Year Experience	1
7.	Surveyor	Diploma With 5 Year Experience	1
		Total	9



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SECTION 2

QUALIFICATION INFORMATION



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**QUALIFICATION INFORMATION**

- i. Qualification document as detailed below, complete in all respects, should be submitted on-line scanned copies as per the stipulations of Clause 4.2 of ITB.

Pre-qualification document contains 11 numbers of forms as follows1.

- | | |
|-------------------|---|
| 1. FORMAT (1-1) | GENERAL INFORMATION |
| 2. FORMAT (1-2) | NATURE OF FIRM (STR & ORG) |
| 3. FORMAT (2-1): | AVERAGE ANNUAL TURNOVER |
| 4. FORMAT (2-2): | DETAILS OF CONTRACTS OF SIMILAR NATURE AND COMPLEXITY |
| 5. FORMAT (2-3): | PARTICULAR CONSTRUCTION EXPERIENCE RECORD |
| 6. FORMAT (2-4): | EQUIPMENT AVAILABILITY |
| 7. FORMAT (2-5): | AVAILABILITY OF PERSONNEL |
| 8. FORMAT (2-6): | AVAILABILITY OF CREDIT LINE |
| 9. FORMAT (2-7): | EXISTING COMMITMENTS |
| 10. FORMAT (2-8): | AFFIDAVIT/UNDERTAKING |
| 11. FORMAT (2-9): | UNDERTAKING |

- ii. If necessary, additional sheets can be added to the schedules. Such attachments should be clearly marked as follows:

'Attachment 1 to Form (1-2), Attachment 2 to Form (2-5)' etc.

- iii. While submitting the Qualification Information duly filled in, applicant shall enclose latest copies of brochures of their firms and technical documentation if any giving additional information and proper reference to the brochures.

- iv. Each page of Qualification Information shall be duly signed by the applicant or his authorized representative.

- v. Costs incurred by applicant(s) in making this offer, in providing clarifications or attending discussions, conferences, or site visits shall not be reimbursed by the Employer.

- vi. Incomplete bids shall be summarily rejected.

- vii. The language for submission of application shall be English.

- viii. The enclosed Forms should be filled in completely and all questions should be answered. If any particular query is not relevant, it should be replied as 'not applicable'.

- ix. Financial data, Project/Work costs, value of works, etc. should be given in Indian Rupees only except for Works carried out abroad for which figures may be furnished in United States Dollars (USD). Deemed Export Project/Works procured against International Competitive Bid, though executed within the country and where the currency of bid/contract is US Dollars or other convertible currency shall be considered as "Works Abroad."

- x. If the bid is made by a firm in partnership, it shall be signed by all the partners of the firm



along with their full names and current addresses, or by a partner holding the power of attorney for the firm for signing the application. In such a case a certified copy of the power of attorney should accompany the application. A certified copy of the partnership deed, current address of the firm and the full names and current addresses of all the partners of the firm shall also accompany the application.

- xi. If the bid is made by a limited company or a corporation, it shall be signed by a duly authorized person holding the proper/legal and valid authorization for signing the application, in which case a certified copy of the proper/legal and valid authorization should accompany the application. Such limited company or corporation will be required to furnish satisfactory evidence of its existence like copy of Certificate of Incorporation before the contract is awarded.
- xii. The information furnished must be sufficient for the satisfaction of the Employer to show that the bidder is capable in all respects to successfully complete the envisaged work.

FORMAT (I-1)

GENERAL INFORMATION

All individual firms and each partner of a joint venture bidding for the Work are requested to complete the information in this form. Nationality information to be provided for all owners or Applicants who are partnerships or individually owned firms.

Following information with regard to the nature of your interests in the Firms may also be provided:

- a) Shareholding pattern or percentage of shares held by the individual partners.
- b) Firms interests in other areas of business
- c) If, they represent a group of companies all the relevant details.

Where the Applicant proposes to use named Sub-Contractor(s) for critical components of the works, or for work contents in excess of 10 percent of the value of the whole works, the following information should also be supplied for the Sub-Contractor(s).

1.	Name of firm Place of incorporation / registration Year of incorporation / registration
2.	Head / Registered office Address Telephone nos. Fax, e-mail
3.	Name of Contact Person (s) Correspondence Address Telephones Fax, e-mail E-mail

Nationality of Owners (*)		
	Name	Nationality
1.		
2.		
3.		

(*) To be completed by all owners of partnerships or individually owned firms.

(Applicant/Bidder)

Government of Punjab, Public Works Department, Buildings & Roads Branch.



FORMAT (1-2)

STRUCTURE AND ORGANIZATION

1.	The Bidder is		
	(a)	An individual
	(b)	a Proprietary firm
	(c)	a firm in Partnership
	(d)	a Limited Company or Corporation
2.	Attach the Organization Chart showing the structure of the organization including the name of the Directors, position of directors, position of officers.	
3.	No. of years of experience:		
	(a)	As a Prime Contractor (Contractor shouldering major responsibility)
	i)	In own country
	ii)	other countries (specify country)
	(b)	In a Joint Venture	
	i)	in own country
	ii)	other countries (specify country)
	(c)	As Sub-Contractor (specify main Contractor)	
	i)	in own country
	ii)	Other countries (specify country)
4.	For how many years has your organization been in business of similar works under its present name?	
6.	Have you ever left the work awarded to you incomplete? (If so, give name of Project/Work and reasons for not completing the work).	
7.	In which fields of civil engineering construction, do you claim specialization and interest	
8.	Give details of your soil and materials testing laboratory, if any (include full range of equipment available; 'make', year, latest calibration date and functional conditions details etc. including present status indicating their availability for the contract (s) being applied for)	
9.	Give details of your experience in similar works.	

(Applicant/Bidder)

Government of Punjab, Public Works Department, Buildings & Roads Branch.

FORMAT 2-1
ANNUAL TURNOVER

Name of Applicant :

All individual firms and all partners of a joint venture are required to complete the information in this form. The information supplied shall be the annual turnover of the Applicant (or each member of a joint venture), in terms of the amounts billed to clients for each year for work in progress or completed. Applicants should enclose testimonials (certified copies of annual reports/, certificates) in support of their claim.

ANNUAL TURNOVER DATA

(From Construction Works only) (Ref: Clause 4.1 of ITB)

Sr. No.	Financial Year	Turnover (Rs.)
1.		
2.		
3.		

Note: In case of turnovers in foreign currency, the figures are to be given in relevant currency and Figures in INR may be worked out as per SBI Foreign Currency selling rates prevalent on 01.04.20...

(Applicant/Bidder)



FORMAT 2-2

Experience on Similar Works (may use copies of format for more than one work)

Name of Applicant :

All individual firms are requested to complete the information in this form. Applicants should enclose testimonials/ Clients' certificates in support of their claim. (In case of contract value in foreign currency, the figures are to be given in relevant currency and Figures in INR may be worked out as per SBI Foreign Currency selling rates prevalent on 1.04.20).

(Ref: Clause 4.2 of ITB)

1.	Identification Number of Contract	
	Name of Contract	
	Location of works	
	Type of works: Roads/Bridges/Airport/Railways/ Tunneling or others(Specify)	
	Country	
2.	Name of Employer	
3.	Employer's address (Give telephone and fax, e-mail no.)	
4.	Nature of works and special features relevant to the Contract for which the Applicant wishes to pre-qualify	
5.	(tick one) Prime Contractor Partner in a Joint Venture Sub- Contractor	
6.	Value of the total contract	
7.	Date of award	
8.	Date of Completion	
9.	Contract duration (years and months)	
10.	Specified requirements Give details in respect of earthwork, Granular sub-base/base, RE Walls, Concrete in bridges (submit a certificate from employer showing details of your share of work).	
11.	Name and professional qualifications of Applicant's Engineer –in- charge of the work:	
12.	Were there any penalties/fines/stop notice/compensation/liquidated damage imposed? (Yes or No) If yes, give amount and explanation.	

Maximum value of Civil Engineering works executed in any one year during the last five (5) years (updated to the price level of the year indicated in Appendix to ITB) =

(Applicant/Bidder)

Government of Punjab, Public Works Department, Buildings & Roads Branch.

[illegible]

EQUIPMENT AVAILABILITY OR ACCESS COMMITMENT

Item of equipment	Requirement	Availability Proposals				Remarks (From whom to be purchased or leased)
		No.	Capacity	Owned/ leased/to be procured	Nos./ capacity	
(1)	(2)	(3)	(4)	(5)	(6)	(7)

(Applicant/Bidder)

Government of Punjab, Public Works Department, Buildings & Roads Branch.



FORMAT 2-5

AVAILABILITY OF PERSONNEL

Sr. No.	Personnel	Number of persons	Educational Qualification
1.	Project/Work Manager		
2.	Site Engineer		
3.	Plant Engineer		
4.	Quantity Surveyor		
5.	Survey Engineer		
6.	Quality Assurance Engineer		
7.	Pre-casting yard Engineer		
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			

(Applicant/Bidder)

FORMAT (2-6)

FORMAT FOR EVIDENCE OF ACCESS TO OR AVAILABILITY OF
OVERDRAFT/CREDIT FACILITIES

BANK CERTIFICATE

This is to certify that M/s is a reputed company with a good financial standing.

If the contract for the Project/Work, namely "....." is awarded to the above firm, we shall be able to provide overdraft/credit facilities to the extent of INR to meet their working capital requirements for executing the above contract.

Name of the Bank :

Senior Bank Manager :

Address of the Bank :
.....
.....

Phone & Fax No. :

FORMAT (2-7)

SUMMARY SHEET

Current Contract commitments / works in progress

Name of the Applicant:

Applicants should provide information on their current commitments on all contracts that have been awarded, or for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which an unqualified, full completion certificate has yet to be issued. In case of contract value in foreign currency, the figures are to be given in relevant currency and Figures in INR may be worked out as per SBI Foreign Currency selling rates prevalent on 1.04.20...

S. No.	Name of the contract, Location and Nature of the work	Contract No. & Date	Percentage and amount of participation of firm in the Project/Work	Percentage and amount sub-contracted by the firm	Name and Address of Client (including Tel./ Fax, e-mail no.)	Contract value (Rs.)	Length of the Project/Work	Stipulated date of completion	Value of outstanding work	Estimated completion date
1	2	3	4	5	6	7	8	9	10	11
1										
2										
3etc										

Total value of expected value of work to be carried out during completion period of this Project/Work=
Assessed available bid capacity (pursuant to clause 4.4 of ITB)

Government of Punjab, Public Works Department, Buildings & Roads Branch.



FORMAT 2-8

AFFIDAVIT/UNDERTAKING*

1. I/we, the undersigned, do hereby certify that all the statements made in the required attachments are true and correct.
2. The undersigned hereby authorize(s) and request(s) any bank, person, firm or corporation to furnish pertinent information deemed necessary and requested by the Department to verify this statement or regarding my (our) competence and general reputation.
3. The undersigned understand(s) and agree(s) that further qualifying information may be requested, and agrees to furnish any such information at the request of the Department / Project/Work implementing agency.
4. The undersigned binds himself with all the stipulations of the Bidding Document including period of completion, provision of adequate equipment, personnel and other resources required for completion within the stipulated completion period and agrees to augment them, if found necessary for timely completion of the Project/Work, as desired by the Engineer/Employer.
5. The undersigned also hereby certifies that our firm M/s have not been black-listed by any Govt. /Semi Govt. Organization/Corporation at any stage and/or debarred by the department of Punjab PWD (B&R).

_____(Signed by an Authorized Officer of the Firm)

Title of Officer _____

Name of Firm _____

Date _____

* To be executed on a non-judicial stamp paper.



FORMAT 2-9

UNDERTAKING

I, the undersigned do hereby undertake that our firm M/s
..... would invest a minimum cash
upto Rs. lacs during implementation of the Contract.

(Signed by an Authorized Person of the Firm)

Title of Authorized Person

Name of Firm

Date



SECTION 3

CONDITIONS OF CONTRACT

- (i) GENERAL CONDITIONS OF CONTRACT
- (ii) CONDITIONS OF PARTICULAR APPLICATION



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(i) GENERAL CONDITIONS OF CONTRACT

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(I) **GENERAL CONDITIONS OF CONTRACT**

A. GENERAL

I. DEFINITIONS

- 1.1 Terms which are defined in the **Contract Data** may not necessarily have been defined in the conditions of Contract but keep their defined meanings. Capital initials are used to identify defined terms.

Bill of quantities means the priced and completed Bill of Quantities forming part of the Bid.

Compensation Events are those defined in Clause 41 hereunder.

The **Completed Work** means the work completed in all respects as per laid down specifications, drawings & conditions of the contract to the entire satisfaction of Engineer.

The **Completion Date** is the date of completion of the Works as certified by the Engineer in accordance with Sub-Clause 51.1.

Communication between parties are the written and signed letters, notices, reminders, memorandum and instructions recorded in the instruction book or books kept at site.

The **Contract** is the contract between the Employer and the Contractor to execute, complete and maintain the Project/Works during defect liability period. It consists of the documents listed in Clause 2 below.

The **Contract Data** defines the documents and other information which comprise the Contract.

The **Contractor** is a person or corporate body whose Bid to carry out the Project/Works has been accepted by the Employer.

The **Contractor's Bid** is the completed Bidding Documents submitted by the Contractor to the Employer and includes Technical and Financial Bids.

The **Contract Price** is the price stated in the Letter of Acceptance and thereafter as adjusted in accordance with the provisions of the Contract.

Days are calendar days; **Months** are calendar months.

A **Defect** is any part of the Project/Works not completed in accordance with the Contract.

The **Defects Liability Period** is the period named in the **Contract Data** and calculated from the Completion Date.

The **Employer** is the party named in the **Contract Data** who will employ the Contractor to carry out the works.

The **Engineer** is the person named in the **Contract Data** (or any other competent person appointed and notified to the Contractor to act in replacement of the Engineer) who is responsible for supervising the works/projects, administering the Contract, certifying payments due to the Contractor, issuing and valuing Variations to the Contract, awarding extensions of time, and valuing the Compensation Events and getting the contract



executed on behalf of the Employer.

Equipment is the Contractor's machinery and vehicles brought to the Site to construct the Project/Works.

The **Government** or the **State Government** shall mean the Governor of Punjab.

The **Initial Contract Price** is the Contract Price listed in the Employer's Letter of Acceptance.

The **Intended Completion Date** is the date on which it is intended that the Contractor shall complete the Project/Works. The Intended Completion Date is specified in the **Contract Data**. The Intended Completion Date may be revised only by the Engineer by issuing an extension of time.

Materials are all supplies, including consumables, used by the Contractor for incorporation in the Project/Works.

Plant is any integral part of Project/Works which have a mechanical, electrical, electronic or chemical or biological function.

Routine Maintenance is the maintenance of roads as specified in the **Contract Data**.

The **Site** is the area defined as such in the **Contract Data**.

Site Investigation Reports are those which were included in the Bidding documents and are factual interpretative reports about the surface and sub-surface conditions at the site.

Specifications means the Specification of the Project/Works included in the Contract and any modification or addition made or approved by the Engineer.

The **Start Date** is given in the **Contract Data**. It is the date when the Contractor shall commence execution of the Project/Works. It does not necessarily coincide with any of the Site Possession Dates.

A **Sub-Contractor** is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract which includes work on the Site.

The **Superintending Engineer** is the engineer in charge of an administrative circle of the Punjab PWD B&R, under whose supervision the Project/Work activities will be carried out.

Temporary works are works designed, constructed, installed and removed by the Contractor which are needed for construction or installation of the Works.

The **Tender Processing Committee [TPC]** is the committee constituted by the Employer for receiving, opening, processing and evaluating the bids.

A **Variation** is an instruction given by the Engineer, which varies the Project/Works. The **Project/Works**, as defined in the **Contract Data**, are what the Contract requires the Contractor to construct, install, maintain and turn over to the Employer through the Engineer, as defined in the **Contract Data**. This term shall be used synonymously with the term "Works" hereinafter or anywhere in the Contract.

2. INTERPRETATION

- 2.1 In interpreting these Conditions of Contract, singular also means plural, male also means female or neuter and the other way around. Headings have no significance.



Works have their normal meaning under the language of the Contract unless specifically defined. The Engineer will provide instructions clarifying queries about the Conditions of the Contract.

- 2.2 If sectional completion is specified in the **Contract Data**, references in the Conditions of Contract to the Works, the Completion Date and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion date for the whole of the Works.)

- 2.3 The documents forming the Contract shall be interpreted in the following order of priority:

- a) Agreement
- b) Letter of Acceptance, notice to proceed with the works
- c) Contract Data
- d) Conditions of Contract including Conditions of Particular Application
- e) Specifications
- f) Drawings
- g) Bill of Quantities and
- h) Contractor's Bid
- i) any other document listed in the **Contract Data** as forming part of the Contract

If there are varying or conflicting provisions in the documents forming part of the contract, the authority competent to approve the tender shall be the final deciding authority with regard to the intention of the document.

3. LANGUAGE AND LAW

- 3.1 The language of the Contract and the law governing the contract are stated in the **Contract Data**.

4. ENGINEER'S DECISIONS

- 4.1 Except where otherwise specifically stated, the Engineer shall decide contractual matters between the Employer and the Contractor in the role representing the Employer. Any clarifications on the **Contract Data** shall be given by the Engineer.

5. DELEGATION

- 5.1 The Employer may delegate any of his duties and responsibilities to other person after notifying the Contractor and may cancel any delegation after notifying the Contractor.

6. COMMUNICATIONS

- 6.1 Communications between parties which are referred to in the conditions are effective only when in writing. A notice shall be effective only when it is delivered under Registered post or Speed post or Facsimile (fax) or other electronic means. The notice sent by Registered post or Speed post shall be effective on delivery or at the expiry of the normal delivery period as undertaken by the postal service. The notice sent by



Facsimile (fax) or other electronic means shall be effective on confirmation of the transmission.

7. SUB-CONTRACTING

- 7.1 The Contractor may sub-contract any portion of work, upto a maximum limit of 25% of contract value or as specified in **Contract Data** whichever is less, with the approval of the Engineer but shall not assign the Contract without the approval of the Engineer in writing. Sub-contracting does not alter the Contract's obligations and responsibilities under the contract.

8. OTHER CONTRACTORS

- 8.1 The Contractor shall cooperate and share the Site with other Contractors, public authorities, utilities and the Engineer between the dates given in the Schedule of other Contractors. The Contractor shall as referred to in the **Contract Data**, also provide facilities and services for them as described in the Schedule. The Engineer may modify the schedule of other Contractors and shall notify the Contractor of any such modification.

9. PERSONNEL

- 9.1 The Contractor shall employ the key personnel named in the Schedule of Key Personnel as referred to in the **Contract Data** to carry out the functions stated in the Schedule or other personnel approved by the Engineer. The Engineer will approve any proposed replacement of key personnel only if their qualifications, abilities and relevant experience are substantially equal to or better than those of the personnel listed in the Schedule.
- 9.2 If the Engineer asks the Contractor to remove a person who is a member of Contractor's staff or his work force or Sub contractor's staff or his work force stating the reasons, the Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the work in the Contract.

10. LABOUR & COMPLIANCE WITH LABOUR REGULATIONS

- 10.1 The Contractor shall unless otherwise provided in the Contract, make his own arrangements for the engagement of all staff and labour, local or otherwise, and for their payment, housing, feeding and transport.
- 10.2 The Contractor shall, if required by the Engineer, deliver to the Engineer a return in detail, in such form and at such intervals as the Engineer may prescribe, showing the staff and the number of the several classes of labour from time to time employed by the Contractor on the site and such other information as the Engineer may require.
- 10.3 During continuance of the contract, the Contractor and his sub-Contractors shall abide at all times by the all existing labour enactments and rules made there under, regulations, notifications and bye laws of the State or Central Government or local authority and any other labour law (including rules), regulations, bye laws that may be passed or notification that may be issued under any labour law in future either by the State or the Central Government or the local authority. The Contractor shall keep the Employer indemnified in case any action is taken against the Employer by the competent authority on account of contravention of any of the provisions of any act or rules made there under, regulations, or notifications including amendments. If the Employer is caused to pay or reimburse, such amounts as may be necessary to cause or observe or for non observance of the provisions stipulated in the notifications/bye laws/Acts/Rules/regulations including amendments, on the part of the Contractor, the Engineer/Employer shall have the right to deduct this amount from any money due to Contractor, including his amount of performance security. The Employer/Engineer shall also have right to recover from the Contractor any sum required or estimated



to be required for making good the loss or damage suffered by the Employer.

The employees of the Contractor and the Sub-Contractor in no case shall be treated as the employees of the Employer at any point of time.

11. EMPLOYER'S AND CONTRACTOR'S RISKS

11.1 The Employer carries the risk which this Contract states are Employer's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.

11.2 Employer's Risks

The Employer is responsible for the excepted risks which are (a) in so far as they directly affect the execution of the Works in India, the risks of war, hostilities, invasion, act of foreign enemies, rebellion, revolution, insurrection or military or usurped power, civil war, riot commotion or disorder (unless restricted to the Contractor's employees) and contamination from any nuclear fuel or nuclear waste or radioactive toxic explosive, or (b) a cause due solely to the design of the Works, other than the Contractor's design.

11.3 Contractor's Risks

All risks of loss of or damage of physical property and of personal injury and death which arise during and in consequence of the performance of the Contract other than the excepted risks referred to in clause 11.2, are the responsibility of the Contractor.

12. LIMITATION OF LIABILITY

Neither party shall be liable to the other party in respect of any loss on any account whatsoever in relation to the work, towards any loss of estimated profit, loss of any other thing or for any direct or indirect/consequential loss or damage, which might be suffered or has been suffered by the other party in connection with any event arising out of the contract except for those, which have been specifically provided for in the contract agreement.

13. INSURANCE

13.1 The Contractor shall provide, in the joint names of the Engineer and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles stated in the **Contract Data** for the following events which are due to the Contractor's risk:

- (a) loss of or damage to the Works, Plant and Materials;
- (b) loss of or damage to Equipment;
- (c) loss of or damage of property (except the Works, Plant, Materials and Equipment) in connection with the Contract; and
- (d) personal injury or death.

13.2 Policies and certificates for insurance shall be delivered by the Contractor to the Engineer for the Engineer's approval before the Start Date. All such insurance shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred.

13.3 If the Contractor does not provide any of the policies and certificates required, the Employer may affect the insurance which the Contractor should have provided and



recover the premiums the Employer has paid from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due.

- 13.4 Alterations to the terms of insurance shall not be made without the approval of the Engineer.
- 13.5 Both parties shall comply with any conditions of the insurance policies.

14. WORKS TO BE COMPLETED BY THE INTENDED COMPLETION DATE

- 14.1 The Contractor may commence execution of the works on the Start Date and shall carry out the works in accordance with the programme submitted by the Contractor, as updated with the approval of the Engineer, and complete them by the Intended Completion Date.

15. ECOLOGICAL BALANCE

- 15.1 The Contractor shall maintain the ecological balance by preventing deforestation, water pollution and defacing of natural landscape. The Contractor shall so conduct his construction operation as to prevent destruction, scarring or defacing of natural surroundings in the vicinity of work or damage to any tree, shrub or water course unless any of same is specifically required to be cleared or removed for construction purpose. Such removal shall only be done with prior approval of Engineer who may require the Contractor to do compensatory plantation at his cost.
- 15.2 No separate payment shall be made for compliance with provisions of this clause and all costs shall be deemed to have been included in the bid.
- 15.3 The Contractor shall make his own arrangement for the disposal of the spoils from the works to such place where the same shall not cause nuisance and should be acceptable to the authorities concerned.

16. SITE INVESTIGATION REPORT

- 16.1 The Contractor, in preparing the Bid, may rely, at his own risk, on any Site Investigation Report referred to in the **Contract Data**, supplemented by any other information available to him, before submitting the bid.

17. QUERIES ABOUT THE CONTRACT DATA

- 17.1 The Engineer will clarify queries on the **Contract Data**.

18. CONTRACTOR TO CONSTRUCT THE WORKS

- 18.1 The Contractor shall construct and install the Works in accordance with the Specifications and Drawings.

19. APPROVAL BY THE ENGINEER

- 19.1 The Contractor shall submit Specifications and Drawings complete in all respects, supported by documents showing the proposed Temporary Works to the Engineer, who is to approve them if they comply with the Specifications and Drawings.



- 19.2 The Contractor shall be responsible for design of Temporary Works.
- 19.3 The Engineer's approval shall not alter the Contractor's responsibility for design of the Temporary Works.
- 19.4 The Contractor shall obtain approval of third parties to the design of the Temporary Works where required.
- 19.5 All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Engineer before their use. In case of dispute, if any, decision of the Chief Engineer will be final and binding.

20. SAFETY

- 20.1 The Contractor shall be responsible for maintaining the safety of all activities on the site, including smooth flow of traffic at his own cost as per guidelines of the IRC/MORT&H.
- 20.2 In respect of all labour directly or indirectly employed in the work for the performance of the Contractor's part of this contract, the Contractor shall at his own expense arrange for the safety provisions as per Safety Code framed from time to time and shall at his own expense provide for all facilities in connection therewith. In case the Contractor fails to make arrangement and provide necessary facilities as aforesaid, the Employer shall be at liberty to make arrangement and provide facilities as aforesaid and recover the costs incurred in that behalf from the Contractor. The decision of the Engineer in this regard shall be final and no claim on account of this shall be entertained.

21. DISCOVERIES

- 21.1 Anything of historical or other interest or of significant value unexpectedly discovered on the site is the property of the Employer. The Contractor is to notify the Engineer of such discoveries and carry out the Engineer's instructions for dealing with them.

22. POSSESSION OF THE SITE

- 22.1 The Employer shall give possession of the site to the Contractor, as per the work programme of the Contractor approved by Engineer. If possession of a part of the site required as per the work programme is not given by the date when it is actually required for carrying out the work, the Employer is deemed to have delayed the start of the relevant activities for that part of the site and this will be a Compensation Event for the purpose of time extension only.

23. ACCESS & INSPECTION

- 23.1 The Employer, Engineer or any other person authorized by the Engineer or Employer shall at all times have access to the Site, to any place where work in connection with the Contract is being carried out or is intended to be carried out and to any place where materials or plant are being manufactured/ fabricated/ assembled for the works.
- 23.2 All the work under or in course of execution or executed in pursuance of the contract shall at all times be open to the inspection and supervision of the Engineer and his senior/subordinate and the Contractor shall at all times during the usual working hours and at all other times at which reasonable notice of the intention of the Engineer or his senior/subordinate to visit the works shall have been given to the



Contractor, either himself to be present to receive orders and instructions or have a responsible agent, duly accredited in writing, present for that purpose. Orders given to a Contractor's agent shall be considered to have the same force as if they had been given to the Contractor himself.

24. INSTRUCTIONS

- 24.1 The Contractor shall carry out all the instructions of the Engineer pertaining to works which comply with the applicable laws where the site is located.
- 24.2 The Contractor shall permit the Employer to inspect the Contractor's accounts and records relating to the performance of the Contractor and to have them audited by auditors appointed by the Employer, if so required by the Employer.

25. DISPUTES RESOLUTION MECHANISM Kindly refer orders of competent authority dated 12.12.2025

- i) ~~If any dispute or differences of any kind what-so-ever arise between the Government, its authorized representatives and the Contractor in connection with or arising out of this contract or the execution of work, these shall be resolved as under.~~
- ii) ~~Whether before its commencement or during the progress of Project/Work or after the termination, abandonment or breach of the contract, the dispute shall in the first instance supported with complete documents and further documents, if any, required by him, be referred for settlement to the Engineer of the work and he shall, within a period of sixty (60) days after being requested in writing by the Contractor to do so, convey his decision to the Contractor. Such decision in respect of every matter so referred shall, subject to arbitration as hereinafter provided, be final and binding upon the Contractor. In case the work is already in process, the Contractor shall continue with the execution of the work as aforesaid with all due diligence, whether any of the parties requires arbitration as hereinafter provided or not.~~
- iii) ~~If the Engineer has conveyed his decision to the Contractor and no claim for arbitration has been filed by the Contractor within a period of sixty (60) days from the receipt of the letter communicating the decision, the said decision shall be final and binding upon the Contractor and will not be a subject matter of arbitration at all.~~
- iv) ~~If the Engineer fails to convey his decision within a period of sixty (60) days from the date on which the said request was made by the Contractor, he may refer the dispute for arbitration as hereinafter provided.~~
- v) ~~All disputes or differences in respect of which the decision is not final and conclusive shall, at the request of either party made in communication sent through registered A.D. post, be referred for arbitration as per following:~~
- a. ~~For original contract of the value upto Rs. 5.00 Crore, the disputes shall be referred to the sole arbitration of the Superintending Engineer of the concerned circle of Public Works Department, Buildings and Roads Branch acting as such at the time of reference unless debarred from acting as an Arbitrator by an order of the Punjab Government, in which event, the Employer shall appoint any other Superintending Engineer of the department to act as an arbitrator on receipt of a request from either party.~~
- b. ~~For original contract of the value more than Rs. 5.00 Crore and upto Rs. 15.00 Crore, the disputes shall be referred to the sole arbitration of any other Superintending Engineer of the department to be appointed by the Employer.~~
- c. ~~For original contracts of the value more than Rs. 15.00 Crore, the disputes shall be referred to the Arbitral Tribunal consisting of three (3) members. The composition of tribunal will be as under:~~

- One official member, Chairman of the Tribunal, who shall be a serving Chief Engineer of PWD (B&R) other than the Chief Engineer in-charge of the work. The appointment of the chairmanship of the Tribunal shall be done by the Employer;
 - One official member, not below the rank of Superintending Engineer (serving) of the Punjab PWD (B&R) to be appointed by the Employer and
 - One non-official member, who will be a technical expert, not below the rank of Superintending Engineer (serving/retired) of the Punjab PWD (B&R) selected by the Contractor from a panel of three (3) persons given to him by the Employer.
- vi) The Employer shall have the authority to change the arbitrator/any member of arbitral tribunal on an application by either the Contractor or the Engineer requesting change of arbitrator giving reasons thereof, either before the start of the arbitration proceedings or during the course of such proceedings. The arbitration proceedings would stand suspended as soon as an application for change of Arbitrator/any member of Arbitral Tribunal is filed before the Employer and a notice thereof is given by the applicant to the Arbitrator. The Employer after hearing both the parties may pass a speaking order rejecting the application or accepting to change the arbitrator or simultaneously, appointing a technical officer as Arbitrator/any member of arbitral tribunal under the contract. The new Arbitrator/Arbitral Tribunal so appointed may enter upon the reference afresh or may continue the hearings from the point these were suspended before the previous Arbitrator/Arbitral Tribunal.
- vii) The reference to the Arbitrator/Arbitral Tribunal shall be made by the claimant party within one hundred twenty (120) days from the date of dispute of claim arises during the execution of work. If the claim pertains to rates or recoveries introduced in the final bill, the reference to the Arbitrator/Arbitral Tribunal shall be made within six calendar months from the date of payment of the final bill to the Contractor or from the date a registered notice is sent to the Contractor to the effect that his final bill is ready by the Engineer (whose decision in this respect shall be final and binding) whichever is earlier.
- viii) It shall be an essential term of this contract that in order to avoid frivolous claims, the party invoking arbitration shall specify the disputes based upon facts and calculations stating the amount claimed under each claim and shall furnish a "deposit-at-call" for ten percent of the amount claimed, on a scheduled bank in the name of the Arbitrator/Chairman of the Arbitral Tribunal, by his official designation who shall keep the amount in deposit till the announcement of the award. In the event of an award in favour of the claimant, the deposit shall be refunded to him in proportion to the amount awarded with respect to the amount claimed and the balance, if any, shall be forfeited and paid to the other party.
- ix) The provisions of the Arbitration and Reconciliation Act, 1996 or any other statutory law there under or modification thereof and for the time being in force shall apply to the arbitration proceedings under this clause.
- x) The Arbitrator/Arbitral Tribunal shall give a reasoned award for each claim/counter claim.
- xi) The independent claims of the party other than one seeking arbitration as also the counter claims of any party shall be entertained by the arbitrator.
- xii) The venue of arbitration shall be such place or places in Punjab or Chandigarh as may be fixed by the arbitrator in his sole discretion. The work under the contract shall continue during the arbitration proceedings.
- xiii) The stamp fee due on the award shall be payable by the party as desired by the Arbitrator/Arbitral Tribunal and in the event of such party's default, the stamp fee shall be recoverable from another sum due to such party under this or any other



contract.

- xiv) Neither party shall be entitled to bring a claim for arbitration, if it is not filed as per the time period already specified or within six months of the following:-
- a) of the date of completion of the work as certified by the Engineer or
 - b) of the date of abandonment of the work or breach of contract under any of its clauses, or
 - c) of its non-commencement or non-resumption of work within 10 days of written notice for commencement or resumption as applicable, or
 - d) of the cancellation, termination or withdrawal of the work from the Contractor in whole or in part and/or revision for closure of the contract, or
 - e) of receiving an intimation from the Engineer that the final payment due or to be recovered from the Contractor had been determined, for the purpose of payment/adjustment whichever is the latest. If the matter is not referred to arbitration within the period prescribed above, all the rights and claims of either party under the contract shall be deemed to have been forfeited and absolutely barred by the time for arbitration and even for civil litigation.
- xv) No question relating to this contract shall be brought before any civil court without first invoking and completing the arbitration proceedings, if the issue is covered by the scope of arbitration under the contract. The pending arbitration proceedings shall not disentitle the Engineer to terminate the contract and to make alternate arrangement for completion of the works.
- xvi) Arbitrator/Arbitral Tribunal shall be deemed to have entered into the reference on the day, notice is issued to the parties fixing the first date of hearing. The Arbitrator/Arbitral Tribunal may, from time to time, with the consent of the parties enlarge the initial time for making and publishing the award. However the Arbitrator/Arbitral Tribunal shall make all out efforts to decide each claim within a period of 6 months from the date of initiation.
- xvii) The expiry to the contractual time limit, whether originally fixed or extended, shall not invalidate the provisions of this clause.

Any disputes arising between the parties to this agreement/contract shall fall under the exclusive jurisdiction of the courts at the place where the agreement is executed.

B. TIME CONTROL

26. PROGRAMME

- 26.1 Within the time stated in the **Contract Data** the Contractor shall submit to the Engineer for approval a programme showing the general methods, arrangements, order, and timing for all the activities in the works along with monthly cash flow forecast.
- 26.2 An update of the Programme shall be a Programme showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work including any changes to the sequence of the activities.
- 26.3 The Contractor shall submit to the Engineer, for approval, an updated Programme at intervals no longer than the period stated in the **Contract Data**. If the Contractor does not submit an updated Programme within this period, the Engineer may withhold the amount stated in the **Contract Data** from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue programme has been submitted.



- 26.4 The Engineer's approval of the Programme shall not alter the Contractor's obligations. The Contractor may revise the programme and submit it to the Engineer again at any time. A revised programme is to show the effect of variations if any and compensation events.

27. EXTENSION OF THE INTENDED COMPLETION DATE

- 27.1 If the contractor shall desire an extension of the time for completion of the work on the ground of his having been unavoidably hindered in its execution or any other ground, he shall apply in writing to the Engineer (with corresponding time extension in Performance Security) within thirty (30) days of the date of hindrance (but before the expiry of time limit) on account of which he desires such extent in as aforesaid" and the Superintending Engineer shall if in his opinion (which shall be final) reasonable grounds be shown therefore, authorize such extension of time as may in his opinion be necessary or proper. No application for extension of time received late or addressed to the Sub-Divisional Engineer or any officer other than the Engineer shall be considered valid. If the contractor fails to apply for extension as aforesaid and the work is not completed within the time limit, the contract shall be determined absolutely after action under relevant clauses.

28. DELAYS ORDERED BY THE ENGINEER

- 28.1 The Engineer may instruct the Contractor to delay the start or progress of any activity within the works.

29. MANAGEMENT MEETINGS

- 29.1 The Engineer may require the Contractor to attend a management meeting. The business of a management meeting shall be to review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.
- 29.2 The Engineer shall record the business of management meetings and is to provide copies of his record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken is to be decided by the Engineer either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.

30. EARLY WARNING

- 30.1 The Contractor is to notify the Engineer at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of work, increase the Contract Price or delay the execution of works. The Engineer may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the Contract Price and Completion Date. The estimate is to be provided by the Contractor as soon as reasonably possible.
- 30.2 The Contractor shall cooperate with the Engineer in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Engineer.



C. QUALITY CONTROL

31. QUALITY ASPECTS

- 31.1 a) For carrying out mandatory tests as prescribed in the specifications, the Contractor shall establish field laboratory at the location decided by Engineer. The field laboratory will have minimum of equipment as specified in the Contract Data. The contractor shall be solely responsible for:
- i) Carrying out the mandatory tests prescribed in the Specifications, and
 - ii) For the correctness of the test results, whether performed in his laboratory or elsewhere.
- (b) The Engineer will be free to conduct surprise, random or in situ checks any time during the execution and after the completion of the work but not later than the Defect Liability Period, so as to have cross check in quality of works/projects and compliance to specifications and standards at all stages of the work.
- (c) Nothing in this clause shall reduce the overall responsibility of the Contractor regarding quality and he shall remain liable for any defect in the execution of the Project/Works at all stages.
- 31.2 The procurement process, quality bills and QC records shall be checked from time to time by the Third-party Techno-Financial Auditors as per Instructions conveyed vide Department of Finance letter no. 10/98/17-5FE4/471 dated 13/12/2023, for the works where Administrative Approval cost/Final cost is Rs. 1.0 crore and above. The contractor's laboratory shall also be used by the Techno-Financial Auditors to carry out the tests except where additional lab Finance letter no. 10/98/17-5FE4/471 dated 13/12/2023 of the total cost of tests are required. A deduction @ as mentioned in the Department of work shall be made from the payments of the contractor which shall be used for payments to the Techno-Financial Auditor. Detailed ToR of the special Third-Party Techno-Financial Auditor is attached as Annexure A with the letter issued vide Department of Finance letter no. 10/98/17-5FE-4/471 dated 13/12/2023

32. IDENTIFYING DEFECTS

- 32.1 The Engineer shall check the Contractor's work and notify the Contractor of any defects that are found. The notice of the Engineer shall give the description of the defects in sufficient detail, including the obligations as per the Contract. Such checking shall not affect the Contractor's responsibilities. The Engineer may also instruct the Contractor to search for a Defect and to uncover and test any work that the Engineer considers may have a Defect.
- 32.2 If the Engineer instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a defect and the test shows that it does, the Contractor shall pay for the test and any samples. If there is no Defect the test shall be a Compensation Event.

33. CORRECTION OF DEFECTS

- 33.1 The Engineer shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion and is defined in the **Contract Data**. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.
- 33.2 Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Engineer's notice.



34. UNCORRECTED DEFECTS

- 34.1 If the Contractor has not corrected a Defect within the time specified in the Engineer's notice, the Engineer will assess the cost of having the Defect corrected, and recover **twice** of this amount from the payments due to the Contractor or retention money.

Note: Where in certain cases, the technical specifications provide for acceptance of works within specified tolerance limits at reduced rates, Engineer will certify payments to Contractor accordingly and the Contractor shall be bound by the same.



D. COST CONTROL

35. BILL OF QUANTITIES

- 35.1 The Bill of Quantities shall contain items for the construction, installation, testing and commissioning of work to be done by the Contractor.
- 35.2 The Bill of Quantities is used to calculate the Contract Price. The Contractor is paid for the quantity of work done at the rate in the Bill of Quantities for each item.

36. CHANGE IN THE QUANTITIES

- 36.1 The Engineer shall have power to make any variations, alterations omission, additions to or substitutions for the original specifications, drawings, designs and instructions that may appear to be necessary or advisable during the progress of the work, and the Contractor shall be bound to carry out the work in accordance with any instructions which may be given to him in writing, signed by the Engineer. Such alterations/ additions/substitutions shall not invalidate the contract and shall be carried out by the Contractor on the same conditions in all respect on which he agreed to do the main work. The time of completion of the work shall be extended in the proportion that the altered, additional or substituted works bears to the original contract work and the certificate of the Engineer shall be conclusive as to such proportion.
- 36.2 If the final quantity of work done differs from the quantity in the Bill of Quantities for the particular item by more than 25 percent provided the change exceeds 1% of initial Contract Price, the Engineer shall adjust the rate to allow for the change, duly considering.
- a) Justification for rate adjustment as furnished by the Contractor.
 - b) Economies resulting from increase in quantities by way of reduced plant, equipment and overhead costs.
 - c) Entitlement of the Contractor to compensation events where such events are caused by any additional work.
 - d) The revised rates will be applicable to the quantity that exceeds 25% limit and not on the entire quantity.
- 36.3 The Engineer shall not adjust rates from changes in quantities if thereby the Initial Contract Price is exceeded by more than 15 percent, except with the prior approval of the Employer.
- 36.4 If requested by the Engineer, the Contractor shall provide the Engineer with a detailed cost breakdown of any rate in the Bill of Quantities.

37. VARIATIONS

- 37.1 All variations shall be included in updated Programmes produced by the Contractor.

38. PAYMENT FOR VARIATIONS

- 38.1 The Contractor shall provide the Engineer with a quotation (with breakdown of unit rates) for carrying out the Variation when requested to do so by the Engineer. The Engineer shall assess the quotation, which shall be given within seven days of the



request or within any longer period stated by the Engineer and before the Variation is ordered.

- 38.2 If the work in the Variation corresponds with an item description in the Bill of Quantities and if, in the opinion of the Engineer, the quantity of work above the limit stated in Sub Clause 36.1 or the timing of its execution do not cause the cost per unit of quantity to change, the rate in the Bill of Quantities shall be used to calculate the value of the Variation. If the cost per unit of quantity changes, or if the nature or timing of the work in the Variation does not correspond with items in the Bill of Quantities, the quotation by the Contractor shall be in the form of new rates for the relevant items of work.
- 38.3 If the Contractor's quotation is unreasonable, the Engineer may order the Variation and make a change to the Contract Price which shall be based on Engineer's own forecast of the effects of the Variation on the Contractor's cost.
- 38.4 If the Engineer decides that the urgency of varying the work would prevent a quotation being given and considered without delaying the work, no quotation shall be given and the Variation shall be treated as a Compensation Event.
- 38.5 The Contractor shall not be entitled to additional payment for costs which could have been avoided by giving early warning.

[Alternate Clauses 35 to 38 for Lump Sum Contracts are as follows]

35. SCHEDULE OF PAYMENT

- 35.1 The Schedule of Payment (S-1) shall contain items for the construction, installation, testing, and commissioning work to be done by the Contractor.
- 35.2 The Contractor shall be paid for the quantity of work completed by him on a pro-rata basis at the time of submission of monthly statement pursuant to Clause 39 as per Schedule of Payment (S-1).

36. VARIATIONS & CHANGE IN THE SCOPE OF WORK

- 36.1 The Engineer shall have power to make any variations, alterations omission, additions to or substitutions for the original specifications, drawings, designs and instructions that may appear to be necessary or advisable during the progress of the work, and the Contractor shall be bound to carry out the work in accordance with any instructions which may be given to him in writing, signed by the Engineer. Such alterations/ additions/substitutions shall not invalidate the contract and shall be carried out by the Contractor on the same conditions in all respect on which he agreed to do the main work. The time of completion of the work shall be extended in the proportion that the altered, additional or substituted works bears to the original contract work and the certificate of the Engineer shall be conclusive as to such proportion.
- 36.2 If the final scope of work differs from the original by more than 1% of initial Contract Price, the Engineer shall adjust the rate to allow for the change, duly considering:
- (a) Justification for rate adjustment as furnished by the Contractor,
 - (b) Economies resulting from increase in quantities by way of reduced plant, equipment, and overhead costs.
 - (c) Entitlement of the Contractor to compensation events where such events are caused by any additional work.



- 36.3 The Engineer shall not adjust rates from changes in scope of work, if thereby the Initial Contract Price is exceeded by more than 15 percent, except with the prior approval of the Employer.
- 36.4 If requested by the Engineer, the Contractor shall provide the Engineer with a detailed cost breakdown of any rate of the item undergoing variation in the scope of work.
- 36.5 All variations shall be included in updated Programmes produced by the Contractor.

37. PAYMENTS FOR VARIATION

- 37.1 Any variation that is, increase or decrease in the scope of this work, shall be regulated as per schedule S-II (variation schedule), Section 9 in so far as the payments/recoveries are concerned. All other conditions of contract shall remain unchanged.
- 37.2 If rate is not available in schedule S-II, the Contractor shall provide the Engineer with a quotation (with breakdown of unit rates) for carrying out the Variation when requested to do so by the Engineer. The Engineer shall assess the quotation, which shall be given within seven days of the request or within any longer period stated by the Engineer and before the Variation is ordered.
- 37.3 If the Contractor's quotation is unreasonable, the Engineer may order the Variation and make a change to the Contract Price which shall be based on Engineer's own forecast of the effects of the Variation on the Contractor's costs.
- 37.4 If the Engineer decides that the urgency of varying the work would prevent a quotation being given and considered without delaying the work, no quotation shall be given and the Variation shall be treated as a Compensation Event.
- 37.5 The Contractor shall not be entitled to additional payment for costs which could have been avoided by giving early warning.

38. CASH FLOW FORECASTS

- 38.1 When the Programme is updated, the Contractor is to provide the Engineer with an updated cash flow forecast.

39. PAYMENT CERTIFICATES

- 39.1 The Contractor shall submit to the Engineer monthly statements/bills of the estimated value of the work completed less the cumulative amount certified previously, along with copies of the following documents:-
- (i) Measurements and quantities of items of work done since last bill.
 - (ii) Copies of quality control tests in specified format covering the work done since last bill.
 - (iii) Copies of instructions recorded in the instruction book containing the instructions and compliance made thereof, covering the work done since last bill.
- The Contractor shall submit all bills on the printed forms to be had on application from the office of the Engineer.
- 39.2 The Engineer shall check the Contractor's monthly statements within 30 days and



certify the amount to be paid to the Contractor after taking into account any deductions for advance payments, retention, other recoveries in terms of the contract and taxes at source, as applicable under the law, and the credit or debit for the month in question in respect of materials for the works in the relevant amounts and under conditions set forth in clause 47. The Contractor shall be required to sign the corrections made, if any, in token of acceptance of the same, before release of payment.

- 39.3 The value of work executed shall be determined by the Engineer.
- 39.4 The value of work executed shall include the valuation of Variations and Compensation Events. The Contractor shall be deemed to have waived off all claims not included in such bills/statements and will have no right to enforce any claim not so included, whatsoever be the circumstances.
- 39.5 The Engineer may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in light of later information.

40. PAYMENTS

- 40.1 The Engineer on behalf of Employer shall pay the Contractor the amounts certified by the Engineer.
- 40.2 Items of the Project/Work, for which no rate or price or percentage of lump sum rate has been entered in, will not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.
- 40.3 Any excess payment made to the Contractor inadvertently or otherwise under this contract or on any account whatsoever and any other sum found to be due to the Government by the Contractor in respect of this contract or any other contract or work-order or any account whatsoever may be deducted from any sum payable by the Government to the Contractor either in respect of this contract or any work order or contract or any other account by any other department of the Government.
- 40.4 The Engineer may refuse or suspend payments on account of a work when executed by a firm or by a Contractor described in his bid as a firm, unless receipts are signed by all the partners, or one of the partners or an authorized representative of the Contractor who produces a valid authority in writing enabling him to give effectual receipts on behalf of the firm.
- 40.5 All the intermediate payments shall be regarded as payments by way of advance against the final payment only and not as payments for work actually done and completed; and shall not preclude the requiring of bad, unsound, imperfect or unskilled work to be removed and taken away and reconstructed or re-erected or be considered as an admission of the performance of the contract or any part thereof in any respect of the occurring of any claim, nor shall it conclude, determine or effect in any way the powers of the Engineer under these conditions or any of them as to the final settlement and adjustment of the accounts or otherwise or in any other way, vary or affect the contract.
- 40.6 The receipt of the Accountant or Clerk for any money paid by the Contractor to the department will not be considered as a receipt of payment to the Engineer and the Contractor shall be responsible for ensuring that he procures a receipt duly signed by the Engineer or his Sub Divisional Engineer.



41. **COMPENSATION EVENTS**

41.1 The following are Compensation Events unless they are caused by the Contractor:

- a) The Engineer does not give access to a part of the Site as stipulated in Clause 22 by the Site Possession Date stated in the **Contract Data**.
- b) The Employer modifies the schedule of other Contractors in a way which affects the work of the Contractor under the contract.
- c) The Engineer orders a delay or does not issue drawings, specifications and/or instructions required for execution of works on time.
- d) The Engineer gives an instruction for dealing with an unforeseen condition, caused by the Employer, or other reasons.
- e) The effect on the Contractor of any of the Employer's Risks.
- f) The Engineer unreasonably delays issuing a Certificate of Completion.
- g) Other Compensation Events listed in the **Contract Data** or mentioned in the Contract.

41.2 If a Compensation Event would cause additional cost or would prevent the work being completed before the Intended Completion Date, the Contract Price shall be increased and/ or the Intended Completion Date is extended. The Engineer shall decide whether and by how much the Contract Price shall be increased and whether and by how much the Intended Completion Date shall be extended.

41.3 As soon as information demonstrating the effect of each Compensation Event upon the Contractor's forecast cost has been provided by the Contractor, it is to be assessed by the Engineer and the Contract Price shall be adjusted accordingly. If the Contractor's forecast is deemed unreasonable, the Engineer shall adjust the Contract Price based on Engineer's own forecast. The Engineer will assume that the Contractor will react competently and promptly to the event.

41.4 The Contractor shall not be entitled to compensation to the extent that the Employer's interests are adversely affected by the Contractor not having given early warning or not having cooperated with the Engineer.

42. **TAXES**

42.1 The rates quoted by the Contractor shall be deemed to be inclusive of all the taxes, levies, etc. including their variations as notified by the concerned authority from time to time, and also of all the new taxes and levies that may be imposed that the Contractor will have to pay for the performance of this Contract. The Engineer on behalf of the Employer will perform such duties in regard to the deduction of such taxes at source as per applicable law.

42.2 The Contractor shall comply with the proper bye-laws and legal orders of the local body or public authority under the jurisdiction of which the work is executed and pay all fees and charges for which he may be liable. Nothing extra shall be payable on this account.

43. **CURRENCIES**

All payments shall be made in Indian Rupees.

44. PRICE ADJUSTMENT

44.1 Contract price shall be adjusted for increase or decrease in rates and price of Bitumen, Cement & Steel only in accordance with the following principles and procedures and as per formula given in the **Contract Data**:

- (a) The price adjustment shall apply for the work done from the start date given in the **Contract Data** upto end of the initial intended completion date or extensions granted by the Engineer. However for the work done during the period for which extension has been granted by the Engineer, the price adjustment shall be made using either the rates/prices prevailing at the time of intended date of completion, or the rates/prices as prevailing for the period under consideration, whichever is less.
- (b) The price adjustment shall be determined during each month from the formula given in the **Contract Data**. It will exclude value for works executed under variations for which rates will be worked separately based on the terms mutually agreed.

(No price adjustment is to be paid for the work done in first six months from the date of allotment of work irrespective of the time period specified except for bitumen component in case of road works for which (a) above shall apply)

44.2 To the extent that full compensation for any rise or fall in costs to the Contractor is not covered by the provisions of this or other clauses in the contract, the bid price shall be deemed to include amounts to cover the contingency of such other rise or fall in costs.

45. RETENTION MONEY (SECURITY DEPOSIT)

- 45.1 The Engineer on behalf of the Employer shall retain 5% of the amount of each payment due to the Contractor until Completion of the whole of the Project/Work to cover the cost that may be involved in removal of defects, imperfections, or taking remedial measures in the work executed. This retention shall be inclusive of the initial bid security deposited by the bidder.
- 45.2 50% of the total amount retained shall be repaid to the Contractor after three months of completion of the whole of the Project/Work as certified satisfactory by the Engineer with respect to removal of all defects, imperfections, short comings and taking remedial measures, that may be necessary and after recording of final measurements of work done, for which the certificate of the Engineer would be conclusive.
- 45.3 The remaining amount of the retained money shall be repaid after one year or when the Defects Liability Period has passed, whichever is later, and after the Engineer has certified that all Defects notified by the Engineer to the Contractor before the end of this period have been corrected.

46. LIQUIDATED DAMAGES

46.1 The Contractor shall ensure due diligence to achieve progress of work not less than that indicated in the following milestones:-

- | | | | |
|------|--|---|------|
| i) | On Lapse of 25% contractual time | : | 10% |
| ii) | On Lapse of 50% contractual time | : | 30% |
| iii) | On Lapse of 75% contractual time | : | 65% |
| iv) | On Lapse of 100% (full) contractual time | : | 100% |



In case of default, the Contractor shall, notwithstanding issuance of a prior notice in this regard, pay prospectively as liquidated damages an amount upto 1% of the amount of contract or such lesser amount that the Engineer may levy on behalf of the Employer, for every week of the period for which the work remains un-commenced after 10 days of the issue of acceptance letter; or the minimum progress of work stated above is not achieved; or the work remains unfinished after the completion date.

- 46.2 In case of continued default or shortfall in progress, the Engineer may go on enhancing the levy of liquidated damages, each time limited to 1% of the amount of contract per week of further default subject to maximum limit of five (5) percent of the Contract value.
- 46.3 The Superintending Engineer on representation from Contractor and after hearing both the Engineer and Contractor may reduce the amount of liquidated damages after passing speaking orders and his decision in writing shall be final and binding.
- 46.4 If the Intended Completion Date is extended after liquidated damages have been paid, the Engineer shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate.
- 46.5 If the Contractor fails to comply with the time for completion as stipulated in the tender, then the Contractor shall pay to the Employer (through the Engineer), the relevant sum stated in the **Contract Data** as Liquidated damages for such default and not as penalty for everyday or part of day which shall elapse between relevant time for completion and the date stated in the taking over certificate of the whole of the works on the relevant section, subject to the limit stated in the **Contract Data**.
- 46.6 If, before the Time for Completion of the whole of the Works or, if applicable, any Section, a Taking – Over Certificate has been issued for any part of the Works or of a Section, the liquidated damages for delay in completion of the remainder of the Works or of that Section shall, for any period of delay after the date stated in such Taking- Over Certificate, and in the absence of alternative provisions in the Contract, be reduced in the proportion which the value of the part so certified bears to the value of the whole of the Works or Section, as applicable. The provisions of this Sub- Clause shall only apply to the rate of liquidated damages and shall not affect the limit thereof.

47. ADVANCE PAYMENT

- 47.1 The Engineer on behalf of the Employer shall make advance payment to the Contractor of the amounts upto 5% of the contract amount (excluding maintenance cost if any) against provision by the Contractor of an Unconditional Bank Guarantee in a form and by a bank acceptable to the Engineer on behalf of the Employer in amounts and currencies equal to the advance payment. The guarantee shall remain effective until the advance payment has been repaid, but the amount of the guarantee shall be progressively reduced by the amounts repaid by the Contractor. Interest shall be charged at the rate of 9% per annum on the advance payment.
- 47.2 The Contractor is to use the advance payment only to pay for Equipment, Plant and Mobilization expenses required specifically for execution of the works. The Contractor shall demonstrate that advance payment has been used in this way by supplying copies of invoices or other documents to the Engineer.
- 47.3 The advance payment shall be repaid by deducting proportionate amounts from payments otherwise due to the Contractor, following the schedule of completed percentages of the Works on a payment basis. No account shall be taken of the advance payment or its repayment in assessing valuations of work done, Variations, Price Adjustments, Compensation Events, or Liquidated Damages.

48. SECURED ADVANCE

48.1 The Contractor, on signing an indenture in the form to be specified by the Engineer, shall be entitled to be paid, during the execution of work, upto 75% of the estimated value of any materials, which, in the opinion of the Engineer, are non-perishable and which have been procured and adequately stored against damage, but which have not been incorporated in the works at the time of making advance.

This secured advance shall be subject to the following :

- a) The materials are in accordance with the specification for works;
- b) Such materials have been delivered to site, and are properly stored and protected against damage or deterioration to the satisfaction of the Engineer. The Contractor shall store the bulk material in measurable stacks;
- c) The Contractor's records of the requirements, orders, receipt and use of materials are kept in a form approved by the Engineer and such records shall be available for inspection by the Engineer;
- d) The Contractor has submitted with his monthly statement the estimated value of the materials on site together with such documents as may be required by the Engineer for the purpose of valuation of the materials and providing evidence of ownership and payment thereof;
- e) Ownership of such materials shall be deemed to vest in the Employer for which the Contractor has submitted an Indemnity Bond in an acceptable format; and
- f) The quantities of materials are not excessive and shall be used within a reasonable time as determined by the Engineer.

49. SECURITIES

The Performance Security (including additional security for unbalanced bids) shall be provided to the Engineer on behalf of the Employer no later than the date specified in the Letter of Acceptance and shall be issued in an amount and form and by a bank or surety acceptable to the Engineer on behalf of the Employer and denominated in Indian Rupees. The Performance Security shall be valid until a date 28 days pursuant to the date of expiry of the Defects Liability Period and the additional security for unbalanced bids shall be valid until a date 28 days from the issue of the certificate of completion.

50. COST OF REPAIRS

50.1 Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects' Correction periods shall be remedied by the Contractor at Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.

E. FINISHING THE CONTRACT

51. COMPLETION

51.1 The Contractor shall request the Engineer to issue a Certificate of Completion of the works and the Engineer, within 30 days of the receipt of such request, shall inspect the work and if there is no defect in the work, shall furnish the Contractor with a



certificate of completion. Otherwise, the Engineer may issue a provisional certificate of completion indicating the defects (a) to be rectified by the Contractor and/or (b) for which payment shall be made at reduced rates. However no certificate, provisional or otherwise, shall be issued nor shall the work be considered to be complete until the Contractor has cleared all scaffolding, surplus materials, garbage and all huts and sanitary arrangements set up for the labour at the site and cleaned off the dirt from work.

52. TAKING OVER

- 52.1 The Engineer on behalf of the Employer shall take over the Site and the Works within seven days of having issued a Certificate of Completion to the Contractor.

53. FINAL ACCOUNT

- 53.1 The Contractor shall supply to the Engineer a detailed account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Engineer shall issue a Defect Liability Certificate and certify any final payment that is due to the Contractor within 56 days of receiving the Contractor's account if it is correct and complete. If it is not, the Engineer shall issue within 56 days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the Engineer shall decide on the amount payable to the Contractor and issue a payment certificate, within 56 days of receiving the Contractor's revised account.

54. MANUALS & REGISTERS

- 54.1 If "as built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated in the **Contract Data**.
- 54.2 If the Contractor does not supply the Drawings and/or manuals by the dates stated in the **Contract Data**, or they do not receive the Engineer's approval, the Engineer shall withhold the amount stated in the **Contract Data** from payments due to the Contractor.
- 54.3 The Contractor shall also furnish, if so desired by the Engineer, the following documents duly signed by him or his authorized representatives:
- i) Variation statement showing the altered items, if any against those provided in the original drawings.
 - ii) Original site instruction book.
 - iii) Original registers for various quality control tests as specified.
 - iv) Register of consumption of Cement, Steel and Bitumen.

55. TERMINATION

- 55.1 The Engineer on behalf of the Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract. For this purpose, 14 days notice in writing shall be served by either party on the other party clearly mentioning the particular grounds of Breach of Contract with a copy to the Employer.



Section 3 - General Conditions of Contract

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55.2 Fundamental breaches of Contract include, but shall not be limited to the following:

- (a) the Contractor stops work for 28 days when no stoppage of work is shown on the current programme and the stoppage has not been authorized by the Engineer;
- (b) the Employer or the Contractor is declared bankrupt or goes into liquidation other than for a reconstruction or amalgamation;
- (c) the Engineer gives Notice that failure to correct a particular defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Engineer;
- (d) the Contractor does not maintain a security which is required;
- (e) the Contractor has delayed the completion of works by the number of days for which the maximum amount of liquidated damages can be paid as defined in the **Contract Data**; and
- (f) If the Contractor, in the judgment of the Engineer or the Employer has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.
- (g) If the Contractor, having been given a notice in writing by the Engineer, fails to rectify, reconstruct or replace any defective work or continues the execution of work in an inefficient, improper, unworkman-like manner or not in accordance with sound Engineering practices or without complying with the directions and requirements within a period of 10 days of the issue of said notice.
- (h) If the Contractor being a company shall pass a resolution or a court shall make an order of the effect that the company shall be wound up or if a receiver or a manager on behalf of the credit or shall be appointed or if circumstances shall arise which entitle the court of creditor to appoint a receiver or manager or to make a winding up order.
- (i) If the Contractor commits any acts of defaults with respect to conditions of contract.

55.3 Notwithstanding the above, the Engineer on behalf of the Employer may terminate the Contract for convenience.

55.4 If the Contract is terminated the Contractor shall stop work immediately, make the Site safe and secure and leave the Site as soon as reasonably possible.

55.5 After the termination of the contract under this clause, the Employer shall be at liberty to get the balance work executed through some other contractual agency or through departmental means or to abandon the balance work altogether or to modify the design and scope of the work in any manner. The Contractor shall have no claim against the Employer in this regard.

56. PAYMENT UPON TERMINATION

56.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Engineer shall issue a certificate for the value of the work done less advance payments received upto the date of the issue of the certificate, less other recoveries due in terms of the contract, less taxes due to be deducted at source as per applicable law and less 5% of the contract value towards compensation for the breach of contract. The total amount of liquidated damages and compensation for breach of contract shall, however, be limited to 7.5% of the contract value or the



amount available with the Engineer (in the shape of retention money, performance security and due amount of work done if any), whichever is less. The requisite amount for which the Contractor may become liable shall be realized by encashing the performance security furnished by the Contractor and/ or from other amounts due to the Contractor in respect of this work.

- 56.2 If the Contract is terminated at the Employer's convenience or because of a fundamental breach of Contract by the Employer, the Engineer shall issue a certificate for the value of the work done. This work value shall take into account the cost of balance material brought by the Contractor and available at site, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the works. The advance payment received upto to the date of the certificate, other recoveries due in terms of the contract and the taxes due to be deducted at source as per applicable law, shall be deducted from the work value.

56.3 **No Compensation for Alteration in or Restriction in Works**

If at any time after the commencement of the work the Government, for any reason whatsoever, does not require the whole Project/Work or part thereof to be carried out, the Engineer shall give notice in writing of the fact to the Contractor, who shall have no claim to any payment or compensation whatsoever 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 full amount of work not having been carried out, neither shall he have any claim for compensation by reasons of any alteration having been made in the original specifications, drawings, designs and instructions, which shall involve any curtailment of the work originally contemplated.

57. **PROPERTY**

- 57.1 All materials on the Site, Plant, Equipment, Temporary works and Works are deemed to be the property of the Employer, if the contract is terminated as per Clause. 55.2 above because of a Contractor's default.

58. **RELEASE FOR PERFORMANCE**

- 58.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the Contractor the Engineer shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which commitment was made.



SECTION 3

(ii) CONDITIONS OF PARTICULAR APPLICATION [COPA]



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CONDITIONS OF PARTICULAR APPLICATION

Conditions/Clauses of the contract which are required in case of particular or specific work shall form part of this section. Such conditions may include additional qualification conditions for the bidders. For example, for construction of a bridge work in running canal conditions, an additional qualifying condition can be that the bidder should have experience of having done construction in such demanding conditions. Fresh administrative or financial instructions can also be included in this section.

Clauses included in the General Conditions and Clauses of the Contract may need to be modified or deleted to suit the particular situation. Those modifications and deletions in reference to the clauses should also be inserted in this part.



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SECTION 4

CONTRACT DATA



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Section 4 – Contract Data

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Contract Data

Name of the Project/Work : CONSTRUCTION OF GOVT SR. SEC SCHOOL AT BAJWARA, DISTT: HOSHIARPUR (PUNJAB)

Contract Identification No. :

The Contract Data hereunder pertains to some specific, but in no way exhaustive, information on the Project/Work. The bidders are required to study and account for this data in conjunction to various other Sections of the Document. GCC stands for 'General Conditions of Contract'.

Conditions	Ref. GCC Clause	Data
Employer's name and address.	1.1	Name: Chief Engineer, Punjab PWD (B&R) Branch, Patiala for and on behalf of Governor of Punjab. Address: Punjab PWD B&R Branch, Mini Secretariat, C Block, Patiala, Punjab (India).
Authorised representative of the Employer	1.1	Executive Engineer, Provincial Division PWD (B&R) Hoshiarpur
Engineer's name and address.	1.1	Executive Engineer, Provincial Division PWD (B&R) Hoshiarpur
Defect Liability Period.	1.1 & 33	It is <u>One</u> year from the date of completion.
Start Date.	1.1	The start date shall be from the date of issue of the allotment letter by the Engineer.

Government of Punjab, Public Works Department, Buildings & Roads Branch.



Intended Date of Completion.	1.1 & 14	The intended completion date for the whole works is 12 Months after start of the work.																															
Additional document that also form part of contract.	2.3 (i)	As per agreement																															
The law which applies to the Contract.	3.1	The Law of the Union of India and the language shall be English																															
Amounts of Insurance & Deductions by Engineer.	13.1	<table><tr><th>Sr No.</th><th>Nature of Insurance</th><th>Minimum Cover for Insurance</th><th>Maximum deductible for Insurance</th></tr><tr><td>(i)</td><td>Works and Plant & Machinery</td><td>Equal to contract amount</td><td>0.4% of contract amount</td></tr><tr><td>(ii)</td><td>Loss damages to equipment (unlimited occurrences)</td><td>10% of contract amount</td><td>0.4% of contract amount</td></tr><tr><td>(iii)</td><td>Other property (unlimited occurrence)</td><td>5% of contract amount</td><td>0.4% contract amount</td></tr><tr><td>(iv)</td><td colspan="2">Personal injury or death insurance</td><td></td></tr><tr><td></td><td>a) For other people (unlimited occurrences)</td><td>25 Lac</td><td>As per actual premium of insurance company</td></tr><tr><td></td><td>b) For Contractor's Employee</td><td colspan="2">In accordance with the statutory requirements applicable to India</td></tr></table>				Sr No.	Nature of Insurance	Minimum Cover for Insurance	Maximum deductible for Insurance	(i)	Works and Plant & Machinery	Equal to contract amount	0.4% of contract amount	(ii)	Loss damages to equipment (unlimited occurrences)	10% of contract amount	0.4% of contract amount	(iii)	Other property (unlimited occurrence)	5% of contract amount	0.4% contract amount	(iv)	Personal injury or death insurance				a) For other people (unlimited occurrences)	25 Lac	As per actual premium of insurance company		b) For Contractor's Employee	In accordance with the statutory requirements applicable to India	
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	a) For other people (unlimited occurrences)	25 Lac	As per actual premium of insurance company																														
	b) For Contractor's Employee	In accordance with the statutory requirements applicable to India																															
The Site possession dates are:	22	i. For Date of Award Contract ii. For iii. For																															
The Period for Submission of the Programme for approval of Engineer.	26	21 days from the issue of Letter of Acceptance.																															
The Additional Compensation Events are:	41.1 g)	(i) Substantially adverse ground conditions encountered during the course of execution of work not provided in the bidding Document. (ii) Removal of underground utilities detected subsequently. (iii) Significant change in classification of soil requiring additional mobilization by the Contractor, e.g. ordinary soil to rock excavation, (iv) Removal of unsuitable material like marsh, debris dumps, etc. not caused by the Contractor. (v) Artesian conditions. (vi) Seepage, erosion, landslide. (vii) Presence of historical, archeological or religious structures, Monuments interfering with the works. (viii) Restriction of access to ground imposed by civil, judicial, or military authority.																															
The currency of the Contract.	43	Indian Rupees																															



The formula (e) for adjustment of prices are;	44	<p>i) ADJUSTMENT FOR BITUMEN COMPONENT</p> <p>Price adjustment for increase or decrease in the cost of bitumen shall be paid in accordance with the following formula:</p> $Vb = Pb \times (Bi - B0)$ <p>Vb = Increase or decrease in the cost of bitumen work during the month under consideration due to Changes in rates for bitumen.</p> <p>$B0$ = The official retail price of bitumen at the Indian Oil Corporation (IOC) Depot at nearest center (Panipat/Bathinda) considered by the Department While approving the invitation of the Bids. This price for the work under consideration is Rs. [Bitumen price as on].</p> <p>Bi = The official retail price of bitumen of IOC Depot at nearest center (Panipat/Bathinda) for the month under consideration.</p> <p>Pb = quantity of bitumen actually consumed in the work done in the period under consideration.</p> <p>If the prices of bitumen change during the period under consideration for working out escalation, the period shall be split up to calculate appropriate adjustment.</p> <p>Contractor's profit shall not be considered on Price Adjustment.</p> <p>ii) ADJUSTMENT FOR CEMENT COMPONENT</p> <p>Price adjustment for increase or decrease in the cost of cement procured by the Contractor shall be paid in accordance with the following formula:</p> $Vc = Ne \times Rc (Ci - C0) / C0$ <p>Vc = Increase or decrease in the cost of work during the month under consideration due to changes in the rates for cement.</p> <p>$C0$ = The initial price of cement per 50 kg bag based on the All India Wholesale Price Index for cement, as published by the Ministry of Industrial Development, Government of India, New Delhi, As on the date on which the rate of cement Rc was enforced by the Department.</p> <p>Ci = The current price of cement per 50 kg bag based on the All India average Wholesale Price Index for cement published by the Ministry of Industrial Development, Government of India, New Delhi (current = month under consideration).</p>
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		<p>Rc = Rate of Cement per 50 Kg bag considered by the Department while inviting the bids, i.e. Rs.303.14 for PPC ---per bag as on date of tender</p> <p>Nc = Number of 50 Kg cement bags actually consumed in work during the period under consideration.</p> <p>Contractor's profit shall not be considered on Price Adjustment.</p> <p>iii) ADJUSTMENT FOR STEEL COMPONENT</p> <p>Price adjustment for increase or decrease in the cost of steel procured by the Contractor shall be paid in accordance with the following formula:</p> <p>$V_s = Q_s \times R_s (S_i - S_0) / S_0$</p> <p>Vs = Increase or decrease in the cost of work during the month under consideration due to changes in the rates for cement.</p> <p>So = The initial price of steel per metric tonne based on the All India whole sale price index for steel, as published by the Ministry of Industrial Development, Government of India, New Delhi, As on the date on which the rate of steel Rs. _ was enforced by the Department</p> <p>Si = The current price of steel per metric tonne based on the All India average whole sale price index for steel, as published by the Ministry of Industrial Development, Government of India, New Delhi (Current = Month under consideration).</p> <p>Rs = Rate of Steel per metric tonne considered by the Department while inviting the bids, i.e. Rs. 57,202.52 per metric tone as on date of tender (Steel ISI Marked) Rs. 60,777.68 per metric tone as on date of tender (Steel Produced by Primary Producer)</p> <p>Qs = Quantity of Steel in metric tonne actually consumed in work during the period under consideration.</p> <p>Contractor's profit shall not be considered on Price Adjustment.</p>
The schedule of submission of operating and Maintenance manual:	54.1	15 days after completion of work.



The amount to be withheld for failing to supply "as built" drawings, if any, by the date required:	54.2	Rs. 10,000 (Rupees Ten Thousand only) or 1% of the contract amount, whichever is higher.
The Events which shall also mean fundamental breach of contract:	55.2	The Contractor has contravened Clause 9 of GCC.



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SECTION 5

TECHNICAL CONDITIONS, SPECIFICATIONS & REQUIREMENTS



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This section shall include detailed Technical Conditions, Specifications & Requirements specific to the Project/Work.

Every organization using this bidding document shall define these conditions at its own level.



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ADDITIONAL CONDITIONS:-

1. The Contractor shall quote the overall excess or below or at par the NIT amount. Item rate will not be accepted. For payment purpose the quoted percentage shall be applicable uniformly to the rates of items described in the bill of quantity.
2. Bid validity pursuant to sub clause-15.1 of ITB will be "120 days"
3. Multiplying escalation factors pursuant to appendix ITB Para No.15.1 for cost of works executed and financial figures w.r.t. base year price level (Base year in which bids are received) are:-

One Year	1.08	Four Year	1.32
Two Year	1.16	Five Year	1.40
Three Year	1.24		

4. **In pursuant to Clause 31 of GCC: QUALITY ASPECTS following para to be added in this clause as per Chief Engineer Nodal Officer Building vide his letter no. 1010/Bldg/Chd, dated: 02-09-2021 .**
 - 4.1 (d) For works above 30.00 Lacs to 5.00 Crore. The contractor will set up fully equipped field Laboratory at site, at his own expenses to conduct Quality Control tests required as per relevant specifications/Quality policy/Manual of Quality Control. The record shall be maintained in the prescribed format and the contractor shall supply copies thereof to the Engineer regularly with the bills.
 - 4.2 (e) For works above 5.00 Crore. The contractor shall employ a competent quality control consultant/engineer to produce quality works. He is also expected to improve his procedures in line with ISO 9002 and get this certification. The contractor will set up fully equipped field laboratory to conduct quality control tests required as per relevant specifications. The records shall be maintained in the prescribed formats and the contractor shall supply copies thereof to the Engineer regularly with the bills without which no payment shall be made. It shall be got approved from the engineer. Payment to the quality control consultant will be made by engineer after deducting it from contractor's bill as per the rates in agreement between contractor and consultant. In case the contractor fails to employ the quality control consultant for the whole or part of the period of execution, the Engineer on behalf of the Employer may order setting up of the laboratory and/or employment of Quality Control Consultant at the cost of the Contractor or may order the departmental staff in carry out quality control tests. A deduction @ 1.5% of the total cost of the work or actual expenditure incurred in this respect, whichever is more, shall be made from the payments of the contractor. Nothing in this clause shall reduce the overall responsibility of the Contractor regarding quality and the Contractor will remain liable for defect in the execution.
 - 4.3 (f) The Engineer/CE-QA-cum-CVO or through IQAC be free to conduct surprise, random or in situ check/test as per relevant specifications/Quality policy/Manual of Quality Control any time during the execution and after the completion of the work but not later than the Defect Liability Period, so as to have cross check in quality.
5. Payment for variations and change in the scope of work pursuant to Clause 38 of GCC:- The rates for such additional altered, substituted work or part of any item shall be determined in accordance with the following provisions in their respective order.

Contractor

Witness

Executive Engineer




- 5.1 If the rate of the additional, altered, substituted work or part of any item are specified in the contract for the work the contractor is bound to carry out the additional, altered, substituted work or part of any item at the same rates as are specified in the contract for the work or derived from the similar item:-
- 5.2 If the rates for the additional, altered or substituted work are not specifically provided in the contract for the work, the rates will be derived from the rates for a similar class of work as are specified in the contract for the work.
- 5.3 If the rates cannot be determined as provided in (i) and (ii) above, then such work shall be paid at the rates entered in common schedule of the rates (on date of tender) minus/plus the percentage rate at which the bid has been accepted.
- 5.4 If the rates for the altered, additional or substituted work cannot be determined in the manner specified in Clause (i) (ii) (iii) above, then the contractor shall submit his rate as specified in Clause No.38 of GCC.
6. **REGARDING INTERNAL METTALED ROAD WORK, INTERNAL PUBLIC HEALTH WORKS & INTERNAL ELECTRICAL WORKS IN THE BUILDINGS:-**
- 6.1 The prime Civil contractor will engage/identify his sub contractor for execution of works like Mettalaed Road work, Internal Public Health works, Internal Electrical works having valid enlistment for executing the road work/water supply & sanitary & Electrical works and should have qualification as per SBD clause No. 4 of ITB for respective works. The Executive Engineer (Civil) for and on behalf of the Governor of Punjab shall sign the agreement with contractual agency. The respective Executive Engineer will have right to operate the agreement for all terms and clauses of the agreement in respect of relevant portion of the work under this agreement for execution of work, supervision, inspection and quality control and payment purposes only.
- 6.2 An agreement between prime contractor and sub contractor for the works like Mettalaed Road Work, Public Health Works & Electrical Works will be executed by the contractor in this regard as per Annexure-4.1, 4.2 & 4.3 respectively.
- 6.3 The said agreement between prime contractor and sub contractor will be submitted in technical bid (Part-1) alongwith all relevant document in support of his qualification as per SBD clause No.4 of ITB. In pursuence to Clause No.7 of GCC Sub contracting limit will not be binding in this case.
- 6.4 The Engineer-in-charge for Mettalaed Road Work will be respective **Executive Engineer of Department of PWD B&R. (Tender invitee Engineer)**
- 6.5 The Engineer-in-charge for Public Health Works will be respective **Executive Engineer of W/S & Sanitation Division, Department of W/S & Sanitation.**
- 6.6 The Engineer-in-charge for Electrical Works will be respective **Executive Engineer of Electrical Division, PWD B&R.**
- 6.7 The payment will be made directly to the agency by the respective **Executive Engineer, (Civil), PWD (B&R)** against the relevant work done/bill verified by the respective Engineer-in-charge.

Contractor

Witness

Executive Engineer

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7. The description of all the above items is subject to all notes and clarification included in the Common Schedule of Rates-2020 and of Pb. PWD specification latest edition corrected up to date. Rates are including all carriages of material.
 8. Agenda & Corrigendum issued by the Chief Engineer from time to time up-to date of Tender will be applicable for the purpose of measurement/Payment.
 9. The payment will be made after deducting Income Tax, GST, Labour Cess, Cultural Cess as applicable by the rules.
 10. Blank
 11. The contractor shall carryout the mixed design if required for the relevant item of concrete from reputed institution/laboratories as approved by the Engineer at his own expenses. Prior approval of Engineer is to be taken before the samples (Cement, Coarse & Fine Aggregates) sent to the institution/laboratories for mix design. The design mix required may be with or without admixtures. The decision of Engineer-In-Charge final and binding above. Nothing extra shall be paid on this account over the rates exhibited in the BOQ/CSR.
 12. Cost of binding wire, wastage of steel is included in the rate and shall not be paid separately.
 13. The material will be arranged by the contractor as per latest instruction issued by the Secy. to Govt. Punjab, PWD B&R Chandigarh vides his memo No. 12/85/2004-/B&R/2979-85 dated 29-7-04.
 14. Amount/Quantity of any item can be increased or any item can be omitted or Substituted as per actual requirement at site of work as per approval of the Engineer-In - Charge. No claim in this regard will be entertained.
 15. Nothing extra will be paid due to loss/damages caused by rains, floods, war, epidemic strike of the department officials or any other Act of God or any other cause what so ever.
 16. The quantities given against respective item are arbitrary subject to actual as per approved designs/Drawings.
 17. The work is required to be completed strictly as per the scope of NIT approved drawing irrespective of Qty, and amount of agreement as desired by the Engineer-In-charge.
 18. No claim on account of paucity of funds, non receipt of LOC change in Priority or any other causes what so ever will be entertained and the Contractor/firm will have no right to go on for Arbitration on this account.
 19. A reasonably furnished site office accommodation having a toilets & pantry with file storage facility, Electricity & drinking water will have to be provided by the contractor at his own cost for the site office. For work costing more than 1.00 Crore office shall be furnished with Computer 14th Generation Intel core i7 processor 23.8" FHD display 16 GB DDR 5RAM 1 TB SSD Hard disk Multimedia Keyboard, wireless Mouse, Speaker, LAN card and Modem. pre loaded legal window operating System software (XP or superior) (with media), 3 in 1 Laser Printer, UPS 0.7 KVA (with 30 minutes back up) and all other accessories including computer table and chair complete 2 sets to be made available as per requirements given by the Engineer. In case suitable existing building/accommodation is available at site, the same may be furnished as above with the consent of engineer-in-charge

Contractor

Witness

Executive Engineer



- 20 Agency shall submit the structural design and drawings fully in accordance with all the applicable clauses of relevant IS/ Building/ IRC Codes including supply of CAD print/Xerox copy in required copies and other documents (as per CE PRBDB letter no. 3650/ 62 Dated: 02.09.2024) and soft copy of design calculations through proper official channel. Soft copy of design files shall be accepted only through official Email Channel. The hard copy of drawings shall be preferably in A2 size. All the notes on drawings should be fully legible. Various details on drawings should be adequately spaced. There should be sufficient space on right side of drawings adjacent to notes put up by consultant for adding various notes and stamping for approval of drawings by the approving authority. The structural Design/ Drawings shall be got approved from competent authority based on total project plinth area in accordance with CE PRBDB office letter no.3650/ 62 Dated: 02.09.2024 (CE office/ SE of concerned Construction Circle). The contractor shall ensure proof checking of structural design and drawings from IIT New Delhi, IIT Roorkee, IIT Ropar, NIT Jalandhar, NIT Kurukshetra, (or any other IIT/ NIT with the prior approval of approving authority), PEC Chandigarh, Thapar Institute Patiala, GNE Ludhiana, Giani Zail Singh College, Bathinda.
- If any modification in design/ drawings is needed based upon on observations of the approving authority or as per site conditions, the contractor shall do/ redo without any extra cost. All the revised design calculations/ drawings shall be submitted after getting it proof checked from proof consultant through proper official channel.
- Consultant and Proof consultant shall duly sign and certify all the design calculations and drawings for safety and 'optimal for economy'.
- A certificate shall also be furnished by both design consultant and proof consultant for the safety and 'optimal for economy' of structure based on design calculations/drawings for all the submissions, whether original or revised.
- In case, the approving authority needs consultant/ proof consultant to clarify certain observations regarding design/ drawings in person, the contractor will facilitate the visit of consultant/ proof consultant for the purpose and consultants will be bound for this.
- Any delay in approval of design/ drawings because of non-compliance of observations conveyed or delay, due to late submission of revised design/ drawings fully complying with observations conveyed, shall be the responsibility of contractor.
- 21 Material/old material if available at site will be issued to contractor and recovery will be made as per rate fixed by the Engineer-in-Charge. But old material if issued does not mean allowed to use in construction.
- 22 Blank
- 23 Clause 36.2 to 36.4 of GCC i.e. CHANGE IN THE QUANTITIES treated as "deleted"
- 24 In pursuant to Clause 44 of GCC i.e. PRICE ADJUSTMENT, if rates are higher than the rates approved in the DNIT then the Price Adjustment for increase or decrease in the cost of Bitumen, Cement & Steel shall be adjusted as per formula given in the Contract data in which the rate of Bitumen (Bo), the rate of Cement (Rc) & rate of steel (Rs) will be applicable as on date of Tender justified by the contractor/justification prepared by the department.

Contractor

Witness

Executive Engineer



- 25 In case of time limit is more than 6 months & if the amount of agreement is required to be enhanced, then time limit will be extended proportionately but price adjustment in pursuant to clause 44 of GCC stands freeze as on extended date.
- 26 In pursuant to clause no 42.1 of GCC: The rate quoted by the contractor shall be deemed to be inclusive of all taxes/GST, levies, etc. including their variations as notified by the concerned authority from time to time, and also of all the new taxes and levies that may be imposed that the Contractor will have to pay for the performance of this Contract. The Engineer on behalf of the Employer will perform such duties in regard to the deduction of such taxes at source as per applicable law. Nothing extra will be paid on this account.
- 27 The contractor shall provide passenger car by start Date of work, Mahindra Scorpio N series Top Model Car. New diesel driven vehicles shall be provided from the start date and until the "completion date" i.e. issue of certificate of completion by the engineer, and shall include all periods of extension in time limit up-to the completion of work. All necessary taxes for operating the vehicles shall be fully paid and all necessary papers shall be provided as required by prevailing motor vehicles Act with comprehensive insurance cover for the vehicles. The vehicles shall be provided day and night as required by the Employer or his representatives and the contractor shall also make available drivers having valid license at such time and for such duration. All liabilities, including any incidental liability, shall be responsibility for Contractor.

The vehicle shall be maintained in a smooth running condition for running upto 3000km per vehicle per month: this mileage is exclusive of any dead mileage required for transit to/ from the night shelter / Garage or Parking facility. All expenses required for keeping the vehicles in smooth running condition such as fuel, lubrication oil and consumables, necessary service and maintenance, drivers and repairs and replacement, Toll and Parking fee etc. are to be met by the contractor. In the event of any vehicle being off the road for maintenance or on account of breakdown, the contractor shall provide substitute vehicle (s) immediately. On completion of the project, the vehicle shall be transferred to the department.

Contractor

Witness

Executive Engineer



TECHNICAL SPECIFICATIONS

A. Building work:

1. The work shall be executed as per Punjab PWD specifications amended up to date supplemented with relevant Indian Standard Code of Practice relating to building works shall be followed for the execution of the building works as per details in architectural drawings, structural drawings and details of finishing items included therein.
2. For RCC work steel shuttering or any plate Shuttering should be used.
3. The Joinery-work will be got executed as per detailed drawings supplied by the Architect Department of Architecture, Pb, Patiala and instructions issued by the Engineer-In-charge, Nothing extra on this account will be entertained.
4. The rubbing and polishing shall be done to granolithic granite finish.
5. All kind of floor tile, furnishing item of toilets will be got approved from the engineer in charge before order for complete bulk quantity. Execution will be start after getting the approval of this material.
6. Harmonized Guidelines and Standards for Universal Accessibility in India-2021 shall also be followed during execution.

Contractor

Witness

Executive Engineer

B. Concrete Roads & parking

1. The work will be executed as per PWD Specifications/IRC Code of Practice, Guidelines and Standards and instructions issued from time to time including layout plans, levels, gradient and slopes described in the drawings as and where required as per site conditions. The materials and workmanship of best quality are to be employed for execution of the work and instructions of the Engineer are to be complied with. The latest edition of the Specifications/Standards 30 days prior to date of submission of bid shall be followed.
2. (a) The payment of earth work shall be made on the basis of cross section which should be signed by the tenderer before the commencement of work.
- (b) The final X-sections shall be measured in the presence of the tenderer and signed in token of acceptance on completion of work.

LIST OF APPROVED MATERIAL

1. Cement	:	PPC conforming to IS 1489-part-I OR with the approval of Engineer.
2. Reinforced Steel	:	Fe-500/Fe-500D conforming to IS 1786-2008 steel produced by primary producer in integrated plant from original ores.
3.Bitumen		Bitumen grade 85/25 from IOC/ HPCL/ BPCL refineries.
4. Hume Pipes :		NP3 with ISI Mark with the approval of the Engineer-in-charge. ISI Marked/as manufactured specifications or with the approval of the Engineer-in-charge
5. Any other:		The department will at liberty to take samples from such material and get tested from an approved laboratory at the cost of the contractor and the material shall be allowed to be consumed only if these tests conducted are in order.
Note :-		For recovery purpose the rate" be taken as follows(including contractor's profit and labour cess):-
Cement :	:	P.P.C Rs. 307.23 Per bag of 50 kg
Steel :		Tor Steel/TMT Steel Fe-500 ISI marked Rs. 62,922.77 Per mt. Tor Steel/TMT Steel Fe-500 ISI marked produced by primary producer in integrated plant from original ores Rs. 66855.45 Per mt. Structural Steel ISI Marked Rs. 61,611.88 Per mt.

Contractor

Witness

Executive Engineer



ANNEXURE-"4.1"

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Contractor

Witness

Executive Engineer

**ANNEXURE "4.2"****SUB AGREEMENT FORM (Between Prime Contractor and Sub Contractor-for Public Health works)**

The parties here to declare that they have agreed to enter into an agreement for the purpose of submitting the pre-qualification Application/ tender document initially and then tender and if successful for the execution of the works.

This sub agreement made the _____ day of _____ between _____
(name and address of Prime contractor) (hereinafter called "the Party-1") and _____
(Name and address of Sub Contractor) hereinafter called "the Sub Contractor" or the other party-2.

NOW THIS AGREEMENT WITNESSETH as follows:

1. Whereas Public works department (B&R) has invited offers from intending bidders and there is employers condition that the works like Metalled Road Work Public Health works/Electrical Works part in the bid should identify/engage a sub-contractor for specific purpose in execution of
Public Health works in
..... (Name of Project)
2. The prime contractor hereby covenants to pay the Sub-Contractor in consideration of the execution and completion of the works and the remedying the defects where in agreed prices (rates as agreed separately) or such other sum as may become payable under the provision of the contract at the times and in the manner prescribed by the bidding document.
3. The Sub-Contractor shall submit qualification criteria for the above said work according to all terms and conditions stated in the relevant instructions contained in the bid documents in support of his qualification.
4. The sub-contractor shall deemed to be follow and takes care of all the clauses, specifications and conditions of the bidding document if awarded by Engineer to the Prime contractor.
5. The party-2 specifically under take to execute their respective part and full compliance with the bidding document. Party-2 shall be responsible for consequences if any arising out of defective or delayed execution of works which falls within the responsibility and/or it has been caused due to acts and or omission of the concerned.
6. Non of parties have to enter in any other sub agreement for the said work.
7. The agreement shall be terminated in the following circumstances:
 - (a) The Engineer In Charge awards the contract for the work to the other agencies.
 - (b) The Engineer In Charge elaborates the cause of cancellation the work to award the contract.
8. Legal Jurisdiction & Settlement of disputes
 - (a) All questions relating to validity interpretation of this agreement shall be governed by the law of India and shall be subject to jurisdiction of Court.
 - (b) Any dispute in interpretation of any condition mentioned herein shall be referred to an arbitrator/ tribunal by mutual consent of the partners and such proceedings shall be governed by the Indian Arbitration and Conciliation Act. 1996 and as amended from time to time. The award of arbitrator shall be final and binding on the party hereto. Neither the obligation of each party here to the performance of contract nor the execution of work shall stop during the course of arbitration proceeding or as a result thereof.

1. Witness

(Signed for and on behalf of Party-1 with seal)

2. Witness

(Signed for and on behalf of Party-2 with seal)

Date

Contractor

Witness

Executive Engineer



ANNEXURE-"4.3"

SUB AGREEMENT FORM (Between Prime Contractor and Sub Contractor-for Electrical works)

The parties here to declare that they have agreed to enter into an agreement for the purpose of submitting the pre-qualification Application/ tender document initially and then tender and if successful for the execution of the works.

This sub agreement made the _____ day of _____ between _____
(name and address of Prime contractor) (hereinafter called "the Party-1") and _____
(Name and address of Sub Contractor) hereinafter called "the Sub Contractor" or the other party-2.

NOW THIS AGREEMENT WITNESSETH as follows:

1. Whereas Public works department (B&R) has invited offers from intending bidders and there is employers condition that the works like Metalled Road Work Public Health works/Electrical Works part in the bid should identify/engage a sub-contractor for specific purpose in execution of
Electrical works in
..... (Name of Project)
2. The prime contractor hereby covenants to pay the Sub-Contractor in consideration of the execution and completion of the works and the remedying the defects where in agreed prices (rates as agreed separately) or such other sum as may become payable under the provision of the contract at the times and in the manner prescribed by the bidding document.
3. The Sub-Contractor shall submit qualification criteria for the above said work according to all terms and conditions stated in the relevant instructions contained in the bid documents in support of his qualification.
4. The sub-contractor shall deemed to be follow and takes care of all the clauses, specifications and conditions of the bidding document if awarded by Engineer to the Prime contractor.
5. The party-2 specifically under take to execute their respective part and full compliance with the bidding document. Party-2 shall be responsible for consequences if any arising out of defective or delayed execution of works which falls within the responsibility and/or it has been caused due to acts and or omission of the concerned.
6. Non of parties have to enter in any other sub agreement for the said work.
7. The agreement shall be terminated in the following circumstances:
 - (a) The Engineer In Charge awards the contract for the work to the other agencies.
 - (b) The Engineer In Charge elaborates the cause of cancellation the work to award the contract.
8. Legal Jurisdiction & Settlement of disputes
 - (a) All questions relating to validity interpretation of this agreement shall be governed by the law of India and shall be subject to jurisdiction of Court.
 - (b) Any dispute in interpretation of any condition mentioned herein shall be referred to an arbitrator/ tribunal by mutual consent of the partners and such proceedings shall be governed by the Indian Arbitration and Conciliation Act. 1996 and as amended from time to time. The award of arbitrator shall be final and binding on the party hereto. Neither the obligation of each party here to the performance of contract nor the execution of work shall stop during the course of arbitration proceeding or as a result thereof.

1. Witness

(Signed for and on behalf of Party-1 with seal)

2. Witness

(Signed for and on behalf of Party-2 with seal)

Date

Contractor

Witness

Executive Engineer



ADDITIONAL CONDITIONS (Public Health Services):-

Contractor

Witness

Executive Engineer



C. Public Health Works:

1. The work will be executed as per Punjab PWD specifications amended up to date and other relevant Indian Standards and code of Practice regarding work of internal water supply, sanitary and plumbing; estate water supply and sewerage collection system as per detailed drawings and details included in items as per bill of quantities.
2. All G.I, HCL, chinaware sanitary fittings & Tiles shall be provided 1st quality ISI marked and as described in BOQ / Specifications.
3. The Engineer will have full powers to change the layout of sanitary fitting/ other service at any stage if considered necessary.
4. Testing system: The sanitary pipe work is to be tested as per IS 5329-1983 or latest.
5. All the service drawings supplied by the engineer have been attached in the tender documents indicate the extent and general arrangements of the fixtures and are essentially diagrammatic. To ensure the participation of the contractor in the design and uninterrupted progress of work and timely completion, the contractor may do further detailing as per site requirement at his own and get it approve from the engineer. After the award of the contract the contractor shall prepare and submit the shop drawings of works for detailed sanitary, plumbing, water supply, sewerage, Firefighting, Air-Conditioning electrical, panel, sub-station, solar panels, (external and internal), pump room, STP, Tube well, OHSR details etc. for shops drawings of all equipment's and materials required to complete the work as per specifications and coordination with various services agencies at site shall be done by the contractor. The work will be executed by the contractor based on the approved drawings from the concerned authority and accordingly contractor will be responsible for obtaining final NOC/clearance from concerned authority. Charges for getting NOC will be reimbursement to the Contractor on the production of actual paid receipt.
6. Wherever required agency shall submit the structure drawing for UGSR, OHSR or any RCC Structure as per relevant BIS code including supply of blue print/CAD print/Xerox copy in required copies for the use of site/office and get it proof checked from the IIT Roorkee, PEC Chandigarh, Thapar Institute Patiala, NIT Jalandhar, IIT Ropar as directed by the Engineer-in-Charge. The structural drawings can be amended from time to time as desired by the Engineer-in-charge. Nothing extra shall be paid on this account.
7. Harmonized Guidelines and Standards for Universal Accessibility in India-2021 shall also be followed during execution.

Contractor

Witness

Executive Engineer

TECHNICAL SPECIFICATIONS FOR FIRE FIGHTING**1.0 FIRE FIGHTING SERVICES**

1.1 The work of Fire Fighting System shall include the followings:

- a) Providing M.S. black steel pressure pipe line main including Valves, Fire Hydrants Excavation for Pipe, Laying of pipe, Painting of pipe and Making Connection to supply system.
- b) Black Steel Pipe, Mains Laterals, Branches, Valves Hangers and Appurtenances.
- c) Hose Reels, Rubberized fabric lined hose pipes, Hose cabinets, Sprinkler heads and Landing Valves.
- d) Pumping machinery—Main fire pumps (electric and diesel engine driven), Jockey pump and Terrace pump.
- e) Portable Fire Extinguishers

2. GENERAL REQUIREMENTS

2.1 All materials shall be of the best quality conforming to the Specifications and subject to the approval of the Engineer – in charge .

2.2 Pipes and Fittings shall be fixed truly Vertical, Horizontal or in slopes as required in a neat workman like manner.

2.3 Pipes shall be fixed in a manner so as to provide easy accessibility for repair and maintenance and shall not cause any obstruction in Shaft, Passage etc.

2.4 Pipes shall be securely fixed to walls and ceiling by suitable clamps at intervals specified. Only approved type of anchor fasteners shall be used for RCC ceilings.

2.5 Valves and other appurtenance shall be so located that they are easily accessible for operation, repairs and maintenance.

3.0 PIPE AND FITTINGS**3.1 Piping**

3.1.1 Pipes of the following types (depending upon the description of item) shall be used:

3.1.2 MS black pipes conforming to IS:1239, ISI marked (heavy grade) (for pipes of sizes

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3.1.3 Piping (for Pipes upto 150 mm dia)

Thickness : Shall not be less than 10 percent

Weight : Shall not vary by more than 10 percent either way.

The pipes shall satisfy the following table w.r.t. diameter, thickness and weight of tube. Screwed tubes shall be supplied with threads as per IS:554. Each tube shall be tested for hydrostatic test for leak tightness as an in process test at the manufacturer's works. The finished pipe shall be tested for Tensile Strength, Elongation, Bend Test and Flattening Test.

3.1.4 Piping (for Pipes from 150 mm dia onwards)

The pipes shall be manufactured by Electric Resistant Welded (ERW) Electric Fusion Welding or Induction Welding process. The sulphur and phosphorus requirements in steel shall not be more than 0.05 percent each. The tubes shall be manufactured from hot rolled steel skelps / strips conforming to IS :10748 by butt welding longitudinally or spirally. The weld shall be continuous. The pipes shall conform to the Tensile Test, Hydraulic Pressure Test and Mechanical Tests as per IS:3589. The pipes shall also conform to the requirements of the Outside pipe dias as laid down in IS : 3589. The tolerances on the pipe body shall not vary more than 0.75 percent of that prescribed in the above mentioned Code. All pipes shall be of minimum 6 mm wall thickness. Pipes shall be supplied with bevel edging.

3.1.5 MS pipe upto 150 mm dia shall have all fittings as per IS:1239,part II(heavy grade) while pipes above 150 mm dia shall be as per IS:3589 inclusive of IS marking.

3.1.6 For MS pipes upto 50 mm dia screwed jointing shall be adopted, while for pipes above 50mm dia welded or flanged connections shall be used. Only electro galvanized nuts / bolts shall be used.

3.1.7 Hangers and supports shall be capable of carrying the sum total of all concurrently acting loads. They shall be designed to provide the required supporting effects and allow pipelines movements as necessary. All guides, anchors, braces, dampeners, expansion joints and structural steel to be attached to the building / structure, trenches etc shall be provided by the Contractor. Hangers and components for all piping shall be approved by the Consultant. Hangers / supports to be used shall be as per the drawing enclosed. Anchoring fasteners shall be rated to take minimum 2-ton load and shall be as per approved make. Hangers shall be at 3.0 M intervals. Additional supports

Contractor _____ Witness _____ Executive Engineer _____

Witness

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shall be provided at bends etc. Angles for pipe supports should not be less than 40 x 40 x 6 mm size. Cutting shall be by gas cutter. All cut edges and weld surfaces shall be grounded to a smooth finish.

3.1.8 The piping system and components shall be capable of withstanding 150 per cent of the working pressure including water hammer effects and test pressure upto 10.5 kg / cm².

3.1.9 Flanged joints shall be used for connections to vessels, equipment, flanged valves and also on suitable straight lengths of pipeline of strategic points to facilitate erection and subsequent maintenance work.

3.1.10 The piping for the hydrant system in the yard shall be laid in soil 1.0 M deep, the pipe line shall have wrapping in 4 mm thick makpolykote/pykote layer as per IS:10221. The internal surface of the tape shall be heated with the blower and then wrapped around the pipe with a minimum overlay of 12 mm. The scope of work includes necessary excavation of trench and back filling the same. The scope of work also includes necessary watering, ramming, removing the surplus earth from the site etc.

3.1.11 Pipe to pipe jointing by welding shall be carried out over ground. A maximum of 4 lengths shall be jointed after which flanged connection with asbestos gaskets shall be used. Welding shall be carried out as per related item given elsewhere. Pipe lowering into the trench shall be carried out with utmost care to avoid damage to the joints. No backfilling shall be carried out unless the pipes have been pressure tested for joint leakages.

3.1.12 Flange thickness shall be as per BS table.

3.1.13 Welding shall be carried out by 3 Phase Rectifier type Welding Set. Welding shall be on high Current Low Voltage basis. Conventional welding machines shall not be accepted.

3.1.14 All pipe to pipe receiving edges shall be bevel finished to a clean edge by a electric grinder. A requisite gap determined by the thickness of the weld electrode shall be given between the joints before start of welding.

3.1.15 Weld Electrodes shall be of approved make, of grade and type as suitable for the job. This shall be satisfied by the Consultant before start of work.

3.1.16 Joints shall be given a first weld in full width without burrs on the full dia of the pipe. Welding shall be carried out vertically from the surface to be welded. Weld fluxes shall not be so plastic such as to fall or drip down.

3.1.17 After application of first coat the weld shall be ground and then another layer of welding shall take place. The weld shall also be cleaned by grinding. Similarly, a third weld shall also be applied.

3.1.18 All pipe cutting shall be by oxy acetylene gas welding only. The cut surface shall be cleaned and ground by a electric grinder before further welding.

3.1.19 Pipe cutting or welding in inaccessible areas shall be avoided. Pipes shall not welded in trenches unless the bottom edge of the pipe does not have clear space for working with electrode.

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- 3.1.20 For supports angle pieces shall be cut by oxy acetylene gas and cleaned by electric grinder. All cutting for bolt inserts shall be by electric drill.

4.0 PIPE PROTECTION

- 4.1 All pipes above ground and in exposed locations shall be painted with one coat of Red Oxide Primer and two or more coats of Synthetic Enamel Paint of approved shade.
- 4.2 All black steel pipes under floors or below ground shall be provided with protection against corrosion by application of 100mm wide and 4mm thick layer of PYPKOTE/MAKPOLYKOTE over the pipe, as per manufacturers specifications.

5.0 PIPE SUPPORTS

- 5.1 All pipes shall be adequately supported from ceiling or walls from existing/new inserts by Structural clamps fabricated from M.S. Structurals e.g. Rods, Channels, Angles and Flats as per details given in drawings and specifications. All clamps shall be painted with one coat of red lead and two coats of black Enamel paint.
- 5.2 Where inserts are not provided, the Contractor shall provide anchor fasteners. Anchor fastener shall be fixed to walls and ceilings by drilling holes with Electrical drill in an approved manner as recommended by the manufacturer of the fasteners.

6. TESTING

- 6.1 All piping in the system shall be tested to a hydrostatic pressure of 10.5 Kg/Cm² without drop in pressure for at least 30 minutes.
- 6.2 Rectify all leakages, make adjustment and retest as required.

7. ANCHOR BLOCK

- 7.1 Contractor shall provide suitable cement concrete, anchor blocks of ample dimensions at all bends, tee connection and other places required and necessary for overcoming pressure thrusts in pipes. Anchor blocks shall be of cement concrete 1:2:4 mix (1 cement: 2 coarse sand: 4 stone aggregate 20 mm nominal size).

8. VALVES

8.1 Valves, gauge and orifice plates

- 8.1.1 Sluice Valves above 65 mm shall be of Cast Iron body and Bronze/Gunmetal seat. They shall conform to type PN 1.6 of IS:780-1980, valves upto 65mm shall be of Gunmetal Fullway Valve with wheel tested to 20

Contractor

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Kg/cm² class-II as per I.S: 778-1971. Valve wheels shall be of right hand type and have an arrow head engraved or cast thereon showing the direction for turning open and closing.

8.1.2 **Non-return valves** shall be of Cast Iron body and Bronze/Gunmetal seat. They shall conform to class of IS:5312 and have flanged ends. They shall be swing check type in horizontal runs and lift check type in vertical runs of piping. They shall not be spring-loaded type.

8.1.3 **Gate valves** shall be provided with a hand wheel, position indicator, bypass valve, draining arrangement of seat valve and locking facility (as required). Gate valves shall have back setting bush to facilitate gland renewal during full open condition. 8.1.4 Valves below 50 mm size shall have screwed ends while those of 50 mm and higher sizes shall have flanged connections. Drain lines will have valves for draining.

9.0 EXTERNAL YARD HYDRANTS

9.1 The Contractor shall provide External Fire Hydrant in the Ring or on External Fire Line, as per specifications as specified in Schedule of Quantities and as shown in drawings. The spacing of the hydrants and the distance from the building shall be maintained as per relevant requirements of latest relevant codes, unless specified herewith.

9.2 Each External Fire Hydrant shall be provided with an External Fire Hose Cabinet of M.S or fibre glass, as specified in Schedule of Quantities of size 76.8 x 61.44 x 25.80 cm, as approved by the Architect to equip 2 nos. of 63 mm dia rubber lined hose and accessories as required. The cabinet shall be installed near the Hydrant as per details, approved by the Engineer in charge

9.3 The sheet work shall be powder coated with red paint. The words "Yard Hydrant", "Hydrant" etc. shall be painted in white (or red on the glass) in 75mm high letters. The hose box shall be lockable with socket spanner. All horizontal surfaces shall be sloped adequately with water discharge holes. Vents shall also be located on sides of the Box.

9.4 A brick pedestal with brick wall complete with plaster shall also be constructed for supporting the hose box. All surfaces shall be plastered with 1 : 4 ratio (1 cement : 4 fine sand) mortar.

10.0 INTERNAL HYDRANTS

10.1 The Internal Hydrant outlet shall comprise "Single Headed Single Outlet Gunmetal Landing Valve" conforming to type 'A' of IS:5290-1977. The valve shall be oblique type complete with hand wheel, quick coupling connection, spring and gun metal blank cap as per I.S.:5290.

10.2 A cap with chain is provided on one head of the outlet. The hydrant will have an instantaneous pattern female coupling for connecting to Hose Pipe.

10.3 The Landing Valve shall be fitted to a Tee connection on the wet riser at the landing.

Contractor

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10.4 The Hydrant shall be constructed from gun metal as per IS, and finished to a smooth polish on screwed ends. The Hydrant shall have screwed inlet of 75 mm dia, flanged type with 4 nos holes. The outlet shall be 63 mm female instantaneous oblique type. The spindle shall be of gun metal with cast iron wheel. The Hydrant shall have a PVC plug with chain fixed to the main body of the Hydrant. The Hydrant shall conform to IS:5290. The Hydrant shall be tested to 25 kg / cm² test pressure. The Hydrant shall not leak at any screwed joint. All threaded joints shall be sealed with Holdite. The lug shall be wing type.

10.5 The Hydrant System shall be kept pressurized all the times. The pressure in the Hydrant pipe work shall be kept constant at 7.0 Kg/cm². In the event of fire when any of the hydrant valve in the network is opened, the resultant fall in header pressure shall start the Hydrant Pump through pressure switches automatically.

10.6 The hydrant risers shall be terminated with air release valve at the highest points to release the trapped air in the pipe work.

11.0 FIRST-AID HOSE REEL EQUIPMENT

11.1 First aid hose reel equipment shall comprise reel, hose guide fixing bracket hose tubing globe valve, stopcock and nozzle. This shall conform to IS:884 - 1969. The hose tubing shall conform to IS:1532 -1969.

11.2 The hose tubing shall be 20 mm dia and 36.5m long. The G.M nozzle and globe valve shall be of 20 mm size.

11.3 The fixing bracket shall be of swinging type. Operating instructions shall be engraved on the assembly. This heavy duty mild steel and cast iron brackets shall be conforming to IS:884 - 1969. The first-aid hose reel shall be connected directly to the M.S. pipe riser taken independently from ring.

12. HOSE PIPES, BRANCH PIPES AND NOZZLES

12.1 Hose pipes

12.1.1 Two numbers Hose Pipes shall be rubber lined woven jacketed and 63mm in dia. 15m long. They shall conform to type 2 (Reinforced rubber lined) of IS:636 - 1979. The hose shall be sufficiently flexible and capable of being rolled.

12.1.2 Each run of hose shall be complete with necessary coupling at the ends to match with the landing valve or with another run of hose pipe or with branch pipe. The couplings shall be of instantaneous spring lock type. This shall be conforming to IS:903.

13. BRANCH PIPE

13.1 Branch pipes

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Branch pipe shall be of Copper, Gunmetal or Aluminum alloy 63 mm dia and be complete with male instantaneous spring lock type coupling for connection to the hose pipe. The branch pipe shall be externally threaded to receive the nozzle.

13.2 Nozzle

The nozzle shall be of Copper or Gunmetal, 20 mm in (internal) diameter. The screw threads at the inlet connection shall match with the threading on the branch pipe. The inlet end shall have a hexagonal head to facilitate screwing of the nozzle on to the branch pipe with nozzle spanner.

13.3 Couplings

Couplings shall be of aluminum alloy, machined and polished to requirements. Both Male and female couplings shall be fitted into each other smoothly and without any unnecessary force. Couplings shall IS:903 marked with the name of the manufacturer. The coupling shall be tested to 25 kg / cm² test pressure. The Male couplings shall be provided with lugs for inserting female coupling.

13.4 End Couplings, Branch pipe, and Nozzles shall conform to IS:903 - 1985.

13.5 Two hoses of 15m length with couplings shall be provided with each External (Yard) Hydrant. Two hoses of 7.5m/15m length, as specified, with couplings shall be provided with each Internal Hydrant. One nozzle and one branch pipe with coupling shall be provided with each Yard Hydrant And Internal Hydrant.

14. HOSE CABINET

14.1 The hose cabinet to accommodate the Hose Pipes, Branch Pipe, Nozzle and Hydrant Outlets shall be fabricated from 16 mm gauge M.S sheet. The overall size shall be as per the Architectural details. In case of Internal Hydrants this shall accommodate the Hose Reel equipment also. This shall have lockable centre opening glazed doors. Where the niche for wet riser is provided with shutters, separate hose cabinet as above may be dispensed with.

14.2 The hose cabinet shall be painted red and stove enameled. The words "Yard Hydrant", "Hydrant" etc. shall be painted in white (or red on the glass) in 75 mm high letters. All horizontal surfaces shall be sloped adequately with water discharge holes. Vents shall also be located on sides of the Box.

15. FIRE BRIGADE INLET CONNECTIONS

15.1 Fire Brigade Inlet connection shall be provided near the pump house and to the wet riser system at specified and as described in the BOQ, for the following purposes:

- i) Fire Brigade suction connection for fire static tank with provision of foot valve.
- ii) Fire brigade inlet connection to fire static tank.

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iii) Fire brigade inlet connection to the wet riser system. Each connection shall be in accordance with similar dia of Sluice valve and Non return valve.

15.2 The locations of these Fire brigade connection shall be suitably decided with the approval of Consultant/Landscape Architect and with a view that these are easily accessible to the fire brigade, without any possible Hindrance.

16.0 Piping

16.1 For piping the specifications as laid down for Hydrant piping shall be followed except for pipe fittings below 50 mm dia where only screwed pipe fittings shall be used. Teflon tape shall be used in all jointing between sprinkler head and pipe. 'Hold Tite' shall be used in all threaded pipe to pipe joints.

17.0 SYSTEM TESTING

The Contractor shall cause interim/stage inspection during execution of the works as and when so called for and shall carry out any rectification/ modification as may be suggested by the Project Manager. Soon after the work is completed, the Contractor shall inform in writing to the Project Manager of the Project for getting the complete system including all sub-systems and instrumentation, control panels etc. thoroughly inspected and tested for satisfactory performance. After satisfactory completion of tests of the systems by the Architect / Project Manager, Contractor shall be required to carry out all start-up trials of the system provided by him. Any defects noticed during these tests shall be speedily rectified by the Contractor.

17.1 HYDRANT SYSTEM TESTING

Acceptance Test: At the time of taking over, the hydrant system shall fulfill the following acceptance tests:

Starting -up of the pressurization (Jockey Pump):

The pressure switch shall be set at 3.5 Kg/cm² at the lower limit and 5.0 Kg/cm² at the upper limit. The system drain valve shall be opened to cause a drop in the pressure. The terrace Pump shall start as soon as the pressure gauge needle falls down to 3.5 Kg. The Terrace Pump shall be set to start at 3.5 Kg/cm². All these tests mentioned above shall be repeated after one-hour interval. The result of all the tests shall be identical again. After the system has satisfactorily withstood the above tests, it can be taken over from the contractor.

18.0 PUMPING MACHINERY

18.1 **Electric driven main fire pump:** The main fire pump shall be suitable for automatic operation and shall conform to the following specifications:

Contractor

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- 18.1.1 Horizontal type, multistage, centrifugal, split casing pump of cast iron body & bronze impeller with stainless steel shaft, mechanical seal to ensure a minimum pressure of 3.5 Kg/Sq. cm. at highest and farthest outlet at specified flow of 2280 lpm at 50mtr. head conforming to IS 1520.
- 18.1.2 Suitable HP SQ cage induction motor, TEFC, synchronous speed 1500 RPM, suitable for operation on 415 volts, 3 phase 50 Hz. AC with IP 55 protection for enclosure, horizontal foot mounted type with Class-'F' insulation, conforming to IS:325. 18.1
- 18.1.3 M.S. Fabricated Common base plate, coupling, coupling guard, foundation bolts etc. as required.
- 18.1.4 Suitable cement concrete foundation duly plastered with anti vibration pads.

18.2. Diesel Engine Driven Main Fire Pump : The main fire pump shall be suitable for automatic operation and shall conform to the following specifications :-

- 18.2.1 Horizontal type, multistage, centrifugal, pump of cast iron body and bronze impeller with stainless steel shaft, mechanical seal to ensure a minimum pressure of 3.5 Kg/Sq. cm. at highest and farthest outlet at specified flow of 2280 lpm at 50mtr. head conforming to IS :1520.
- 18.2.2 Suitable HP, 1500 RPM water cooled with radiator, diesel engine conforming to relevant BS & IS standard complete with auto starting mechanism, 12 volts/ 24 Volts electric starting equipment, Diesel Tank, exhaust pipe extended upto 1 m. outside pump house duly insulated with 50 mm, thick glass wool with 1.0mm thick aluminum sheet cladding, residential silencer, instruments and protection as per specification, stop solenoid for auto indication, painted with post office red colour etc. as required.
- 18.2.3 M.S. fabricated Common base plate, coupling, coupling guard, foundation bolts etc. as required.
- 18.2.4 Suitable cement concrete foundation duly plastered with anti vibration pads.

18.3. Pressurisation (Jockey pump); The Jockey pump shall be suitable for automatic operation and shall conform to the following specifications :-

- 18.3.1 Horizontal type, multistage, centrifugal pump of cast iron body and bronze impeller with stainless steel shaft, mechanical seal and flow 289 lpm at 50 metre head conforming to IS : 1520.
- 18.3.2 Suitable HP SQ cage induction motor TEFC type suitable for operation on 415 volts, 3 phase 50 Hz. AC with IP 55 class of protection for enclosure, horizontal foot mounted type with Class-'F' insulation, conforming to IS : 325.

Contractor

Witness

Executive Engineer



18.3.3 M.S. fabricated Common base plate, coupling guard, foundation bolts etc. as required.

18.3.4 Suitable cement concrete foundation duly plastered with anti vibration pads.

18.4. Terrace pump: Terrace pump shall be suitable for automatic operation and shall conform to the following specifications :-

18.4.1 Horizontal type, multistage, centrifugal split casing pump of cast iron body & bronze impeller with stainless steel shaft, mechanical seal and flow 900 lpm at 21 m. head conforming to IS:1520.

18.4.2 Suitable HP SQ cage induction motor TEFC type suitable for operation on 415 volts, 3 phase 50 Hz. AC with IP 55 class of protection for enclosure, horizontal foot mounted type with Class-'F' insulation, conforming to IS :325.

18.4.3 M.S. fabricated Common base plate, coupling guard, foundation bolts etc. as required.

18.4.4 Suitable cement concrete foundation duly plastered with anti vibration pads.

19. CONTROL PANEL: Control panel in general shall conform to IS: 2189 The equipment for the main board shall be compact, neatly wired and completely of solid state design. The panel shall be of all and / or floor mounting type, totally enclosed dust and vermin proof type made of 16 SWG dust inhibited MS sheet of suitable to accommodate accessories as specified- with even baked finish duly painted with one coat of anti-corrosive paint and two coats of synthetic enamel paint. The primary function of control panel shall be to respond automatically to the operation of one or more detectors to give fire alarm and to indicate area (Zone) where the device(S) are activated. The operation of one or more detectors shall result in a simultaneous alarm by the following :

- a) The external alarm hooters at floor of actuation.
- b) A visible indication on control panel
- c) Audible alarm on control panel itself (common to all zones)

The secondary function on the control panel shall be to indicate the faults with in the system and

immediate warning shall be given by and audible and visual signal on the control panel. A fault warning shall be given in case of following occurrences.

- i. Failure or disconnection's of normal power supply.
- ii. Short circuit or disconnection of the leads to trigger devices unless the fault conditions

reproduced the effect of the operation of trigger dives.

- iii. Removal of any triggered device of the plug-in type or disconnection for its transmitter or power supply.

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iv. Short-circuit or disconnection of any of the leads to alarm sounder to the control indicating equipment. In addition to above visual warning shall be given on the control panel for failure or disconnection of a stand by power

supply and rupture or disconnection of any fuse on the operation of any protective devices that would prevent a fire alarm being given. A charging meter and an LED shall indicate the healthiness of battery charging equipment. A facility may also be provided for sending fault signal to remote centers, if required. There shall be one indicator for fire and one for fault in the control panel corresponding to each zone. Each zone shall have two bulbs of fire/fault indication. Each indicator shall be clearly labeled with zone no and inscribed with the code name i.e. words "fire" or "fault" or "silence". Separate indicator must be provided in green for standby, on etc. Control panel shall drive 230 volts AC power from normal supply and the entire fire alarm and detection system shall be suitable for operation 24 volts DC. A stand by power supply shall be immediately available in the event of failure of normal supply and shall be automatically connected as to maintain the equipment in condition such that fire alarm originate from the operation of a detector in separate zone can be subsequently given. A stand by power supply should be capable of maintaining the system in normal operation for a period of not less than 48 hours. After the failure of normal main supply after which sufficient capacity should remain to provide. Full load operation for at least 30 minutes. The full load would be defined as that caused by the operation of all the alarms sounders operating simultaneously, operation of detector in at least 25% of zones (with a minimum of two zones) and the operation of the fault indicator. The operation of trigger devices in further zones should not result cancellation supply and rupture or disconnection of any fuse on the operation of any protective devices that would prevent a fire alarm being given. A charging meter and an LED shall indicate the healthiness of battery charging equipment. A facility may also be provided for sending fault signal to remote centers, if required. There shall be one indicator for fire and one for fault in the control panel corresponding to each zone. Each zone shall have two bulbs of fire/fault indication. Each indicator shall be clearly labeled with zone no and inscribed with the code name i.e. words "fire" or "fault" or "silence". Separate indicator must be provided in green for standby, on etc. Control panel shall drive 230 volts AC power from normal supply and the entire fire alarm and detection system shall be suitable for operation 24 volts DC. A stand by power supply shall be immediately available in the event of failure of normal supply and shall be automatically connected as to maintain the equipment in condition such that fire alarm originate from the operation of a detector in separate zone can be subsequently given. A stand by power supply should be capable of maintaining the system in normal operation for a period of not less than 48 hours. After the failure of normal main supply after which sufficient capacity should remain to provide. Full load operation for at least 30 minutes. The full load would be defined as that caused by the operation of all the alarms sounders operating simultaneously, operation of detector in at least 25% of zones (with a minimum of two zones) and the operation of the fault indicator. The operation of trigger devices in further zones should not result cancellation of fire alarm existing at time.

20. ELECTRICAL CABLES, WIRING AND CONDUITING: All the wires/ cables to be used for the system shall conform to the following as specified in BOQ.

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A) PVC insulated copper conductor cable conforming to and marked ISI: 694-1977 having minimum 1.5mm² cross-sectional area of as specified as bill of quantities if standard at least 0.5mm² cross sectional area should be used.

B) Armored / PVC insulated cables conforming to and marked ISI: 1554 (PART- 1) 1976.

joints in the cables shall be avoided. Where joints unavoidable of visible areas of the junction boxes shall be painted signal red. The maximum number of wires that can be drawn in a conduit shall be governed by the CPWD specifications for internal electrical works (Part I) 1972. Insulation of the cable should not less than 1 mega ohm. When tested with a 500 volts, megger for any particular section of wiring. Conduit shall be of 16 SWG mild steel welded ISI marked and having perfectly circular tubing and capable of being cleaned and have tight fitting joints. Conduits shall be laid either on the surface or in a recess as specified and they shall be protected from rust by one coat of iron oxide and one or more coats of red /black enamel paint

21. GUARANTEE

21.1 The Contractor shall submit a warranty for all Equipments, Materials and Accessories supplied by him against manufacturing defects, malfunctioning or under capacity functioning.

21.2 The form of warranty shall be as approved by the Engineer – in charge

21.3 The warranty shall be valid for a period of one year from the date of commissioning and handing over.

21.4 The warranty shall expressly include replacement of all defective or under capacity equipment Engineer – in charge may allow repair of certain equipment if the same is found to meet the requirement for efficient functioning of the system.

21.5 The warranty shall include replacement of any equipment found to have capacity lesser than the rated capacity as accepted in the contract. The replacement equipment shall be approved by the Engineer – in charge

21.6 The Contractor shall include in his rates the operation of all Mechanical equipment for a period of six months from the date of commissioning. No separate payment will be made on this account.

22. APPROVAL FROM LOCAL AUTHORITY

It shall be the responsibility of the contractor to obtain the approval from the local Fire authority as per Statutory requirements .

NOTE:-

(1) The Contractor shall supply ISI marked material as per any of the makes or brands indicated above. In case the firm is not manufacturing ISI marked material for any of the brands, first quality material shall be accepted. The samples of the material shall in either case have to be got approved from the Engineer-in-Charge.

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(2) Material where no make/brand has been mentioned, ISI marked shall be submitted by the Contractor for approval of Engineer-in-Charge. For those class of materials, where no firms exist with ISI approval, sample of the first quality material of the firm shall be submitted for the approval of the Engineer-in-Charge.

(3) Only materials of approved brand/make/manufacturers as mentioned above or as specified else where in these specifications /bill of quantities shall be used in the work. Samples of these makes /brands /manufacturers for each material shall be submitted by the contractor to the Engineer-in-Charge for the approval well before the requirement of actual procurement and only the material as per sample approved by the Engineer-in-Charge shall be procured for use in the work.

(4) Any variation from the above mentioned makes /brands will require specific approval of the Engineer-in-Charge.

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LIST OF MAKES

Sr. No.	Description	Make
1.	MS Pipe	Tata / Jindal Hissar
2.	Cast iron Non-Return Valve/Gate Valve	Castle/ AARKO/ Kirloskar
3.	Butterfly valves	Audco / Castle/ Kirloskar /KBS
4.	Check Valves	Audco / Castle/ Kirloskar/KBS
5.	Landing Valve	Omex / Guard / Superex / Safeguard
6.	Fire extinguishers	G-Tech/ ATASI/ Fire Bird / Safeguard
7.	Pressure Gauge	G-Tech / Guru/ Safeguard
8.	First Aid Hose reel	Omex/ Guard/ Superx/ Safe Guard
9.	Hose Pipe	Omex/ Tulsi/ Superx/ Joyti
10.	Branch Pipes & Nozzals	Omex/ Guard/ Superx/ Safe Guard
11.	Sprinkler Head	G-Tech/ Guru/ Safeguard

Note:- Final decision regarding selection of makes/models for all the material to be provided on the work will rest with the Engineer-In-Charge

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D. Electrical Works Conditions & Specifications:



ADDITIONAL CONDITIONS

A. GENERAL CONDITIONS:-

1. The tender form will be issued only to the enlisted contractors or firms on the production of
 - I. Earnest money in the shape of Deposit at Call Receipt of a schedule bank.
 - II. Valid income tax clearance certificate.
 - III. Valid license issued by Secretary, Licensing Board and Chief Electrical Inspector to Government, Punjab.
2. In case date of issue/receipt of tender form is declared/happens to be a Public holiday, the tender form will be issued/ received on the next working day.
3. The work will be awarded as per the award criteria mentioned in the pre-qualification document if any.
4. The agency should quote the rates in figures as well as in words on the schedule of items supplied to the agency.
5. Original self attested copies of Bills, Challan, Test Certificate from manufacturers, valid ISI license etc. of material to be used by the agency, shall be supplied at the time of receipt of material at site before it is used.
6. Any error or mistake in nomenclature, rate or unit in the schedule of items of work can be corrected at any stage according to the Punjab PWD CSR 2020 edition and A & C slips issued from time to time.
7. The contractor shall not execute any additional item of work not included in the attached schedule unless he has received written instructions for the same from Engineer in-Charge of work.
8. The undersigned can increase or decrease the quantity of any item of work given in the attached schedule of item of work, If considered necessary for achieving the progress of the work.
9. The contractor shall not be entitled to any compensation if the work is held up for any reason what so ever and also no claim on account of fluctuations in prices due to any reason what so ever will be considered.
10. If a contractor withdraw or amends his offer within a period of three month, he is liable to be work listed.
11. Any material issued to the contractor by the Engineer-In charge for use, direct on aforesaid work of manufacture of material regarding in connection there with is not utilized for the purpose for which it is issued and is other wise disposed-off by him or spoiled or lost or allowed to get deteriorated or used in excess, of Qty. as actually required to be used as per specification therein stipulated or those fixed by the Engineer-In charge. The cost of such quantity or material shall be without prejudice to other rights and remedies available to the Govt. be recoverable from the contractor at double stock rates of the material issued free of cost.
12. For any CSR/NSR item of work not included in the attached schedule of work, payment will be made as per quoted rates of CSR items as well as NSR item rates. Such items



may be got approved from the Executive Electrical Engineer in charge before their execution. Rates fixed by the Executive Engineer (Electrical) in charge will be binding on the contractor.

13. 50% of the total security shall be released after the three months of the completion of the work and the balance 50% shall be released after the one year of the completion of the work.

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B. TECHNICAL CONDITIONS

1. The work shall be carried out strictly in accordance with the PWD B&R General specifications 2021 & C.S.R. 2020 for electrical works in Govt. Buildings in the State and also according to the instructions of the Engineer in-Charge of the work. If any item is not available in Punjab PWD specifications, relevant ISI specifications shall be followed. Latest edition of ISI shall be applicable where ever ISI standards have been mentioned.
2. Any material desired to be got tested by department shall be supplied free of cost by agency. In case the material fails to meet required specifications, testing charges will be borne by agency.
3. Power supply & water supply required for work, shall be arranged by the agency for installation & testing of the equipment at the site of work. All tools and tackles required for handling of equipment and material at the site of work as well as for their assembly & erection including necessary test instruments shall be arranged by the agency.
4. The contractor will be responsible for any damage cause to P&T or Electricity cable or any other Estate services during execution of work. He will invariably inform the S.D.O. in charge of the concerned department in writing prior to execution of such work, failing which the debt/claim raised by P&T and Electricity department for such damages will be recoverable from him.
5. The cost of electric wiring diagram shall be recovered from contractor @ 2% of work done value for electric work, if the diagram is not submitted by contractor.
6. 6 pin 16 Amps sockets shall be used in all power plug controls in place of 3 pin sockets and nothing extra shall be payable on this account.
7. Contractor shall be required to provide suitable thimbles or turned sockets at ends of P.V.C cables where the same are to be fitted in switches, motor plates, bus bar chamber if so required without any addition of cost. Rates given in the attached schedule are inclusive of this work.
8. The contractor, where ever necessary, will have to provide deep type semi recessed/recessed surface inspection boxes, as the case may be, so that both recessed and on surface pipes could run straight as they come and terminate in box/ main switch/ B.D.Bs so as to ensure neat finish. For this no extra payment shall be made.
9. The connection to the main switches / B.D.Bs/ Bus bar chamber should be with pipe nipples instead of flexible pipe, for which neither any extra payment nor any deduction will be made. However the flexible pipe will be allowed to be used with prior approval of the Engineer in-Charge.
10. The connection of earth wire with iron clad switch and iron clad branch distribution fuse board or other metallic cases shall be according to the Indian Electricity Act and the Rules there-under and made by means of suitable cables, sockets soldered at the end of the earth wire . Rates given in the attached schedule are inclusive of this work.
11. The suitable series of M.C.B's shall be used for light load, power load and motor wiring purposes and nothing shall be deducted or paid extra to the contractor on this account .
12. The contractor will arrange to provide all the switches and B.D.Bs of the same make in each premise. An exception to this, in case of non-availability of some particular number/



size of the switches of a particular make being used/intended to be used, can be made with prior approval of the Executive Electrical Engineer.

13. The breaking up and making good of walls, ceiling and floors etc. shall be done by the contractor at his own cost and to the entire-satisfaction of the Engineer In charge of the work. All the chases and holes made for wiring or other purposes shall be filled in properly and neatly and brought to the original finish accounting to the entire satisfaction of the Engineer In charge. No extra payment for the same will be made.
14. Looping in system of wiring shall be adopted for all sub-circuit wiring.
15. All the material proposed to be used on this work shall be got approved from the Engineer In charge of the work before their installation.
16. The contractor would be required to write the letter 'N' on each double pole switches and triple pole switches with neutral link as a permanent indication of neutral conductor inside the switch to be connected to the earth neutral conductor of the licensee without any additional cost.
17. All the pipe work iron clad switches, iron clad branch distribution fuse boards, conduit for strip for light, fan and plug points, T.W. boards, blocks etc. shall be painted/ varnished both from inside and out side as the case may be with two costs of approved paint/ varnished rates given in the attached schedule are inclusive of this work.
18. G.I. pipe for earthing purposes for protection of earthing wires may be of Class 'A' Water quality.
19. Where-ever saddle clamps are used for fixing pipe, same shall be of 3mm thick iron sheet width of which shall not be less than the outer diameter of the pipe. Alternatively, suitable size holder bats may be used if desired by the Engineer Incharge. Neither any deduction nor any extra payment for the same will be made if the holder bats are used.
20. Before energizing the system, the following tests should be given by the contractor, so as to find out the installation confirms the relevant rules/ regulations:-
 1. Earth resistance test.
 2. Earth continuity test of conduit pipe or other Iron clad system etc.
 3. Insulation test.
 4. Polarity test.
21. The rates for the wiring light, fan, call bell and plug points etc. given in the attached schedule are irrespective of length of the points.
22. The Size of branch distribution boards are designed on the basis of eight points (Light, Fan, Call bell, and light plug) connected to one way of branch distribution boards and in case of 16Amp. power plug points, two power plugs are to be connected to one way of 32 Amp. B.D.B. or one point per way 16 Amp. B.D.Bs. This practice should strictly be followed for connecting points to the way of B.D.Bs.
23. All shutters for covering the switches & B.D.Bs should be as per approved drawings.
24. The control switch should not be installed at a height less than 120cms from floor level.
25. The body of all the sheet metal switches should be of machine made with 1.60mm thick mild steel sheet.

26. Grip fuse units of sheet metal/Iron clad switches and branch distribution fuse boards should be of H.C. type so as to have the facility of inter-change ability.
27. Sheet-metal/ Iron clad switch should be rewire able type below 200 amp rating and H.R.C. type for 200 amp. and on-ward ratings.
28. Brass screws to fix brown Bakelite/ white glazed or translucent back side painted sheet cover 3mm thick . This sheet should be fixed by means of flat heads brass machine screws with brass ring washers under- Neath.
29. Welded conduit pipe (screw type) made from 1.60 mm thick steel sheet as stipulated in the schedule enameled both from inside and outside shall be used . The length of conduit pipe shall be joined by means of screwed sockets so that it shall be electrically continuous though out, the threads shall be free from grease oil etc. and material of the nature should be allowed to come in contact with the conduits. Sharp edges or burs should not be allowed to remain due to which insulation of conductor is likely to be damaged.
30. All the conduit pipe to be used on the work shall be of heavy gauge welded screwed type conduit pipe upto 32 mm dia . Made of 1.6mm thick M.S. Sheet and more than 32mm dia . 2.0mm thick sheet. For the purpose of checking gauge of the sheet the under noted weight of various sizes of conduit shall be considered as standard weight and conduit used by the contractor must confirm to these weight.

Nominal size/outside Diameter of Conduit	Tolerance of Outside diameter	Minimum Outside diameter (1)-(2)	Minimum Wall thickness	Weight per Metre Gm/ meter
1	2	3	4	5
20	-0.3	19.7	1.6	735
25	-0.4	24.6	1.6	935
32	-0.4	31.6	1.6	1215
40	-0.4	39.6	2.0	1910
50	-0.5	49.5	2.0	2660
63	-0.5	62.5	2.0	3340

31. All conduit used in the work shall be adequately bushed with PVC bushes to prevent a abrasion of insulation of conductor shall also be bonded to earth . This clause however does not apply to small conduit cases installed in the partition wall in P.V.C. individually and P.V.C. sheathed system of wiring where teak wood bushes can be installed and bonding to earth is not necessary .
32. Heavy gauge welded conduit pipe less than 20mm dia . and higher than 25mm dia shall not be used in sub circuit wiring .
33. Not more than 4 and 8 wires of 1.5 mm Sq. P.V.C. cables shall be encased in 20mm and 25mm dia. conduit pipe respectively except with the special permission of the Engineer-In charge .
34. All cover plates whether of inspection boxes of outlet boxes shall be fixed with round head oxidized brass screws . All cast iron inspection boxes and outlet boxes for housing/accessories shall be of threaded type and of suitable sizes as approved by the Engineer-In-charge . Cover plates of round inspection boxes shall be of 1.2 mm thick M.S. Sheet painted white and size 6mm , bigger than the outer dia , of the inspection boxes.



Cover plates of rectangular inspection boxes shall be of 1.53 mm thick Iron sheet and outlet boxes of 5mm thick Bakelite brown/white glazed of translucent back side painted sheet as approved.

Ceiling roses of semi-recessed type shall only be used in case of conduit pipe and they shall be so fixed in such a manner so that canopy fan can effectively cover the same.

35. The whole system of conduit in a building shall be erected and the inside of it thoroughly dried of all swathing or dampness by means of drawing in a cloth fixed to steel fish wire through it before the conductors are put into it further before putting conductors in the conduit pipe the earth continuity test of whole the system should be taken by the S.D.O. In charge who would submit the result of factual test to the Divisional Office along with the bill. It would be the responsibility of the contractor to arrange and give such tests.
36. Conduit pipe where already laid for wiring of light, fan call bell and plug points as well as for plug control will be delivered to the contractor, responsibility for erecting the wiring work in absolutely cleaned conditions with painted round inspection boxes and covers and the whole system tested by the firm who laid the conduit pipe. After the conduit system is handed over to the contractor (later) the responsibility to whom the wiring work is allotted.
37. Bonding of third pin of socket outlet shall be carried out by means of 4mm dia. G.I. wires, 2.24mm dia. Aluminum wire and 4Sq.mm G.I. stranded wires, in case of casing and capping P.V.C. sheathed recessed conduit pipe and surface conduit wiring respectively with suitable call sockets.
38. Watering tank at the C.S.R. rates & specifications be provided on every Earth variable.
39. Cost of Empty boxes of switches to be spared and suitable erection charges shall be deducted from the bill of the contractor.
40. The M.C.B's shall be used of 'L' series for light load control and out of 'C' series for power load and motor wiring purposes and nothing shall be deducted.
41. M.S Boxes 16 gauge in place of cast iron can also be used with prior approval of the Engineers In charge and no extra cost of deduction shall be made.
42. Black type switches shall be used at stock issue rates.
43. Where sheet metal distribution boards or M.C.B.'s and isolators are used, all the conduit pipe/pipes reaching the point shall terminate direct in distribution board it self and the same shall be fixed by means of suitable size check-nuts one each on inside as well as outside the board to ensure proper continuing to earth and without any extra payment or deduction to this effect.
44. Where miniature circuit breakers and isolators are used all of their terminals shall be connected only through suitable size thimbles or required shape and size and not direct. All of those lugs/thimbles shall be properly compressed with the crimping tool at the end of each cable to avoid and loose connection. No extra payment or deduction to this effect shall be made.
45. All the cable, poles and street light fittings etc. to be purchased by the contractor from the manufacturers for installation at the site of works shall be inspected in the premises of the factory it-self by the concerned Sub-Divisional Engineers/Executive, Electrical Engineers before the material is received at site by the contractor. This will be a binding on the



contractor to inform the concerned sub-divisional Engineers Executive Electrical Engineers under whom the work is to be executed while placing orders at their levels.

46. The firm shall have to supply any documents if so desired by the Engineer-in-charge in support of the authenticity of the makes of the material brought at site.
47. The contractor shall be responsible for maintaining the street light including the replacement of lamps, chokes, igniters, starters etc. for a period of one year after the completion of work and final payment shall be released to the contractor only after the work is handed over to the Department complete in all respect.
48. "All contracts with Govt. shall require registration of workers under the Act, and extension of benefits to such workers under the Act."

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Special Additional Conditions

1. The Concerned Contractor will submit lighting design (Design by luminaries manufacturers having in house NABL accredited lab) as per site along with lighting samples and their LM 79 & LM 80 certificates. Contractor will get approval from the Engineer-in-Charge.
2. The guarantee for LED fitting is to be gets submitted from the manufacturers/authorised dealers in addition to the guarantee from contractor. The manufacturers should give undertaking that in case of discontinuation of model/ and or non-availability of spares, they will replace the unit with equivalent/ high end model in case of manufacturing defect during the warranty period of 5 years.
3. The Mini breaking up and making good of floors/ wall shall be done by the contractor at his own cost and to the entire satisfaction of the Engineer-in-charge of Work. No extra payment for the same shall be made.
4. The work shall be done as per best trade practices and in accordance with the requirements of all local codes.
5. The work shall be done by the manufactures trained and skilled workmen specially trained and experienced in this particular work.
6. The Contractor shall obtain and furnish all necessary local provincial or National Govt. permits and approvals and shall make arrangements for instructions and tests required thereby.
7. The firm will quote the rates including all type of taxes and duties and no "D" or "C" form shall be issued.
8. The quantity of material taken in the DNIT can be increased or decreased according to the site requirement.
9. The items taken in the DNIT can also be changed and payment for the changed items will be made after deducting the overall less as quoted by the agency.
10. The firm shall be responsible for maintenance of the system for a period of one year from the date of commissioning and shall be replaced any component including lamps free of cost during the guarantee period i.e. one year and no payment what so ever would be made. The decision of Engineer-in-charge in this respect shall be final.
11. It will be the responsibility of the concerned contractor/ firm to get the Sub-Station approved/ passed from the O/o Electrical Inspector Punjab, Patiala at his own cost.
12. The Department will be liable to get any material tested from any Govt. approved Laboratory on contractor's expenses if the need so arises.
13. It will be the responsibility of the concerned contractor/firm to get certificates regarding authenticity of the material from the authorized representative of the company by which the material is supplied and submit the same to this office.
14. The security @5% of the amount will be deducted from the every contractor's bill.



15. Bank guarantee @5% of the agreement amount will be given by the contractor in the favor of Executive Engineer Electrical Division Pb. PWD B&R Br. Sangrur which should be valid up to 6 months beyond the date of completion of the work.
16. If Engineer-in-charge feels the material may be inspected in the factory premises of the firm or manufacturer by the Engineer-in-charge of the work before dispatch or before installation at site. The cost of inspection will be beared by the contractor.
17. Concerned contractor will submit certifications (As per Annexure-A attached) regarding compliance of specification and standard followed for LT cable (Aluminium) from the manufacturer/ OEM and will get approval from the Engineer-in-charge before ordering the Material.
18. Concerned contractor will submit certifications (As per Annexure-A attached) regarding compliance of specification and standard followed for PVC insulated FR Copper Conductor cable from the manufacturer/ OEM and will get approval from the Engineer-in-charge before ordering the Material.
19. Concerned contractor will submit certifications (As per Annexure-A attached) regarding compliance of specification and standard followed for DWC HDPE Pipe from the manufacturer/ OEM and will get approval from the Engineer-in-charge before ordering the Material.

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Annexure:-A

Special specifications in addition to SBD

(A) Specification for Modular Accessories in addition to CSR Item no. 34.01 to 34.08 & 34.15

Sr. No.	Description
1	Standard:- i) IS: 3854-1997 (amended up to date) applies to manually operated general purpose functional switches, for alternating current (AC) only with a rated voltage not exceeding 440 V with a rated current not exceeding 63 A, intended for household and similar fixed electrical installations, either indoors or outdoors. ii) IS 1293:1988 (amended up to date) applies to Plugs and socket- outlets of rated voltage up to and including 250 volts and rated current up to 16 amperes. iii) IS 11037:2019 (amended up to date) applies to Electronic type fan regulators
2	Certifications required from manufacturer/ OEM:- i) BIS Certification not old than 5 year. ii) Authenticated type test reports from NABL not older than 5years. iii) In-house NABL accredited certifications in field of testing and calibration iv) Full furnished laboratory for conducting acceptance testing as per BIS. All testing equipment shall have calibration certificate with NABL traceability with valid calibration certificate v) Quality Management system certifications- ISO 9001 : 2008 (amended up to date) vi) Environmental management system certifications- ISO 14001 (amended up to date) vii) Occupational Health and safety management – ISO- 45001 (amended up to date).

(B) Specification for PVC insulated FR Copper Conductor Cables in addition to CSR Item no.34.09 D

Sr. No.	Description
1	Standard:- The materials covered under this specification shall comply with the requirements of the latest version of the following standards as amended up to date i) IS : 694:1990 (amended up to date)
2	Certifications required from manufacturer/ OEM:- i) BIS Certification not old than 5 year. ii) Authenticated type test reports from NABL not older than 5 years. iii) In-house NABL accredited certifications in field of testing and calibration iv) Full furnished laboratory for conducting acceptance testing as per BIS. All testing equipment shall have calibration certificate with NABL traceability with valid calibration certificate v) Quality Management system certifications- ISO 9001 : 2008 (amended up to date) vi) Environmental management system certifications- ISO 14001 (amended up to date) vii) Occupational Health and safety management – ISO- 45001 (amended up to date).



(C) Specification for 1100 V XLPE insulated Cables (Aluminum) in addition to CSR Item no.34.10 D

Sr. No.	Description
1	Standard:- The materials covered under this specification shall comply with the requirements of the latest version of the following standards as amended up to date i) IS : 7098 (Part-I) : 1988 (amended up to date) : Specification for Crosslinked Polyethylene Insulated PVC sheathed Cables for working Voltage up to & including 1100 Volt ii) IS:8130-1984 (amended up to date) : Specification for Conductors for insulated electric cables and flexible cords iii) IS:5831-1984 (amended up to date) : PVC insulation & sheath of electric cables iv) IS: 3975-1970 (amended up to date) : Specification for Low Carbon Galvanized steel wires, Formed Wires and tapes for armouring of Cables. v) IS:10810-1984 (amended up to date) : Methods of test for Cables. vi) IS:10418-1982 (amended up to date) : Cable Drums for Electric Cables.
2	Certifications required from manufacturer/ OEM:- i) BIS Certification not old than 5 year. ii) Authenticated type test reports from NABL not older than 5 years. iii) In-house NABL accredited certifications in field of testing and calibration iv) Full furnished laboratory for conducting acceptance testing as per BIS. All testing equipment shall have calibration certificate with NABL traceability with valid calibration certificate v) Quality Management system certifications- ISO 9001 : 2008 (amended up to date) vi) Environmental management system certifications- ISO 14001 (amended up to date) vii) Occupational Health and safety management – ISO- 45001 (amended up to date).

(D) Specification for Heavy gauge welded conduit pipe (ISI marked) as per IS:9537:Part-II in addition to CSR Item no. 34.11

Sr. No.	Description
1	Standard:- This important features of this standard are: a) Substitution of tensile test by compression test, b) Modification of the test for protective coating, and c) Inclusion of details of a bending tool for performing bending test.
2	Certifications required from manufacturer/ OEM:- i) BIS Certification not old than 5year. ii) Authenticated type test reports from NABL not older than 5years. iii) In-house NABL accredited certifications in field of testing and calibration iv) Full furnished laboratory for conducting acceptance testing as per BIS. All testing equipment shall have calibration certificate with NABL traceability with valid calibration certificate v) Quality Management system certifications- ISO 9001 : 2008 (amended up to date) vi) Environmental management system certifications- ISO 14001 (amended up to date) vii) Occupational Health and safety management – ISO- 45001 (amended up to date).

(E) Specification for PVC Conduit Pipes (ISI marked) as per IS 9537: Part-III in addition to CSR Item no. 34.12

Sr. No.	Description
1	Standard:- This standard (Part 3) specifies requirements and method of tests for circular rigid non-flame propagating and non-thread ables plain ended and socket ended conduits of insulating materials.
2	Certifications required from manufacturer/ OEM:- i) BIS Certification not old than 5 year. ii) Authenticated type test reports from NABL not older than 5 years. iii) In house NABL accredited certifications in field of testing and calibration iv) Full furnished laboratory for conducting acceptance testing as per BIS. All testing equipment shall have calibration certificate with NABL traceability with valid calibration certificate v) Quality Management system certifications- ISO 9001 : 2008 (amended up to date) vi) Environmental management system certifications- ISO 14001 (amended up to date) vii) Occupational Health and safety management – ISO- 45001 (amended up to date).

(F) Specification for Miniature Circuit Breakers /RCCB's /RCBO's in addition to CSR Item no.34.16

Sr. No.	Description
1	Standard:- The materials covered under this specification shall comply with the requirements of the latest version of the following standards as amended up to date i) IEC 60898-1: 1988 (amended up to date) : Specification for Electrical Accessories- Circuit Breakers for Overcurrent Protection for Household and similar installations- Part-1: CIRCUIT-BREAKERS FOR A.C. OPERATION NOTE: This part of IEC 60898 applies to a.c. air-break circuit-breakers for operation at 50 Hz, 60 Hz or 50/60 Hz, having a rated voltage not exceeding 440 V (between phases), a rated current not exceeding 125 A and a rated short-circuit capacity not exceeding 25000A. ii) IEC 61008-1:2010 (amended up to date) : Specification for Residual current operated circuit-breakers without integral over current protection for household and similar uses (RCCBs) - Part 1: General rules NOTE: IEC 61008-1:2010 applies to residual current operated circuit-breakers functionally independent of, or functionally dependent on, line voltage, for household and similar uses, not incorporating overcurrent protection (hereafter referred to as RCCBs), for rated voltages not exceeding 440 V a.c. with rated frequencies of 50 Hz, 60 Hz or 50/60 Hz and rated currents not exceeding 125 A, intended principally for protection against shock hazard. iii) IEC 61009-1:2010 (amended up to date): Residual current operated circuit-breakers with integral overcurrent protection for household and similar uses (RCBOs) - Part 1: General rules NOTE: IEC 61009-1:2010 applies to residual current operated circuit breakers with integral overcurrent protection functionally independent of, or functionally dependent on, line voltage for household and similar uses (hereafter referred to as RCBOs), for rated voltages not exceeding 440 V a.c. with rated frequencies of 50 Hz, 60 Hz or 50/60 Hz and rated currents not exceeding 125 A and rated short circuit capacities not exceeding 25000A for operation at 50 Hz or 60 Hz.

2	Certifications required from manufacturer/ OEM:- i) BIS Certification not old than 5 year. ii) Authenticated type test reports from NABL not older than 5 years. iii) In-house NABL accredited certifications in field of testing and calibration iv) Full furnished laboratory for conducting acceptance testing as per BIS. All testing equipment shall have calibration certificate with NABL traceability with valid calibration certificate v) Quality Management system certifications- ISO 9001 : 2008 (amended up to date) vi) Environmental management system certifications- ISO 14001 (amended up to date) vii) Occupational Health and safety management – ISO- 45001 (amended up to date).
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(G) Specification for Sheet metal Double Door Distribution boards for MCB's in addition to CSR Item no. 34.17

Sr. No.	Description
1	Standard:- IEC 61439-1 Low-voltage switchgear and control gear assemblies – Part 1: General rules Applicable standards BS EN 61439-1 & 3, IS 8623-1& 3 Scope: These standards deploy the constructional requirements, technical requirements for low voltage switchgear and control gear assemblies only when required by the relevant assembly standard as follows: i) Assemblies for which the rated voltage does not exceed 1000V in case of a.c. or 1500V in case of d.c; ii) Stationary or movable assemblies with or without enclosure; iii) Assemblies intended for use in connection with generation, transmission, distribution and conversion of electric energy and for the control of electric energy consuming equipment; iv) Assemblies designed for use under special service conditions, for example in ships and in rail vehicles provided that the other relevant specific requirements are complied with; v) Assemblies designed for electrical equipment of machines provided that the other relevant specific requirements are complied with;
2	Certifications required from manufacturer/ OEM:- i) BIS Certification not old than 5 year. ii) Authenticated type test reports from NABL not older than 5 years. iii) In-house NABL accredited certifications in field of testing and calibration iv) Full furnished laboratory for conducting acceptance testing as per BIS. All testing equipment shall have calibration certificate with NABL traceability with valid calibration certificate v) Quality Management system certifications- ISO 9001 : 2008 (amended up to date) vi) Environmental management system certifications- ISO 14001 (amended up to date) vii) Occupational Health and safety management – ISO- 45001 (amended up to date).

(H) Specification for Switch Disconnect or fuse units & On load Changeover Switches(As per IEC 60947-3/IS 13947 (Part-III) in addition to CSR Item no. 34.21 & 34.22

Sr. No.	Description
1	Standard: The materials covered under this specification shall comply with the requirements of the latest version of the following standards as amended up to date i) IEC 60947-3:2020: Low-voltage switchgear and controlgear - Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units NOTE: IEC 60947-3:2020 applies to switches, disconnectors, switch-disconnectors and fuse-combination units and their dedicated accessories to be used in distribution circuits and motor circuits of which the rated voltage does not exceed 1000 V AC or 1500 V DC.



2	Certifications required from manufacturer/ OEM:- <ul style="list-style-type: none"> i) BIS Certification not old than 5 year. ii) Authenticated type test reports from NABL not older than 5 years. iii) In-house NABL accredited certifications in field of testing and calibration iv) Full furnished laboratory for conducting acceptance testing as per BIS. All testing equipment shall have calibration certificate with NABL traceability with valid calibration certificate v) Quality Management system certifications- ISO 9001 : 2008 (amended up to date) vi) Environmental management system certifications- ISO 14001 (amended up to date) vii) Occupational Health and safety management – ISO- 45001 (amended up to date).
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(I) Specification for MCCB's (Moulded Case Circuit Breakers) (As per IEC 60947-2 in addition to CSR Item no. 34.23B & C

Sr. No.	Description
1	Standard: The materials covered under this specification shall comply with the requirements of the latest version of the following standards as amended up to date i) IS13947-2/IEC 60947-2: Low-Voltage Switchgear and Control gear, Part 2: Circuit Breakers NOTE: IEC 60947-2:2016+A1:2019 applies to circuit-breakers, the main contacts of which are intended to be connected to circuits, the rated voltage of which does not exceed 1000 V a.c. or 1500 V d.c.
2	Certifications required from manufacturer/ OEM:- <ul style="list-style-type: none"> i) BIS Certification not old than 5 year. ii) Authenticated type test reports from NABL not older than 5 years. iii) In-house NABL accredited certifications in field of testing and calibration iv) Full furnished laboratory for conducting acceptance testing as per BIS. All testing equipment shall have calibration certificate with NABL traceability with valid calibration certificate v) Quality Management system certifications- ISO 9001 : 2008(amended up to date) vi) Environmental management system certifications- ISO 14001(amended up to date) vii) Occupational Health and safety management – ISO- 45001(amended up to date).

(J) Specification for ACB's (Air Circuit Breakers) (As per IEC 60947-2 in addition to CSR Item no. 34.25

Sr. No.	Description
1	Standard: The materials covered under this specification shall comply with the requirements of the latest version of the following standards as amended up to date i) IS13947-2/IEC 60947-2: Low-Voltage Switchgear and Control gear, Part 2: Circuit Breakers NOTE: IEC 60947-2:2016+A1:2019 applies to circuit-breakers, the main contacts of which are intended to be connected to circuits, the rated voltage of which does not exceed 1000 V a.c. or 1500 V d.c.

2	Certifications required from manufacturer/ OEM:- i) BIS Certification not old than 5 year. ii) Authenticated type test reports from NABL not older than 5 years. iii) In-house NABL accredited certifications in field of testing and calibration iv) Full furnished laboratory for conducting acceptance testing as per BIS. All testing equipment shall have calibration certificate with NABL traceability with valid calibration certificate v) Quality Management system certifications- ISO 9001 : 2008(amended up to date) vi) Environmental management system certifications- ISO 14001(amended up to date) vii) Occupational Health and safety management – ISO- 45001(amended up to date)
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(K) Specification for Double Walled Corrugated (DWC) HDPE Pipes in addition to CSR Item no.34.37

Sr. No.	Description
1	Standard:-DWC HDPE Pipe (As per IS-16205 Part –24, 2018) shall have Good resistance to corrosion & abrasion resistance, Less weathering, Excellent Ring Stiffness, Chemically inert & environmentally safe, Good impact strength, Smooth inner wall (minimum friction loss), When bend the roundness of pipe is retained, bear heavy earth loads, Easy jointing using couplers , Anti Rodent & Non Flame Propagating properties
2	Certifications required from manufacturer/ OEM:- i) BIS Certification not old than 5 year. ii) Authenticated type test reports from NABL not older than 5 years. iii) In-house NABL accredited certifications in field of testing and calibration iv) Full furnished laboratory for conducting acceptance testing as per BIS. All testing equipment shall have calibration certificate with NABL traceability with valid calibration certificate v) Quality Management system certifications- ISO 9001 : 2008(amended up to date) vi) Environmental management system certifications- ISO 14001(amended up to date) vii) Occupational Health and safety management – ISO- 45001(amended up to date)

(L) 3 Stepped tubular Poles& Foundation

Sr. No.	Description
1	Standard:-Pole confirming to IS: 1161-1979
2	Design:- Pole & Foundation as per design attached

LED Fittings

Sr. No	Description
1.	As per detail attached BOQ and special additional conditions serial no

(M) Specification for VCB

Sr. No.	Description
1	<p>Standard:-The materials covered under this specification shall comply with the requirements of the latest version of the following standards as amended up to date</p> <p>1.IEC 62271-100(amended up to date): applicable to three-phase AC circuit-breakers designed for indoor or outdoor installation and for operation at frequencies of 50 Hz and/or 60 Hz on systems having voltages above 1 000 V. This document includes only direct testing methods for making-breaking tests.</p> <p>2.IEC 62271-102(amended up to date): applies to alternating current disconnectors and earthing switches, designed for indoor and outdoor installations for nominal voltages above 1 000 V and for service frequencies up to and including 60 Hz.</p> <p>3.IEC 62271-103(amended up to date): is applicable to three-phase, alternating current switches and switch-disconnectors for their switching function, having making and breaking current ratings, for indoor and outdoor installations, for rated voltages above 1 kV up to and including 52 kV and for rated frequencies from 162/3 Hz up to and including 60 Hz. This document is also applicable to single-pole switches used on three-phase systems.</p> <p>4.IEC 62271-200(amended up to date): AC metal-enclosed switchgear and control gear for rated voltages above 1 kV and up to and including 52kV</p> <p>5. IEC 60056(amended up to date): applies to a.c. circuit-breakers designed for indoor or outdoor installation and operation at frequencies up to and including 60 Hz on systems having voltages above 1000 V. Applies only to three-pole circuit-breakers for use in three-phase systems and single-pole circuit-breakers for use in single-phase systems. Two-pole circuit-breakers for use in single-phase systems are subject to agreement between manufacturer and user. Also applies to the operating devices of circuit-breakers and their auxiliary equipment. However, circuit-breakers with a closing mechanism for dependent manual operation are not covered since a rated short-circuit-making current cannot be specified, and dependent manual operation may be objectionable because of safety considerations. Does not cover circuit-breakers intended for use on motive power units of electrical traction equipment, or circuit-breakers for use with overhead lines which include series capacitors. Replaces IEC 60056-1 to 60056-6.</p>
2	<p>Certifications required from manufacturer/ OEM:-</p> <p>i) BIS Certification not old than 5year.</p> <p>ii) Authenticated type test reports from NABLnot older than 5years.</p> <p>iii) In-house NABL- accredited certifications in field of testing and calibration</p> <p>iv) Full furnished laboratory for conducting acceptance testing as per BIS. All testing- equipment shall have calibration certificate with NABL traceability with valid calibration- certificate</p> <p>v) Quality Management system certifications- ISO 9001 : 2008(amended up to date)</p> <p>vi)Environmental management system certifications- ISO 14001(amended up to date)</p> <p>vii)Occupational Health and safety management – ISO- 45001(amended up to date).</p>



(N) Specification for Transformer

Sr. No.	Description
1	<p>Standard:-The materials covered under this specification shall comply with the requirements of the latest version of the following standards as amended up to date</p> <p>1.IS 1180(amended up to date): Transformer losses should comply IS 1180 Efficiency Level II.</p> <p>2.IEC60076-1 to 60076-5 & 60076-11(amended up to date): for all routine, type test or special tests.</p> <p>3. IS: 13118 , IS: 3427, IEC:60694, IEC: 60298(amended up to date): for 11 kV, switchgear cubicles.</p> <p>4. IS:2099 (amended up to date): for bushings >1000 v</p> <p>5 IS:7421(amended up to date): for bushings <1000 v</p> <p>6 IS:1271(amended up to date): for electrical insulation classified by thermal stability.</p>
2	<p>Certifications required from transformer manufacturer/ OEM:-</p> <p>i) NABL accredited certifications lab for transformer testing.</p> <p>ii) Quality Management system certifications- ISO 9001 : 2008(amended up to date)</p> <p>iii)Environmental management system certifications- ISO 14001(amended up to date)</p> <p>iv)Occupational Health and safety management – ISO- 45001(amended up to date)</p>

ਮੁੱਖ ਇੰਜੀਨੀਅਰ, ਪੰਜਾਬ ਲੋਕ ਨਿਰਮਾਣ ਵਿਭਾਗ, ਭਵਨ ਤੇ ਮਾਰਗ ਸਾਖਾ (ਬਿਜਲੀ ਵਿੰਗ),
ਐਸ.ਸੀ.ਓ. ਨੰ:33, ਤੀਜੀ ਮੰਜਿਲ, ਸੈਕਟਰ 17-ਈ, ਚੰਡੀਗੜ੍ਹ।

ਟੈਲੀਫੋਨ ਨੰਬਰ 0172 2711833

e-mail: ce.elect.pwd@punjab.gov.in

ਵੱਲ

ਨਿਗਰਾਨ ਇੰਜੀਨੀਅਰ,
ਬਿਜਲੀ ਹਲਕਾ (ਦੱਖਣ),
ਲੋਕ ਨਿਰਮਾਣ ਵਿਭਾਗ, ਭਵਨ ਤੇ ਮਾਰਗ ਸਾਖਾ,
ਪਟਿਆਲਾ।

ਮੀਮੋ ਨੰ: 240

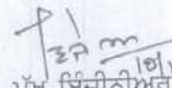
ਮਿਤੀ: 10-12-2018

ਵਿਸ਼ਾ:- ਲਿਫਟਾਂ ਦੀਆਂ ਟੈਕਨੀਕਲ ਸਪੈਸੀਫਿਕੇਸ਼ਨਾਂ ਨੂੰ ਫਾਈਨਲ ਕਰਨ ਸਬੰਧੀ।

ਹਵਾਲਾ:- ਆਪ ਦੇ ਮੀਮੋ ਨੰ: 348 ਮਿਤੀ: 04.09.2017 ਅਤੇ ਮੀਮੋ ਨੰ:178 ਮਿਤੀ 11.6.18

ਉਪਰੋਕਤ ਵਿਸ਼ੇ ਸਬੰਧੀ ਹਵਾਲੇ ਅਧੀਨ ਪੱਤਰਾਂ ਰਾਹੀਂ ਭੇਜਿਆ ਗਈਆਂ ਲਿਫਟਾਂ ਦੀਆਂ ਫਾਈਨਲ ਡਰਾਫਟ ਸਪੈਸੀਫਿਕੇਸ਼ਨਾਂ ਸਬੰਧੀ ਮਿਤੀ: 10.12.2018 ਨੂੰ ਨਿਗਰਾਨ ਇੰਜੀਨੀਅਰ, ਬਿਜਲੀ ਹਲਕਾ (ਉੱਤਰ), ਚੰਡੀਗੜ੍ਹ ਐਟ ਮੋਹਾਲੀ ਅਤੇ ਨਿਗਰਾਨ ਇੰਜੀਨੀਅਰ, ਬਿਜਲੀ ਹਲਕਾ (ਦੱਖਣ), ਪਟਿਆਲਾ ਨਾਲ ਵਿਚਾਰ ਵਟਾਂਦਰਾ ਕਰਨ ਉਪਰੰਤ ਇਹਨਾਂ ਸਪੈਸੀਫਿਕੇਸ਼ਨਾਂ ਨੂੰ ਪ੍ਰਵਾਨ ਕੀਤਾ ਜਾਂਦਾ ਹੈ।

ਨੱਥੀ/ ਲਿਫਟਾਂ ਦੀਆਂ ਫਾਈਨਲ
ਡਰਾਫਟ ਸਪੈਸੀਫਿਕੇਸ਼ਨਾਂ

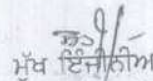

ਮੁੱਖ ਇੰਜੀਨੀਅਰ
ਪੰਜਾਬ ਲੋਕ ਨਿਰਮਾਣ ਵਿਭਾਗ
ਭਵਨ ਤੇ ਮਾਰਗ ਸਾਖਾ (ਬਿਜਲੀ ਵਿੰਗ)
ਚੰਡੀਗੜ੍ਹ।

ਪਿੱਠ ਅੰਕਣ ਨੰਬਰ:

ਮਿਤੀ:

ਉਪਰੋਕਤ ਦਾ ਉਤਾਰਾ ਨਿਗਰਾਨ ਇੰਜੀਨੀਅਰ, ਬਿਜਲੀ ਸਰਕਲ (ਉੱਤਰ), ਪੰਜਾਬ ਲੋਕ ਨਿਰਮਾਣ ਵਿਭਾਗ ਭਵਨ ਤੇ ਮਾਰਗ ਸਾਖਾ, ਚੰਡੀਗੜ੍ਹ ਨੂੰ ਸੂਚਨਾ ਹਿੱਤ ਭੇਜਿਆ ਜਾਂਦਾ ਹੈ।

ਨੱਥੀ/ ਲਿਫਟਾਂ ਦੀਆਂ ਫਾਈਨਲ
ਡਰਾਫਟ ਸਪੈਸੀਫਿਕੇਸ਼ਨਾਂ


ਮੁੱਖ ਇੰਜੀਨੀਅਰ
ਪੰਜਾਬ ਲੋਕ ਨਿਰਮਾਣ ਵਿਭਾਗ
ਭਵਨ ਤੇ ਮਾਰਗ ਸਾਖਾ (ਬਿਜਲੀ ਵਿੰਗ)
ਚੰਡੀਗੜ੍ਹ।



ਪਿਠ ਅੰਕਣ ਨੰਬਰ/ 2557-59 ਮਿਤੀ/ 4.1.19

ਉਪਰੋਕਤ ਦਾ ਉਤਾਰਾ ਕਾਰਜਕਾਰੀ ਇੰਜੀਨੀਅਰ, ਬਿਜਲੀ ਮੰਡਲ ਨੰ: 1/2 ਲੋਕ ਨਿਰਮਾਣ ਵਿਭਾਗ, ਭਵਨ ਤੇ ਮਾਰਗ ਸ਼ਾਖਾ ਪਟਿਆਲਾ/ਬਠਿੰਡਾ ਨੂੰ ਸੂਚਨਾ ਅਤੇ ਲੋੜੀਂਦੀ ਕਾਰਵਾਈ ਲਈ ਭੇਜਿਆ ਜਾਂਦਾ ਹੈ।

ਨੋਬੀ/ਉਪਰੋਕਤ ਅਨੁਸਾਰ

ਨਿਗਰਾਨ ਇੰਜੀਨੀਅਰ,
ਬਿਜਲੀ ਸਰਕਲ (ਦੱਖਣ) ਪੰਜਾਬ ਲੋ ਨਿ ਵਿ.,
ਭਵਨ ਤੇ ਮਾਰਗ ਸ਼ਾਖਾ, ਪਟਿਆਲਾ।

CHAPTER- I
TECHNICAL DATA SHEET

92.47



1 Quality of Service:

The quality of service on the other hand is generally measured by the passenger waiting time at the various floors. The following shall be the guiding factor for determining this aspect:

Quality of Service or Acceptable Interval
Less than 40

Good

2 Speed:

It is dependent upon the quantity of service required and the quality of service desired. Therefore, no set formulae for indicating the speed can be given.

Lift car Speed: Geared/ Gearless			
	Occupancy	No. of Floors Served	Car Speed m/s
(i)	Office Building	Up to or equal to 12 floors	1 m/s
(ii)	Office Building	More than 12 floors	1.5 m/s
(iii)	Hospital Passenger Lift	Up to or equal to 12 floors	1 m/s
(viii)	Hospital Bed/ Stretcher Lifts	Up to or equal to 12 floors	0.5 to 1 m/s

3 Traction Medium:

The traction medium shall conform to IS 14665 (Part-4 Sec 8):2011.

4 Runby Distance with Rated Speed:

	Rated Speed (m/s)	Runby (cm)
(i)	0.5 to 1m/s	30

5 Rope Compensation Chart:

	Rated Speed	Description
(i)	For speeds of below 2.5 m/s and travel distance more than 30meter	For slow speed lifts chains can be used as the means of compensation.

6 Maximum bottom runby:- In no case shall the maximum bottom runby exceed the following:-

- (i) 60 cm for cars and
- (ii) 90 cm for counter -weights

7 Provisions for handicapped friendly Elevator Requirements: (As per IS 15330)

- a) Whenever lift is required as per by-laws, Provision of at least one 13 passenger lift shall be made for the wheel chair user with 900mm clear opening.
- b) A hand rail not less than 600mm long at 900mm above floor level shall be fixed adjacent to the control panel.
- c) The time of an automatically closing door should be minimum 5 seconds and the closing speed should not exceed 0.25 m/sec.
- d) The interior of the cage shall be provided with a device that audibly indicate the floor the cage has reached and indicate that the door of the cage for entrance/exit is either open or closed.
- e) The Braille buttons will be provided inside as well as outside the lifts.



CHAPTER - II

LIFTS DIMENSIONS & LAYOUTS

1	Recommended Dimensions of Pit Depth, Head Room Height for Passenger/ Stretcher/ Hospital Lifts: MRL (Machine Room Less)			
	PASSANGER, STRETCHER, HOPITALS LIFTS MRL : DIMENSIONS OF PIT DEPTH AND HEAD ROOM HEIGHT (HR)			
	Rated Speed = 0.5 to 1.5mps			
	No. of Passangers	Rated Load (Kg)	PIT DEPTH	HEAD ROOM HEIGHT (HR)
	6	408	1600	5000
	8	544	1600	5000
	10	680	1600	5000
	13	884	1600	5000
	15	1000	1800	5000
	20	1360	1800	5000
	26	1768	1800	5000

2	Recommended Dimensions of Pit Depth, Head Room Height and Machine Room Height for Passenger/ Stretcher/ Hospital Lifts: (With Machine Room)				
	PASSANGER, STRETCHER, HOPITALS LIFTS WITH MACHINE ROOM: DIMENSIONS OF PIT DEPTH, HEAD ROOM HEIGHT (HR) AND MACHINE ROOM HEIGHT (MR)				
	Rated Speed = 0.5 to 1.5mps				
	No. of Passangers	Rated Load (Kg)	PIT DEPTH	HEAD ROOM HEIGHT (HR)	MACHINE ROOM HEIGHT (MR)
	6	408	1600	CH+2300	3000
	8	544	1600	CH+2300	3000
	10	680	1600	CH+2300	3000
	13	884	1600	CH+2300	3000
	15	1000	1800	CH+2300	3000
	20	1360	1800	CH+2300	3000
	26	1768	1800	CH+2300	3000



Table - I: Recommended Dimensions for lifts MRL COPD

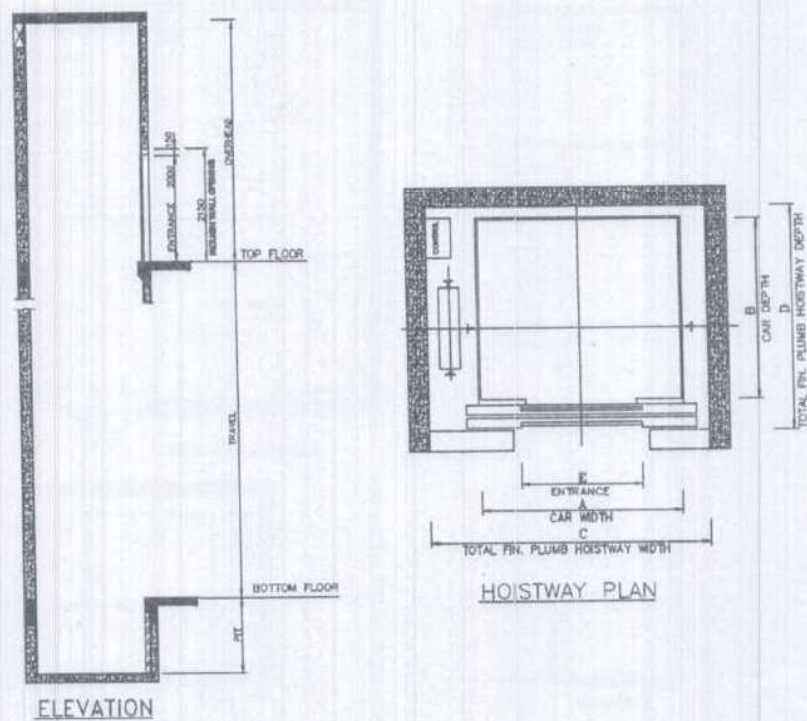


FIG. UNDER TABLE -I FOR LIFTS MRL COPD
(MACHINE ROOM LESS COPD)

The image contains three architectural drawings for a machine room:

- ELEVATION:** A side view of the machine room. It shows a vertical wall on the left with a door labeled "ENTRANCE TO MACHINE ROOM". To the right of the door is a "TRAP DOOR" and a "TRAP DOOR TO BASEMENT LEVEL". The top of the wall is labeled "BEAMS/HOOKS". The bottom of the wall is labeled "BOTTOM FLOOR". The right side of the wall is labeled "MACHINE ROOM HEIGHT". The left side of the wall is labeled "TOP FLOOR". The bottom of the wall is labeled "1 FT".
- MACHINE-ROOM PLAN:** A top-down view of the machine room. It shows a rectangular room with a "TRAP DOOR" on the left wall. The top wall is labeled "MACHINE-ROOM WIDTH". The right wall is labeled "MACHINE-ROOM DEPTH". The bottom wall is labeled "ENTRANCE TO MACHINE ROOM". The left wall is labeled "WINDOW / EXHAUST". The top wall is labeled "HOSTWAY BELOW". The bottom wall is labeled "WINDOW / EXHAUST".
- HOSTWAY PLAN:** A top-down view of the hostway. It shows a rectangular room with a "TRAP DOOR" on the left wall. The top wall is labeled "MACHINE-ROOM WIDTH". The right wall is labeled "MACHINE-ROOM DEPTH". The bottom wall is labeled "ENTRANCE TO MACHINE ROOM". The left wall is labeled "WINDOW / EXHAUST". The top wall is labeled "HOSTWAY BELOW". The bottom wall is labeled "WINDOW / EXHAUST".

Page 4



Table - III : Recommended Dimensions of Passenger lifts

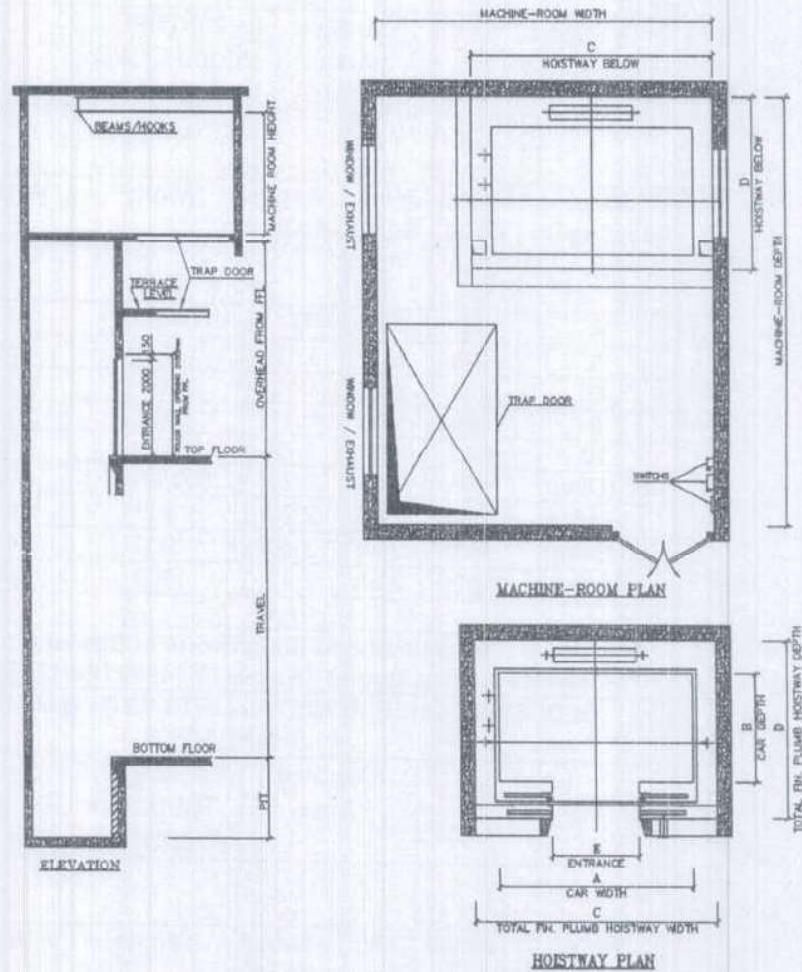


FIG. UNDER TABLE - III FOR PASSENGER LIFTS
(WITH MACHINE ROOM)

LIFTS DIMENSIONS & LAYOUTS

3 Table - I : Recommended Dimensions of Passanger/ Stretcher/ Hospital Lifts MRL (Machine Room Less) COPD: (As per IS 14665 (Part3/ Sec 1): 2000)							
PASSENGER/ STRETCHER/ HOSPITAL LIFTS MRL : SHAFT SIZES							
Load		Car Size Area		2 P TSPD Door/ COPD Door		Shaft size (Lift Well Size)	
						Rated Speed = 0.5 to 1.5 mps	
No. of Passangers	Rated Load (Kg)	Min. Sq.m	Max. Sq.m	Width		Width	Depth
A	B	C	D	E		F	G
6	408	1.00	1.12	700		1750	1600
6	408	1.00	1.12	800		2000	1700
8	544	1.31	1.45	800		2000	1900
10	680	1.61	1.76	800		2000	2150
13 (Deep)	884	2.06	2.20	800/900		2050	2500
13 (Wide)	884	2.06	2.20	900		2600	1900
15 (Deep)	1020	2.35	2.47	900		2100	3000
15 (Wide)	1020	2.35	2.47	900		2600	1900

4 Table - II : Recommended Dimensions of Stretcher/ Hospital lifts: (With Machine Room) (As per IS 14665 (Part3/ Sec 1): 2000)							
BED/ STRETCHER HOSPITAL LIFTS WITH MACHINE ROOM : SHAFT SIZES							
Load		Car Size Area		2 P TSPD Door /COPD Door		Shaft size (Lift Well Size)	
						Rated Speed = 0.5 to 1.5 mps	
No. of Passangers	Rated Load (Kg)	Min. Sq.m	Max. Sq.m	Width		Width	Depth
A	B	C	D	E		F	G
15 (Deep)	1020	2.35	2.47	900		2000	3000
15 (Wide)	1020	2.35	2.47	900		2500	1900
20 (Deep)	1360	3.01	3.13	1200		2300	3000
26(Deep)	1768	3.74	3.85	1200		2500	3000

5	Table - III : Recommended Dimensions of Passenger lifts: (With Machine Room) (As per IS 14665 (Part3/ Sec 1): 2000)						
PASSENGER LIFTS/ HOSPITAL PASSENGER LIFTS WITH MACHINE ROOM : SHAFT SIZES							
	Load		Car Size Area		COPD Door	Shaft size (Lift Well Size)	
						Rated Speed = 0.5 to 1.5 mps	
	No. of Passangers	Rated Load (Kg)	Min. Sq.m	Max. Sq.m	Width	Width	Depth
	A	B	C	D	E	F	G
	6	408	1.00	1.12	700	1650	1600
	6	408	1.00	1.12	800	1900	1700
	8	544	1.31	1.45	800	1900	1900
	10	680	1.61	1.76	800	1900	2150
	13 (Deep)	884	2.06	2.20	800/900	1950	2500
	13 (Wide)	884	2.06	2.20	900	2500	1900
	15 (Deep)	1020	2.35	2.47	900	2000	3000
	15 (Wide)	1020	2.35	2.47	900	2500	1900

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SECTION 6

MODEL RULES FOR THE PROTECTION OF HEALTH AND SANITARY ARRANGEMENTS FOR WORKERS



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MODEL RULES FOR THE PROTECTION OF HEALTH AND SANITARY ARRANGEMENTS FOR WORKERS

1. APPLICATION

These rules shall apply to all buildings and construction works in which twenty or more workers are ordinarily employed or are proposed to be employed in any day during the period during which the contract work is in progress.

2. DEFINITION

Work place means a place where twenty or more workers are ordinarily employed in connection with construction work on any day during the period during which the contract work is in progress.

3. FIRST-AID FACILITIES

- i) At every work place there shall be provided and maintained, so as to be easily accessible during working hours, first-aid boxes at the rate of not less than one box for 150 contract labour or part thereof ordinarily employed.
- ii) The first-aid box shall be distinctly marked with a red cross on white background and shall contain the following equipment:-
 - a) For work places in which the number of contract labour employed does not exceed 50- Each first-aid box shall contain the following equipments :-
 1. 6 small sterilized dressings.
 2. 3 medium size sterilized dressings.
 3. 3 large size sterilized dressings.
 4. 3 large sterilized burn dressings.
 5. 1 (30 ml.) bottle containing a two per cent alcoholic solution of iodine.
 6. 1 (30 ml.) bottle containing salvolatile having the dose and mode of administration indicated on the label.
 7. 1 snakebite lancet.
 8. 1 (30 gms.) bottle of potassium permanganate crystals.
 9. 1 pair scissors.
 10. 1 copy of the first-aid leaflet issued by the Director General, Factory Advice Service and Labour Institutes, Government of India.
 11. 1 bottle containing 100 tablets (each of 5 gms.) of aspirin.
 12. Ointment for burns.
 13. A bottle of suitable surgical antiseptic solution.
 - b) For work places in which the number of contract labour exceed 50, each first-aid box shall contain the following equipments.
 1. 12 small sterilized dressings.
 2. 6 medium size sterilized dressings.
 3. 6 large size sterilized dressings.
 4. (15 gms.) packets sterilized cotton wool.
 5. 1 (60 ml.) bottle containing a two per cent alcoholic solution iodine.
 6. 1 (60 ml.) bottle containing salvolatile having the dose and mode of administration indicated on the label.
 7. 1 roll of adhesive plaster.
 8. 1 snake bite lancet.
 9. 1 (30 gms.) bottle of potassium permanganate crystals.
 10. 1 pair scissors.
 11. 1 copy of the first-aid leaflet issued by the Director General Factory Advice



Service and Labour Institutes /Government of India.

12. A bottle containing 100 tablets (each of 5 gms.) of aspirin.

13. Ointment for burns.

14. A bottle of suitable surgical antiseptic solution.

- iii) Adequate arrangements shall be made for immediate recoupment of the equipment when necessary.
- iv) Nothing except the prescribed contents shall be kept in the First-aid box.
- v) The first-aid box shall be kept in charge of a responsible person who shall always be readily available during the working hours of the work place.
- vi) A person in charge of the First-aid box shall be a person trained in First-aid treatment, in the work places where the number of contract labour employed is 150 or more.
- vii) In work places where the number of contract labour employed is 500 or more and hospital facilities are not available within easy distance from the works. First-aid posts shall be established and run by a trained compounder. The compounder shall be on duty and shall be available at all hours when the workers are at work.
- viii) Where work places are situated in places which are not towns or cities, a suitable motor transport shall be kept readily available to carry injured person or person suddenly taken ill to the nearest hospital.

4. DRINKING WATER

- i) In every work place, there shall be provided and maintained at suitable places, easily accessible
- ii) Where drinking water is obtained from an Intermittent public water supply, each work place shall be provided with storage where such drinking water shall be stored.
- iii) Every water supply or storage shall be at a distance of not less than 50 feet from any latrine drain or other source of pollution. Where water has to be drawn from an existing well which is within such proximity of latrine, drain or any other source of pollution, the well shall be properly chlorinated before water is drawn from it for drinking. All such wells shall be entirely closed in and be provided with a trap door which shall be dust and waterproof.
- iv) A reliable pump shall be fitted to each covered well, the trap door shall be kept locked and opened only for cleaning or inspection which shall be done at least once a month.

5. WASHING FACILITIES

- i) In every work place adequate and suitable facilities for washing shall be provided and maintained for the use of contract labour employed therein.
- ii) Separate and adequate cleaning facilities shall be provided for the use of male and female workers.
- iii) Such facilities shall be conveniently accessible and shall be kept in clean and hygienic condition.

6. LATRINES AND URINALS

- i) Latrines shall be provided in every work place on the following scale namely :-

- a) Where female are employed there shall be at least one latrine for every 25 females.
- b) Where males are employed, there shall be at least one latrine for every 25 males.

Provided that where the number of males or females exceeds 100, it shall be sufficient if there is one latrine for 25 males or females as the case may be up to the first 100, and one for every 50 thereafter.

- ii) Every latrine shall be under cover and so partitioned off as to secure privacy, and shall have a proper door and fastenings.
- iii) Construction of latrines : The inside walls shall be constructed of masonry or some suitable heat-resisting nonabsorbent materials and shall be cement washed inside and outside at least once a year. Latrines shall not be of a standard lower than borehole system.
- iv) a) Where workers of both sexes are employed, there shall be displayed outside each block of latrine and urinal, a notice in the language understood by the majority of the workers "For Men only" or "For Women Only" as the case may be.
- b) The notice shall also bear the figure of a man or of a woman, as the case may be.
- v) There shall be at least one urinal for male workers up to 50 and one for female workers up to fifty employed at a time, provided that where the number of male or female workmen, as the case may be exceeds 500, it shall be sufficient if there is one urinal for every 50 males or females up to the first 500 and one for every 100 or part thereafter.
- vi) a) The latrines and urinals shall be adequately lighted and shall be maintained in a clean and sanitary condition at all times.
- b) Latrines and urinals other than those connected with a flush sewage system shall comply with the requirements of the Public Health Authorities.
- vii) Water shall be provided by means of tap or otherwise so as to be conveniently accessible in or near the latrines and urinals.
- viii) Disposal of excreta : - Unless otherwise arranged for by the local sanitary authority, arrangements for proper disposal of excreta by incineration at the work place shall be made by means of a suitable incinerator. Alternately excreta may be disposed of by putting a layer of night soil at the bottom of a pucca tank prepared for the purpose and covering it with a 15 cm. layer of waste or refuse and then covering it with a layer of earth for a fortnight (when it will turn to manure).
- (ix) The Contractor shall at his own expense, carry out all instructions issued to him by the Employer to effect proper disposal of night soil and other conservancy work in respect of the Contractor's workmen or employees on the site. The Contractor shall be responsible for payment of any charges which may be levied by Municipal or Cantonment Authority for execution of such on his behalf.

7. PROVISION OF SHELTER DURING REST

At every place there shall be provided, free of cost, four suitable sheds, two for meals and the other two for rest separately for the use of men and women labour. The height of each shelter shall not be less than 3 metres (10 ft.) from the floor level to the lowest part of the roof. These shall be kept clean and the space provided shall be on the basis of 0.6 sq.m. (6 sqft) per head.

Provided that the Employer may permit subject to his satisfaction, a portion of the building under



construction or other alternative accommodation to be used for the purpose.

8. CRECHES

- i) At every work place, at which 20 or more women worker are ordinarily employed, there shall be provided two rooms of reasonable dimensions for the use of their children under the age of six years. One room shall be used as a play room for the children and the other as their bedroom.
- ii) The rooms shall be provided with suitable and sufficient openings for light and ventilation. There shall be adequate provision of sweepers to keep the places clean.
- iii) The Contractor shall supply adequate number of toys and games in the play room and sufficient number of cots and beddings in the bed room.
- iv) The Contractor shall provide one ayaa to look after the children in the creche when the number of women workers does not exceed 50 and two when the number of women workers exceed 50.
- v) The use of the rooms earmarked as creches shall be restricted to children, their attendants and mothers of the children.

9. CANTEENS

- i) In every work place where the work regarding the employment of contract labour is likely to continue for six months and where in contract labour numbering one hundred or more are ordinarily employed, an adequate canteen shall be provided by the Contractor for the use of such contract labour.
- ii) The canteen shall be maintained by the Contractor in an efficient manner.
- iii) The canteen shall consist of at least a dining hall, kitchen, storeroom, pantry and washing places separately for workers and utensils.
- iv) The canteen shall be sufficiently lighted at all times when any person has access to it.
- v) The floor shall be made of smooth and impervious materials and inside walls shall be lime-washed or colour washed at least once in each year.
Provided that the inside walls of the kitchen shall be lime-washed every four months.
- vi) The premises of the canteen shall be maintained in a clean and sanitary condition.
- vii) Waste water shall be carried away in suitable covered drains and shall not be allowed to accumulate so as to cause a nuisance.
- viii) Suitable arrangements shall be made for the collection and disposal of garbage.
- ix) The dining hall shall accommodate at a time 30 per cent of the contract labour working at a time.
- x) The floor area of the dining hall, excluding the area occupied by the service counter and any furniture except tables and chairs shall not be less than one square meter (10 sq ft) per diner to be accommodated as prescribed in sub-Rule 9.
- xi) a) A portion of the dining hall and service counter shall be partitioned off and reserved for women workers in proportion to their number.
b) Washing places for women shall be separate and screened to secure privacy.

- xii) Sufficient tables stools, chair or benches shall be available for the number of diners to be accommodated as prescribed in sub-Rule 9.
- xiii) a) 1. There shall be provided and maintained sufficient utensils crockery, furniture and any other equipments necessary for the efficient running of the canteen.
2. The furniture utensils and other equipment shall be maintained in a clean and hygienic condition.
- b) 1. Suitable clean clothes for the employees serving in the canteen shall be provided and maintained.
2. A service counter, if provided, shall have top of smooth and impervious material.
3. Suitable facilities including an adequate supply of hot water shall be provided for the cleaning of utensils and equipments.
- xiv) The food stuffs and other items to be served in the canteen shall be in conformity with the normal habits of the contract labour.
- xv) The charges for food stuffs, beverages and any other items served in the canteen shall be based on 'No profit, No loss' and shall be conspicuously displayed in the canteen.
- xvi) In arriving at the price of foodstuffs, and other article served in the canteen, the following items shall not be taken into consideration as expenditure namely:-
 - a) The rent of land and building.
 - b) The depreciation and maintenance charges for the building and equipments provided for the canteen.
 - c) The cost of purchase, repairs and replacement of equipments including furniture, crockery, cutlery and utensils.
 - d) The water charges and other charges incurred for lighting and ventilation.
 - e) The interest and amounts spent on the provision and maintenance of equipments provided for the canteen.
- xvii) The accounts pertaining to the canteen shall be audited once every 12 months by registered accountants and auditors.

10. ANTI-MALARIAL PRECAUTIONS

The Contractor shall at his own expense, conform to all anti-malarial instructions given to him by the Employer including the filling up of any borrow pits which may have been dug by him. The above rules shall be incorporated in the contracts and in notices inviting tenders and shall form an integral part of the contracts.

11. AMENDMENTS

Government may, from time to time, add to or amend these rules and issue directions - it may consider necessary for the purpose of removing any difficulty which may arise in the administration thereof.



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SECTION 7

CONTRACTORS' LABOUR REGULATIONS



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**PUNJAB (I) PUBLIC WORKS DEPARTMENT "CONTRACTORS LABOUR
REGULATIONS"**

1. SHORT TITLE

These regulations may be called Punjab (I) Public Works Department Contractor's Labour regulations.

2. DEFINITION IN THE REGULATIONS

Unless otherwise expressed or indicated the following word and expressions shall have the meaning here by assigned to the respectively that is to say.

- (i) "LABOUR" mean workers employed by Punjab (I) Public Work Department Contractor directly or indirectly through a Sub-Contractor or other person or by an agent on his behalf.
- (ii) "FAIR WAGES" means wages whether for time or piece work notified as the time of inviting tenders for the work and where such wages have not been notified, the wages prescribed by the Punjab (I) Works Department for in which the work is done.
- (iii) Contractor shall include every person whether a sub-Contractor or headman or agent employing labour on the works taken on contract.
- (iv) "WAGES" shall have the same meaning as defined in the payment of Wages Act, 1936 and include times and rates wages.

3. DISPLAY OF NOTICES, REGARDING WAGES, ETC.

The Contractor shall before the commences his work on contract, display and correctly maintain and continue to display and correctly maintain in a clean and legible conditions in conspicuous place on the work, notices in English and in the local Indian languages spoken by the majority of the workers giving the fair wages notified or prescribed by the Punjab (I) Public Work Department and the hours of work for which such wages are earned.

4. PAYMENT OF WAGES

- 1. Wages due to every worker shall be paid to him directly.
- 2. All wages shall be paid in current or currency or both.

5. FIXATION OF WAGES PERIOD

- 1. The Contractor shall fix wages periods in respect of which the wages shall be payable.
- 2. No wage period shall exceed one month.
- 3. Wages of every workman employed on the contract shall be paid before expiry of ten days after the last day of the wage period in respect of which the wages are payable.
- 4. When the employment of any worker is terminated by on behalf of the Contractor, the wages earned by him shall be paid before the expiry of the day succeeding one on which his employment is terminated.
- 5. all payments of wages shall be made on working day.



6. WAGES BOOK AND WAGE SLIPS etc.

1. a). The Contractor shall maintain wages book of each worker in such form as may be convenient but the same shall include the following particulars.
 - b). Rate of daily or monthly wages.
 - c). Nature of work on which employed.
 - d). Total number of days worked during each wages period.
 - e). Total amount payable for the work during each wage period.
 - f). All deduction made from the wages with an indication in each cases of the ground for which the deduction is made.
2. The Contractor shall also maintain a wage slip for each worker employed on the work.
3. The authority competent to accept the contract may grant and exemption from the maintenance of wage book and wage slips to a Contractor who in his opinion may not directly or indirectly employ more than 100 persons on the work.

7. FINES AND DEDUCTION WHICH MAY BE MADE FROM WAGES

The wages of a worker shall be paid to him without any deduction of any kind except following:

- (a) Fines.
- (b) Deductions for absence from duty i.e. from the place or places where by the terms of his employment, he is required the work the amount of deduction shall be in proportion to the period which he was absent.
- (c) Deductions for damages to or loss of goods expressly entrusted to the employed person for custody or for loss of money for which he is required to account, where such damage or loss is directly attributable to his neglect or default.
- (d) (i) Any other deductions which the P.W.D. may from time to time allow.
(ii) No fine shall be imposed on a worker and no deduction for damage or loss shall be made from his wages until the worker has been given an opportunity of showing cause against such fines or deduction.

8. REPORT OF LABOUR WELFARE OFFICER:

The Labour Welfare Officer or any other person authorized as aforesaid shall submit a report of the results of his investigations or enquiry to the Executive-Engineer concerned, indicating the extent, if any, to which the default has been committed and the amount of fine recoverable in respect of the act of omission and commission of the labourer with a note that necessary deduction from the Contractor will made and the wages and other dues be paid to the labourers concerned.

9. APPEALS AGAINST THE DECISION OF LABOUR WELFARE OFFICER;

Any person aggrieved by the decision and recommendation of Labour Welfare Officer person so authorised may appeal against such decision to the Labour Commissioner, but subject to such

appeal, the decision of the Officer shall be final and binding upon the Contractor.
12. a No party shall be allowed to be represented by a lawyer during any investigation enquiry appeal or any other proceeding under these regulations.

10. INSPECTION OF REGISTER

The Contractor shall allow inspection of Wage and Wage slips to any of his worker or to his agent at a convenient time and place after due notice is received by the Punjab (1) Government on his behalf.

11. SUBMISSION OF RETURNS

The Contractor shall submit periodical returns as may be specified from time to time.

12. AMENDMENTS

The Punjab (1) Government may from time to time add or amend these regulations. The decision of the labour Commissioner Punjab (1) Government in the behalf shall be final.

- (a) The Contractor shall pay not less than fair wage to laborers engaged by him on the work, Fair wage means wage whether for time to piece work notified, at the time of inviting tender for the work and where such wages have not been so notified, the wages prescribed by the public Works, Department Building and Roads Branch Punjab (1) for the district in which the work is done.
- (b) The Contractor shall not withstanding the provision of any agreement to the contract caused to be paid for wage to labourers indirectly engaged on the work, including any labour engaged by his sub-Contractors in connection with the said work as if the labourers had been directly employed by him.
- (c) In respect of all labour directly or indirectly employed on the work for the performance of the Contractor's part of this agreement the Contractor shall comply with or care to be complied with the Punjab (1) Public Works Deptt. Contractor's Labour Regulations made by Govt. from time to time in regard to payment of Wages, Wage period, Deduction from wages, recovery of wages not paid and deductions unauthorizedly made intendency of wage book, wage slips, publication of wages and other terms of employment, inspection and submission of periodical returns and all other matters of alike nature.
- (d) The Executive Engineer or Sub Division Engineer concerned shall have the right to deduct from the moneys due to the Contractor any sum required or estimated to be required for making good the loss suffered by a worker or workers by reason of non-fulfillment of the conditions of the contract from benefit of the workers, non payment of wages deductions made from his or their ages, which are not justified by the terms of the contract of the regulations referred to in clause (c) above.
- (e) Vis-à-vis the Punjab (1) Government the Contractor shall be primarily liable of all payment to be made under and for the observation of the regulations aforesaid without prejudice to his right to claim indemnity from his sub Contractors.
- (f) The regulation aforesaid shall be deemed to be part to his Contractor and any breach thereof shall be deemed to be breach of his contract.



SALIENT FEATURES OF SOME MAJOR LABOUR LAWS APPLICABLE TO ESTABLISHMENTS ENGAGED IN BUILDING AND OTHER CONSTRUCTION WORKS

- a) **Workmen Compensation Act 1923** : The act provides for compensation in case of injury by accident arising out of and of course of employment.
- b) **Payment of Gratuity Act 1972** : Gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if any employee has completed 5 years service or more, on death, the rate of 15 days wages for every completed year of service. The act is applicable to establishments employing 10 or more employees.
- c) **Employees PF and Misc. Provision Act 1952** – The Act provides for monthly contributions by the employer plus workers @ 10% or 8.33% The benefits payable under the Act are :
 - i) Pension or family pension on retirement or death, as the case may be.
 - ii) Deposit linked insurance on the death in harness of the worker.
 - iii) Payment of P.F. accumulation on retirement/death etc.
- d) **Maternity Benefit Act 1951** : This act provides for leave and some other benefits to women employees in case of confinement or miscarriage etc.
- e) **Contract Labour (Regulation & Abolition Act 1970** : The act provides for certain welfare measures to be provided by the Contractor to contract labour and in case the Contractor fails to provide, the same are required to be provided by the Principal Employer by Law. The Principal Employer is required to take certificate of registration and the Contractor is required to take licence from the designated officer. The act is applicable to the establishments or Contractor of Principal Employer, if they employ 20 or more contract labour.
- f) **Minimum Wages Act 1948** :- The Employer is supposed to pay not less than the Minimum wages fixed by appropriate Government as per provisions of the Act, if the employment is a scheduled employment. Construction of Buildings, Roads, Runways are scheduled employments.
- g) **Payment of Wages Act 1936** : It lays down as to by what date the wages are to be paid, when wit will be paid and what deductions can be made from the wages of the workers.
- h) **Equal Remuneration Act 1979** :- The Act provided for payment of equal wages for work of equal nature to Male and Female workers and for not making discrimination against Female employees in the matters of transfers, training and promotions etc.
- i) **Payment of Bonus Act 1965**: The act is applicable to all establishments employing 20 or more employees. The act provides for payments of annual bonus subject to a minimum 8.33% of wages and maximum 20% of wages to employees drawing Rs. 3500/- per month or less. The bonus is to be paid to employees getting Rs. 2500/- per month or above upto Rs. 3500/- per month shall be worked out by taking wages as Rs. 2500/- per month only. The act does not apply to certain establishments. The newly set-up establishments are exempted for five years in certain circumstances. Some of the State Governments have reduced the employment size from 20 to 10 for the purpose of applicability of this Act.
- j) **Industrial Dispute Act 1947**: The Act lays down the machinery and procedure for resolution of Industrial disputes, in what situations a strike or lock out becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment.
- k) **Industrial Employment (Standing Orders) Act 1946**: It is applicable to all establishments employing 100 or more workmen (employment size reduced by some of the State and Central Government to 50). The act provides for laying down rules governing the conditions of employment by the Employer on matters provided in the Act and get the same certified by the designated Authority.



- l) **Trade Unions Act 1926** : The Act lays down the procedure for registration of trade unions of workmen and employers. The Trade unions registered under the act have been given certain immunities from civil and criminal liabilities.
- m) **Child Labour (prohibition & regulation) Act 1986** : The act prohibits employment of children below 14 years of age in certain occupation and processes and provides for regulation of employment of children in all other occupations and progress. Employment of Child labour is prohibited in Building and Construction Industry.
- n) **Inter State Migrant Workmen's (Regulation of Employment & Conditions of Service) Act 1979** : The act is applicable to an establishment which employs 5 or more interstate migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another state) The inter State migrant workmen in an establishment to which this act becomes applicable, are required to be provided certain facilities such as housing, medical and traveling expenses from home upto the establishment and back etc.
- o) **The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act 1996 and the Cess Act of 1996** :- All the establishments who carry on any building or other construction work and employs 10 or more workers are covered under this act. All such establishments are required to pay cess at the rate not exceeding 25 of the cost of construction as may be modified by the Government. The Employer of the establishment is required to provide safety measures at the building or construction work and other welfare measures, such as Canteens, First Aid facilities, Ambulance, Housing accommodations for workers near the work place etc. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.
- p) **Factories Act 1948** : The Act lays down the procedure for approval of plans before setting up a factory; health and safety provisions, welfare provisions, working hours, annual earned leave and rendering information regarding accidents or dangerous occurrences to designated authorities. It is applicable to premises employing 10 persons or more with aid of power or 20 or more persons without the aid of power engaged in manufacturing process.



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SECTION 8

FORM OF BID

[The Specimen Form is given hereunder. It shall be devised judiciously keeping in view the nature of work and type of Contract]



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FORM OF BID

*Description of Work:***BID**

To _____

Address _____

1. I/We offer to execute the works described above and remedy any defects therein in conformity with the Conditions of Contract, specification, drawings, Bill of Quantities and Addenda for the sum (s) as quoted by me/us in the Section-9 i.e. Bill of Quantities.
2. I/We undertake if our Bid is accepted to commence the works as soon as is reasonably possible after the receipt of the Engineer's notice to commence, and to complete the whole of the works comprised of the works comprised in the contract within the time stated in the document.
3. I/We agree to abide by this Bid for the period of 120 days from the date fixed for receiving the same, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
4. Unless and until a formal agreement is prepared and executed this Bid together with your written acceptance thereof, shall constitute a binding contract between us.
5. I/We understand that you are not bound to accept the lowest or any tender you may receive.

Dated this _____ day of _____
 _____ 201

Signature _____ in the capacity of _____

duly authorized to sign bids for and on behalf of _____
 (in block capitals or typed)

Address _____

Witness _____

Address _____

Occupation _____



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SECTION 9

Bill of Quantities

[This Section shall be tailored judiciously to suit the type of Contract i.e. Item Rate/ Percentage Rate/Lump Sum Contract etc. Only a specimen/sample form is given hereunder]



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BILL OF QUANTITIES

PREAMBLE

1. The bill of quantities shall be read in conjunction, with the instructions to Bidders, Conditions of Contract, Technical Specifications and Drawings.
2. The quantities given in the Bill of Quantities are estimated and provisional, and are given to provide a common basis for bidding. The basis of payment will be the actual quantities of work ordered and carried out, as measured by the Contractor and verified by the Engineer and valued at the rates and prices tendered in the priced Bill of Quantities, where applicable and other wise at such rates and prices as the Engineer may fix within the terms of the Contract.
3. The rates and prices tendered in the priced Bill of Quantities shall, except in so far as it is otherwise provided under the Contract, include all constructional plant, labour, supervision, materials, erection, maintenance, insurance, profit, taxes and duties, together with all general risks liabilities and obligations set out or implied in the Contract.
4. The rates and prices shall be quoted entirely in Indian Currency.
5. A rate or price shall be entered against each item in the Bill of Quantities, whether quantities are stated or not. The cost of items against which the Contractor has failed to enter a rate or price shall be deemed to be covered by other rates and prices entered in the Bill of Quantities.
6. The whole cost of complying with the provisions of the Contract shall be included in the items provided in the priced Bill of Quantities, and where no items are provided the cost shall be deemed to be distributed among the rates and prices entered for the related items of work.
7. General directions and descriptions of work and materials are not necessarily repeated or summarized in the Bill of Quantities. References to the relevant sections of the contract documentation shall be made before entering rates or prices against each item in the Bill of quantities.
8. The method of measurement of completed work for payment shall be in accordance with MORT&H specification for Road and Bridge works, 2001 (4th revision) and Punjab PWD specifications for buildings works.

**SCHEDULE OF PAYMENT (S-I)****PREAMBLE**

1. The Schedule of Payment shall be read in conjunction, with the instructions to Bidders, Conditions of Contract, Technical Specifications and Drawings.
2. The method of measurement of completed work for payment shall be in accordance with MORT&H specification for Road and Bridge works, 2001 (4th revision) & Punjab P.W.D. Specifications for buildings works.
3. In case a particular item mentioned in this schedule is not fully completed, payments on prorata basis shall be allowed.
4. The percentage as provided in this schedule for payment to the Contractor can be further split up into smaller components, as approved by the Engineer.

SCHEDULE FOR VARIATION IN SCOPE OF WORK (S-II)

For any variation in scope of work i.e. for extra items or reduction in the scope of work is payable or deductible as under :-

1. In case an item is substituted with any other item during the execution of work and rates for both items exist in the CSR, the amount payable to the contractor for extra or recoverable from the contractor for less work done as the case may be, shall be determined on the basis of the difference between the rates for the two items.
2. For items not covered in the CSR, the payment of such items shall be made on the basis of analytical rates approved by the competent authority.
For determining the actual site expenses, all vouchers for the job shall be maintained. The departmental officers will be entitled to check the same.
3. The percentage of saving, occurring on account of the allotted Lumpsum rates being less than that of the tendered day analytical rates for the work put to bid, shall be applicable to the amount/rate of variation in the scope of work, (calculated as per para (1) and (2) above) during actual execution. This percentage shall be displayed on the financial statement prepared and authenticated by the Engineer during the process of allotment of work.

(CSR means Common Schedule of Rates 2010 issued by PWD (B&R) Punjab with latest amendments/additions/corrigendum).



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Tender Inviting Authority: EXECUTIVE ENGINEER, Provincial Division PWD B&R Hoshiarpur

NAME OF WORK:- CONSTRUCTION OF GOVT SR. SEC SCHOOL AT BAJWARA, DISTT: HOSHIARPUR (PUNJAB)

Contract No:

Bidder Name:	Less (-)	0	%
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SCHEDULE OF WORKS						
Sl. No.	Description of work	No.or Qty.	Unit	Figure	Estimated Rate Words	AMOUNT Rs. P
CIVIL WORK						
A1	Construction of Academic Block (G+3 Storey) in RCC Frame Structure as per Architect drawings & PWD Specifications having provision of foundation for G+4 Storey					
1	Excavation in Soil (dry type) using Hydraulic Excavator CK 90 with hydraulic excavator of 0.9 cum bucket capacity including loading, trimming bottom and side slopes, in accordance with requirements of line, grades and contours including all lifts and combined load upto 30m. Earth filling under floors with surplus ordinary soil and compacting gravel or kankar upto 20% excavated from outside the building plinth, in 15 cm layers including trimming, watering and consolidating lead upto 30 metres (34-63-97+5.35% = 102.19)	3626.56	Cum.	35.48 102.19	Rupees Thirty Five And Eighty Two Paise Only	429903.38 370598.17
2	Providing and applying Anti Termite Treatment using pre constructional chemical treatment measures as per IS - 6313 - 2001 (Part 2) & using Chemical containing chloropyrifos systemic insecticide diluted to manufacturer's specifications (i) In foundation pits, by treating the bottom & sides upto height of 300mm by uniformly spraying solution @ 5 Litre / Sqm (ii) In the refill earth on both sides of all built up walls @ 7.5 Litre / Running meter (width - 300 mm, depth - 450 mm) (iii) Before laying the floor, by uniformly sprinkling the top surface of the consolidated earth within the outer perimeter @ 5 Litre solution per Sqm.	972.95	ltr	391.90	Rupees Three Hundred Ninety One And Ninety Paise Only	381299.11
3	Cement Concrete 1:4:8 with stone ballast of size. 40 mm gauge. using concrete mixing volumetric type	329.58	Cum.	4018.57	Rupees Four Thousand Eighteen And Fifty Seven Paise Only	1324440.3
4	Sand filling under floor and in wells of bridge foundation including handling withing 100 metres	129.27	Cum.	1429.82 1149.03	Rupees One Thousand One Hundred Twenty Nine And Eighty Two Paise Only	148051.83 47687.6
5	Reinforced cement concrete M-25 mechanically batch mixed using batch type concrete mixer as per IS:1791 and vibrated by needle vibrator but excluding steel reinforcement centring and shuttering in foundation and plinth.	1385.40	Cum	6053.81 6055.71	Rupees Six Thousand Fifty Three And Sixty One Paise Only	8265599.09 8265466.43

Signature of Tenderer with seal

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Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		A.MOUNT Rs. P
				Figure	Words	
6	Shuttering for faces of concrete foundations and foundation beam & plinth beam (vertical or battering)	2038.33	sqm	221.24	Rupees Two Hundred Twenty One And Twenty Four Paise Only	450860.13
7	Reinforced cement concrete M-20 mechanically batch mixed using batch type concrete mixer as per IS-1791 and vibrated by needle vibrator but excluding steel reinforcement centring and shuttering in superstructure.					
7.1	Beams					
6.1.1	Total all floor	354.67	Cum	7450.30 6845.83	Rupees Seven Thousand One Hundred Fifty And Thirty Paise Only	2535906.9 2428010.5
8.2	Columns (Rectangular & Square)					
6.3.1	Total all Floor	428.41	Cum	7460.30 6845.83	Rupees Seven Thousand One Hundred Fifty And Thirty Paise Only	3063260.62 2932822.05
8.3	Slab					
6.4.1	Total qty for all floor	877.47	Cum	7460.30 6845.83	Rupees Seven Thousand One Hundred Fifty And Thirty Paise Only	6274473.74 6007010.45
8.4	Lift Walls					
6.3.1	Total all Floor	38.47	Cum	7460.30 6845.83	Rupees Seven Thousand One Hundred Fifty And Thirty Paise Only	276072.04 263339.08
8	Reinforced cement concrete M-20 mechanically batch mixed using batch type concrete mixer as per IS-1791 and vibrated by needle vibrator but excluding steel reinforcement centring and shuttering in superstructure.					
8.1	Lintels					
6.2.1	Total all Floor	77.62	Cum	6568.66 6576.14	Rupees Six Thousand Five Hundred Sixty Eight And Sixty Six Paise Only	509855.39 510439.99
6.2.2	Extra rate for First Floor	18.15	Cum	190.68	Rupees One Hundred Ninety And Sixty Eight Paise Only	3460.84
6.2.3	Extra rate for Second Floor	18.30	Cum	381.37	Rupees Three Hundred Eighty One And Thirty Seven Paise Only	6979.07
6.2.4	Extra rate for Third Floor	17.90	Cum	572.05	Rupees Five Hundred Seventy Two And Five Paise Only	10239.7
6.2.5	Extra rate for Fourth Floor	2.52	Cum	762.73	Rupees Seven Hundred Sixty Two And Seventy Three Paise Only	1922.08
8.2	Shelves					
7.1.1	Total all Floor	3.63	Cum	6660.66 6576.14	Rupees Six Thousand Five Hundred Sixty Eight And Sixty Six Paise Only	24172.67 24200.2
7.1.2	Extra rate for First Floor	0.54	Cum	190.68	Rupees One Hundred Ninety And Sixty Eight Paise Only	102.97

Signature of Tenderer with seal

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Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
7.1.3	Extra rate for Second Floor	0.54	Cum	381.37	Rupees Three Hundred Eighty One And Thirty Seven Paise Only	205.94
7.1.4	Extra rate for Third Floor	1.06	Cum	572.05	Rupees Five Hundred Seventy Two And Five Paise Only	606.37
9	Cement concrete 1:3:6 with stone ballast or shingle 40 mm gauge, using concrete mixing volumetric type	35.60	Cum	4489.68	Rupees Four Thousand Four Hundred Eighty Nine And Sixty Eight Paise Only	159832.61
7.1.4	Extra rate for Third Floor	35.60	Cum	762.73	Rupees Seven Hundred Sixty Two And Seventy Three Paise Only	27153.19
10	Extra for using computerised concrete batch mixing plant including carriage by transit mixer within 1 km lead (note: where concrete mixer is already included in the rate the same shall be deducted)	1734.62	Cum	130.63	Rupees One Hundred Thirty And Sixty Three Paise Only	226593.41
11	Extra for carriage of RMC batch mixed concrete with transit mixture beyond 1st km - for 6 km	1734.62	cum	143.28	Rupees One Hundred Forty Three And Twenty Eight Paise Only	248536.35
12	Extra for pumping charges of Batch Mix Concrete / Ready mix concrete work (RMC)	1734.62	cum	92.71	Rupees Ninety Two And Seventy One Paise Only	160816.62
13	Extra rate for enhancement in pumping power, addition of pipe length, scaffolding for handling the pipe arrangement for pumping of concrete in subsequent storey above the below storey up to height of 4 meters or part there of up to the roof top level of that storey					
13.1	Extra Rate for First Floor	410.23	cum	23.18	Rupees Twenty Three And Eighteen Paise Only	9509.13
13.2	Qty. same as Second Floor	410.23	cum	46.35	Rupees Forty Six And Thirty Five Paise Only	19014.16
13.3	Extra Rate for Third Floor	385.89	cum	69.53	Rupees Sixty Nine And Fifty Three Paise Only	26830.93
13.4	Extra Rate for Fourth Floor	71.46	cum	92.71	Rupees Ninety Two And Seventy One Paise Only	6625.06
14	First class burnt brick work laid in cement sand mortar 1:6 in foundation and plinth.	455.23	Cum	5811.88	Rupees Five Thousand Eight Hundred Eleven And Eighty Eight Paise Only	2645742.13
15	Centring and shuttering for flat surfaces such as suspended floors, roofs, landings, chajjas, shelves etc.					
15.1	Total qty for all floor	7117.46	Sqm	560.46	Rupees Five Hundred Sixty And Forty Six Paise Only	3989051.63
15.2	Extra rate for First Floor	1715.10	Sqm	10.54	Rupees Ten And Fifty Four Paise Only	18077.15

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Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
15.3	Extra rate for Second Floor	1715.10	Sqm	21.07	Rupees Twenty One And Seven Paise Only	36137.16
15.4	Extra rate for Third Floor	1721.09	Sqm	31.61	Rupees Thirty One And Sixty One Paise Only	54403.65
15.5	Extra rate for Fourth Floor	203.61	Sqm	42.14	Rupees Forty Two And Fourteen Paise Only	8580.13
16	Centring and shuttering for Columns (Square or Rectangular or ply gonal in plain)					
16.1	Total qty for all floor	4932.32	Sqm	502.52	Rupees Five Hundred Two And Fifty Two Paise Only	2478589.45
16.1	Extra rate for First Floor	824.72	Sqm.	10.54	Rupees Ten And Fifty Four Paise Only	8692.55
16.2	Extra rate for Second Floor	824.72	Sqm.	21.07	Rupees Twenty One And Seven Paise Only	17376.85
16.3	Extra rate for Third Floor	824.72	Sqm	31.61	Rupees Thirty One And Sixty One Paise Only	26069.4
16.4	Extra rate for Fourth Floor	152.08	Sqm	42.14	Rupees Forty Two And Fourteen Paise Only	6408.65
17	Centring and shuttering for sides and soffits of beam, beams launchings girders bressumers, lintels					
17.1	Total qty for all floor	3458.32	Sqm	400.33	Rupees Four Hundred And Thirty Three Paise Only	1384469.25
17.2	Extra rate for First Floor	846.80	Sqm.	10.54	Rupees Ten And Fifty Four Paise Only	8925.27
17.3	Extra rate for Second Floor	846.00	Sqm.	21.07	Rupees Twenty One And Seven Paise Only	17867.36
17.4	Extra rate for Third Floor	715.52	Sqm	31.61	Rupees Thirty One And Sixty One Paise Only	22617.59
17.5	Extra rate for fourth Floor	180.40	Sqm	42.14	Rupees Forty Two And Fourteen Paise Only	7602.06
18	Centring and shuttering for stair cases with sloping with soffits including risers and stringers.					
18.1	Total qty for all floor	216.01	Sqm	469.86	Rupees Four Hundred Sixty Nine And Eighty Six Paise Only	101494.46
18.2	Extra rate for First Floor	41.42	Sqm	10.54	Rupees Ten And Fifty Four Paise Only	436.57
18.3	Extra rate for Second Floor	41.42	Sqm.	21.07	Rupees Twenty One And Seven Paise Only	872.72

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Sl. No.	Description of work	No. or Qty.	Unit	Figure	Estimated Rate Words	AMOUNT Rs. P
18.4	Extra rate for Third Floor	41.42 Sqm.		31.61	Rupees Thirty One And Sixty One Paise Only	1 309.29
19	Centring and shuttering for faces of walls, partitions, retaining walls and the like (vertical or bartering including attached pillars buttersses etc					
19.1	Total qty for all floor	701.87 Sqm		426.67	Rupees Four Hundred Twenty Six And Sixty Seven Paise Only	299 486.87
19.2	Extra rate for First Floor	100.62 Sqm		10.54	Rupees Ten And Fifty Four Paise Only	1 080.53
19.3	Extra rate for Second Floor	100.62 Sqm.		21.07	Rupees Twenty One And Seven Paise Only	2 120.06
19.4	Extra rate for Third Floor	100.62 Sqm.		31.61	Rupees Thirty One And Sixty One Paise Only	3180.6
19.5	Extra rate for Fourth Floor	100.62 Sqm.		42.14	Rupees Forty Two And Fourteen Paise Only	4 240.13
20	Damp proof course 4cm thick of cement concrete 1:2.4 with water proofing compound as per manufacture guidelines.	10.40 Sqm.		271.83	Rupees Two Hundred Seventy One And Eighty Three Paise Only	2 827.03
21	First class burnt brick work laid in cement sand mortar 1:6 in first storey upto 4 metres above plinth level.					
21.1	Total qty for all floor	849.21 Cum		5956.20	Rupees Five Thousand Nine Hundred Fifty Six And Twenty Paise Only	505 3064.6
21.2	Extra rate for First Floor	154.44 Cum.		153.81	Rupees One Hundred Fifty Three And Eighty One Paise Only	23 754.42
21.3	Extra rate for Second Floor	156.37 Cum.		307.62	Rupees Three Hundred Seven And Sixty Two Paise Only	48 102.54
21.4	Extra rate for Third Floor	266.21 Cum.		461.43	Rupees Four Hundred Sixty One And Forty Three Paise Only	122 337.28
21.5	Extra rate for Fourth Floor	89.98 Cum.		615.24	Rupees Six Hundred Fifteen And Twenty Four Paise Only	5 359.3
21.6	Extra rate for Fifth Floor	7.37 Cum.		769.06	Rupees Seven Hundred Sixty Nine And Six Paise Only	5 667.97
22	115 mm thick brick wall with every fourth course reinforced with hoop iron laid in 1:4 cement sand mortar in super structure.					
22.1	Total Qty for all floor	1904.66 Sqm		802.72	Rupees Eight Hundred Two And Seventy Two Paise Only	1528 08.68
22.2	Extra rate for First Floor	506.12 Sqm		15.80	Rupees Fifteen And Eighty Paise Only	7 996.7

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Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		Amount Rs.	P
				Figure	Words		
22.3	Extra rate for Second Floor	549.92 Sqm.		31.61	Rupees Thirty One And Sixty One Paise Only	17382	97
22.4	Extra rate for Third Floor	3168.81 Sqm.		47.41	Rupees Forty Seven And Forty One Paise Only	150233	28
22.5	Extra rate for fifth Floor	0.51 Sqm.		63.21	Rupees Sixty Three And Twenty One Paise Only	32	24
23	12.5mm thick cement plaster 1.5.						
23.1	Total all floor	4237.73 Sqm.		191.82	Rupees One Hundred Ninety One And Eighty Two Paise Only	812881	37
23.2	Extra rate for First Floor	1027.74 Sqm.		2.11	Rupees Two And Eleven Paise Only	2168	53
23.3	Extra rate for Second Floor	1075.24 Sqm.		4.21	Rupees Four And Twenty One Paise Only	4526	76
23.2	Extra rate for Third Floor	845.92 Sqm.		6.32	Rupees Six And Thirty Two Paise Only	5346	21
23.3	Extra rate for Fourth Floor	145.50 Sqm.		8.43	Rupees Eight And Forty Three Paise Only	1226	57
24	20 mm thick cement plaster 1.5 in two coats work.	4237.73 Sqm.		261.92	Rupees Two Hundred Sixty One And Ninety Two Paise Only	1109946	24
24.1	Extra rate for First Floor	1027.74 Sqm.		2.11	Rupees Two And Eleven Paise Only	2168	53
24.2	Extra rate for Second Floor	1075.24 Sqm.		4.21	Rupees Four And Twenty One Paise Only	4526	76
24.2	Extra rate for Third Floor	845.92 0		6.32	Rupees Six And Thirty Two Paise Only	5346	21
24.3	Extra rate for Fourth Floor	145.50 Sqm.		8.43	Rupees Eight And Forty Three Paise Only	1226	57
25	12.5 mm thick cement plaster 1.4.	2322.08 Sqm.		200.25	Rupees Two Hundred And Twenty Five Paise Only	464996	52
25.1	Extra rate for First Floor	383.94 Sqm.		2.11	Rupees Two And Eleven Paise Only	810	11
25.2	Extra rate for Second Floor	415.03 Sqm.		4.21	Rupees Four And Twenty One Paise Only	1747	28
25.3	Extra rate for Third Floor	377.63 Sqm.		6.32	Rupees Six And Thirty Two Paise Only	2386	62
25.4	Extra rate for Fourth Floor	652.85 Sqm.		8.43	Rupees Eight And Forty Three Paise Only	5503	53
25.5	Extra rate for Fifth Floor	434.07 Sqm.		10.54	Rupees Ten And Fifty Four Paise Only	457	51
26	20 mm thick cement plaster 1.4.	2322.08 Sqm.		275.62	Rupees Two Hundred Seventy Five And Sixty Two Paise Only	640011	69
26.1	Extra rate for First Floor	383.94 Sqm.		2.11	Rupees Two And Eleven Paise Only	810	11

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Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
26.2	Extra rate for Second Floor	415.03	Sqm	4.21	Rupees Four And Twenty One Paise Only	1747.28
26.3	Extra rate for Third Floor	377.63	Sqm	6.32	Rupees Six And Thirty Two Paise Only	2386.62
26.4	Extra rate for Fourth Floor	652.85	Sqm	8.43	Rupees Eight And Forty Three Paise Only	5503.53
26.5	Extra rate for Fifth Floor	434.07	Sqm	10.54	Rupees Ten And Fifty Four Paise Only	4575.1
27	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes (working pressure 4 kgf / cm ²) conforming to IS : 4985, including fixing with MS Clamp U-PVC pipes (working pressure 4kgf. / sqcm) pipe 110 mm dia.	608.20	Rmt.	265.48	Rupees Two Hundred Sixty Five And Forty Eight Paise Only	161484.94
28	Providing and fixing 110 mm dia. U.P.V.C bend for Rain water pipe as per IS:14735 including jointing complete as per specifications and to the entire satisfaction of Engineer-in-charge. UPVC 110 mm bend	41.00	Nos.	142.22	Rupees One Hundred Forty Two And Twenty Two Paise Only	5831.02
29	Providing and fixing 110 mm dia SWR U.P.V.C Coupling/Socket for Rain water pipe as per IS:14735 including jointing complete as per specifications and to the entire satisfaction of Engineer-in-charge.	41.00	Nos.	88.48	Rupees Eighty Eight And Forty Nine Paise Only	3628.09
30	Top Khurra 0.6m x 0.6m for rain water pipe in 25mm thick cement concrete 1:2:4 over 50mm thick cement concrete 1:8:16.	41.00	Nos.	102.79	Rupees One Hundred Two And Seventy Nine Paise Only	4214.39
31	Bottom Khurra on ground 1.2m. x 0.6m, consisting of brick on-edge laid in cement mortar 1:3 over 75mm cement concrete 1:8:16 including 12.5m.m. (thick cement plaster 1:3.	41.00	Nos.	747.49	Rupees Seven Hundred Seventeen And Forty Nine Paise Only	29417.09
32	Providing and fixing in position gratings 150mm x 150mm for gully trap.	41.00	Nos.	770.89	31606.49	
33	PVC grating Terracing consisting of tiles 22.86x11.43x3.83cm laid over 25 mm mud plaster 7.5 cm mud filling on another layer of 25mm mud plaster including two coats of bitumen laid hot at 1.65 Kg. /Sqm top of R.C.C. slab including grouting with cement sand mortar 1:4 and top surface to be left clean after wire brushing			87.87	Rupees Eighty Seven And Eighty Seven Paise Only	3602.67
33.1	Total qty for all floor	1463.16	Sqm.	895.61	Rupees Eight Hundred Five And Sixty One Paise-Only	1128736.33
31.3	Extra rate for Third Floor	1302.37	Sqm.	809.61	9.48	118588.97
31.4	Extra rate for fourth Floor	160.79	Sqm.	12.64	Rupees Nine And Forty Eight Paise Only	12346.47
					Rupees Twelve And Sixty Four Paise Only	2032.39

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Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
34	Cement concrete 1:2:4 gola 10cm x 10cm concave quadrant along junction of roofs with parapet wall finished smooth, where specially specified.	282.69	Rmt	70.45	Rupees Seventy And Forty Five Paise Only	19915.51
35	Earth filling under floors with surplus ordinary soil or soil containing gravel or kankar upto 40% taken only from outside the premises laying in plinth in 15 cm layers including ramming, watering and consolidating including all leads.	4613.58	Cum	475.27 445.88	Rupees Four Hundred Seventy Five And Twenty Seven Paise Only	2192698.17 2057103.05
36	Earth filling under floors with surplus ordinary soil or soil containing gravel or kankar upto 40% excavated from foundation and taken only from outside the building plinth in 15 cm layers including ramming, watering and consolidating lead upto 30 metres.	3626.56 1450.62	Cum	66.37	Rupees Sixty Six And Thirty Seven Paise Only	240694.79 96277.65
37	Screed of 50mm thick cement concrete 1:8:16 with stone aggregate 40mm gaugeto be laid below the topping using mechanical mixer for mixing of material					
37.1	Total qty for all floor	3680.25	Sqm.	192.99	Rupees One Hundred Ninety Two And Ninety Nine Paise Only	710251.45
37.2	Extra rate for First Floor	1205.35	Sqm.	3.16	Rupees Three And Sixteen Paise Only	3808.91
37.3	Extra rate for Second Floor	1199.71	Sqm.	6.32	Rupees Six And Thirty Two Paise Only	7582.17
37.4	Extra rate for Third Floor	1177.93	Sqm.	9.48	Rupees Nine And Forty Eight Paise Only	11166.78
37.5	Extra rate for Fourth Floor	97.26	Sqm.	12.64	Rupees Twelve And Sixty Four Paise Only	1229.37
38	Marble stone flooring with 12-15 mm thick marble stone, as per sample of marble approved by Engineer-in-charge, over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with grey cement slurry, including rubbing and polishing complete with : Udaipur Green Marble Tiles of thickness 12mm to 15mm Slabs sizes above 0.50 sqm					
38.1	Total Qty for all floor	2277.17	sqm	1215.34	Rupees One Thousand Two Hundred Fifteen And Thirty Four Paise Only	2767535.79
38.2	Extra rate for First Floor	523.47	Sqm.	3.16	Rupees Three And Sixteen Paise Only	1654.17
38.3	Extra rate for Second Floor	484.66	Sqm.	6.32	Rupees Six And Thirty Two Paise Only	3063.05
38.4	Extra rate for Third Floor	459.22	Sqm.	9.48	Rupees Nine And Forty Eight Paise Only	4353.41

Signature of Tenderer with seal

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Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		Amount Rs.
				Figure	Words	
38.5	Extra rate for Fourth Floor	102.08	Sqm.	12.64	Rupees Twelve And Sixty Four Paise Only	1290.29
39	Marble work of thickness 12-15 mm for wall lining (veneer work), backing filled with a grout of average 12 mm thick in cement mortar 1:3 (1 cement : 3 coarse sand), including pointing with white cement mortar 1:2 (1 white cement : 2 marble dust) with an admixture of pigment to match the marble shade (To be secured to the backing by means of cramps, which shall be paid for separately). Udaipur Green Marble Tiles of thickness 12mm to 15mm Slabs sizes above 0.50 Sqm					
39.1	Total Qty for all floor	174.05	sqm	1561.37	Rupees One Thousand Five Hundred Sixty One And Thirty Seven Paise Only	271756.45
39.2	Extra rate for First Floor	34.20	Sqm.	3.16	Rupees Three And Sixteen Paise Only	108.07
39.3	Extra rate for second Floor	33.30	Sqm.	6.32	Rupees Six And Thirty Two Paise Only	210.45
39.4	Extra rate for Third Floor	30.81	Sqm.	9.48	Rupees Nine And Forty Eight Paise Only	292.08
39.5	Extra rate for Fourth Floor	20.38	Sqm.	12.64	Rupees Twelve And Sixty Four Paise Only	257.65
40	Kota stone slab 20-25 mm thick flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) :	872.45	Sqm	1156.83	Rupees One Thousand One Hundred Fifty Six And Eighty Three Paise Only	1009276.35
40.1	Extra rate for First Floor	342.16	Sqm.	3.16	Rupees Three And Sixteen Paise Only	1081.25
40.2	Extra rate for Second Floor	87.71	Sqm.	6.32	Rupees Six And Thirty Two Paise Only	554.35
40.3	Extra rate for Third Floor	86.21	Sqm.	9.48	Rupees Nine And Forty Eight Paise Only	817.27
40.4	Extra rate for Fourth Floor	10.96	Sqm.	9.48	Rupees Nine And Forty Eight Paise Only	103.95
41	Kotah stone tile 20mm thick in skirting, riser of steps, dado walls and pillars laid in 12.5mm thick cement mortar 1:3 (1 Cement and 3 Sand) and jointed with neat cement slurry mixed with pigment to match the shade of stone including rubbing and polishing	56.92	Sqm	1442.66 1407.58	Rupees One Thousand Four Hundred Twelve And Sixty Eight Paise Only	80409.75 80118.32

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Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOU NT Rs. — P
				Figure	Words	
41.1	Extra rate for First Floor	18.71	Sqm.	3.16	Rupees Three And Sixteen Paise Only	59.12
41.2	Extra rate for Second Floor	6.55	Sqm.	6.32	Rupees Six And Thirty Two Paise Only	41.4
41.3	Extra rate for Third Floor	9.88	Sqm.	9.48	Rupees Nine And Forty Eight Paise Only	93.66
41.4	Extra rate for Fourth Floor	1.55	Sqm.	12.64	Rupees Twelve And Sixty Four Paise Only	19.59
42	Providing and Laying Out Door Precast Designer chequered tiles of any size & any shape 25mm thickness having top layer of white cement mixed with pigment, laid on 20mm thick bed of ordinary cement mortar 1:3(1 ordinary cement : 3 fine sand), joints grouted with white cement slurry containing pigment to match the shade complete in all respect as per specifications and to the entire satisfaction of engineer-in-charge.	76.92	Sqm	1081.54	Rupees One Thousand Eighty One And Fifty Four Paise Only	83 92.06
43	Extra labour for projected nosing of stair case of any shape and design (CSR 14.568 64+5.35% = 67.42)	597.53	rmt	167.52	Rupees One Hundred Eighty Seven And Fifty Two Paise Only	142 48.83
44	Extra for marble stone flooring in treads of steps and risers using single length up to 2.00 metre.	233.06	rmt	67.42	Rupees Four Hundred Forty Eight And Seventy Nine Paise Only	40285.47
45	Coloured Granite stone tiles 15mm to 20mm thick in skirting, risers of steps, dado walls and pillars laid in 12.5mm thick cement mortar 1:3 (1 cement : 3 coarse sand) and jointed with neat cement slurry mixed with pigment to match the shade of stone, including rubbing and polishing including labour for fixing dowel pins and cramps..	74.32	Sqm	448.79	Rupees Three Thousand Four Hundred Fifty Four And Fifty One Paise Only	256 39.18
45.1	Extra rate for First Floor	13.09	Sqm.	3454.51	Rupees Three And Sixteen Paise Only	41.36
45.2	Extra rate for Second Floor	13.09	Sqm.	3.16	Rupees Six And Thirty Two Paise Only	82.73
45.3	Extra rate for Third Floor	13.09	Sqm.	6.32	Rupees Nine And Forty Eight Paise Only	24.09
45.4	Extra rate for Fourth Floor	13.09	Sqm.	9.48	Rupees Twelve And Sixty Four Paise Only	65.46

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Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMO R-s. P
				Figure	Words	
46	Providing and fixing Morwad Marble Strip 12mm to 15mm thick and 100 mm wide in kotah stone flooring over 12.50mm thickness base of cement mortar 1:3 jointed with cement slurry including cost of additional mortar equivalent to the kota stone thickness and colouring pigment to match the colour rubbed and polished to granolithic finish complete in all respects.respects.	2396.10 Rmt		130.63	Rupees One Hundred Thirty And Sixty Three Paise Only	31 3002.54
47	Providing and laying vitrified floor tiles in different sizes in light colour shades made using Full Body Technology (thickness to be specified by the manufacturer) with water absorption's less than 0.08% and conforming to IS : 15622 of approved make in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement: 4 fine sand), complete. (Full body vitrified tiles have pigment in entire body / thickness of tile which makes chips and scratches less noticeable and make na ideal choice for high traffic zones.) Size 600x600 mm					
47.1	Total Qty for all floor	2148.70 sqm		1498.73	Rupees One Thousand Four Hundred Ninety Eight And Seventy Three Paise Only	322 0321.15
47.2	Extra rate for First Floor	409.23 Sqm.		3.16	Rupees Three And Sixteen Paise Only	1293.17
47.3	Extra rate for Second Floor	740.21 Sqm.		6.32	Rupees Six And Thirty Two Paise Only	4678.13
47.4	Extra rate for Third Floor	641.42 Sqm.		9.48	Rupees Nine And Forty Eight Paise Only	6080.66
48	Grouting the joints of flooring tiles having joints of 3 mm width, using 2mm to 3 mm gap using spacers and later this gap to be filled with cement based grout) with Cement base grout and matching pigments etc., complete, including filling / grouting and finishing complete as per direction of Engineer-in-charge. Size 600x600 mm.	2148.70 sqm		130.63	Rupees One Hundred Thirty And Sixty Three Paise Only	28 0684.68

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Sl. No.	Description of work	No. or Qty.	Unit	Figure	Estimated Rate		AMOUNT Rs. p
					Words		
49	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/appropriate z sections and other sections conforming to IS: 733 and IS : 1285 of Jindal, Hindalco, Mahavir or equivalent make approved by Engineer in Charge, fixed with rawl plugs and screws or with fixing clips, or with expansion hold fasteners including necessary filling up of gaps at junctions, at top, bottom and sides with required PVC Plug/neoprene felt etc. Aluminium sections shall be smooth, rust free, straight, mitered and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing/paneling, C.P.brass/stainless steel screws, all complete as per architectural drawings and the directions of Engineer-In-Charge. (Glazing and paneling to be paid for separately) :						
49.1	For fixed portion & Chaukhat	1565.87	kg	370.83	Rupees Three Hundred Seventy And Eighty Three Paise Only		580671.57
49.2	For shutters of doors, windows & ventilators including providing and fixing hinges/pivots and labour for fixing of fittings wherever required including the cost of PVC Plug / neoprene gasket required	1721.30	kg	387.69	Rupees Three Hundred Eighty Seven And Sixty Nine Paise Only		667330.8
50	Providing & fixing ACP Sheets of various thickness High Class ISI marked complete in all respect as per the directions of Engineer-in-charge. 4mm thick ACP Sheet	87.97	sqm	2496.80	Rupees Two Thousand Four Hundred Ninety Six And Eighty Paise Only		219643.5
51	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with PVC Plug/ neoprene gasket etc. complete as per the architectural drawings and the directions of engineer-in-charge . (Cost of aluminium snap beading shall be paid in basic item)						
51.1	With float glass panes of 5.5 mm thickness.	164.19	sqm	1090.37	Rupees One Thousand Ninety And Thirty Seven Paise Only		179027.85
52	Providing Polyster Powder coating 50 micron any coloured specified to aluminium section of various sizes including carriage of material from market to workshop	3287.17	Kg	71.64	Rupees Seventy One And Sixty Four Paise Only		235492.86
53	Providing and fixing Brass 100mm mortice latch and lock with 6 levers without pair of handles (best make of approved quality) for aluminium doors including necessary cutting and making good etc. complete.	20.00	nos	361.35	Rupees Three Hundred Sixty One And Thirty Five Paise Only		7227



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Sl. No.	Description of work	No. or Qty.	Unit	Figure	Estimated Rate		AMOUNT Rs. P
					Words		
32.1	Supplying and fixing of Japani sheet frames (Chowkat) consisting of 18 gauge (1.25mm) thick steel sheet of the specified section (standard design latest), including iron lugs (hold fasts) iron hinges conforming to PWD specifications including bolts for fixing steps, lock notch provision for receiving tower bolts and finished, fixed in position including the cost of cement concrete 1:3:6 for filling in the frame and cement concrete 1:2:4 for lugs complete to the satisfaction of Engineer-in-charge.						
33.1	Door and window frame of size 113mmx60mmx with 35mm wide single rebate specification & entire installation of Engineer-in-charge.						
54.1	Doors frame of size 80mm x 60mm with 37 mm wide single rebate for 35mm door shutter.	869.59	Rmt	1192.56 783.30	Rupees One Thousand One Hundred Ninety Two And Fifty Six Paise Only	1937038.25 681584.64	
33	Supplying and fixing of Japani sheet frames (Chowkat) consisting of 18 gauge (1.25mm) thick steel sheet of the specified section (standard design latest), including iron lugs (hold fasts) iron hinges conforming to PWD specifications including bolts for fixing steps, lock notch provision for receiving tower bolts and finished, fixed in position including the cost of cement concrete 1:3:6 for filling in the frame and cement concrete 1:2:4 for lugs complete to the satisfaction of Engineer-in-charge.						
33.1	Door and window frame of size 113mmx60mmx with 35mm wide single rebate						
33.2	Doors and windows frame of size 151mm x 60mm with 35 mm wide double rebate weighing 3.95 kg per meter. 50mm with Double rebate.	2569.82	Rmt	4997.75 963.32	Rupees One Thousand Ninety Seven And Seventy Five Paise Only	2824019.91 2475559.00	

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Sl. No.	Description of work	No. or Qty.	Unit	Figure	Estimated Rate Words	AMOU NT Rs. p
56	Providing & fixing of Box type steel windows, made of various ERW section outer 60mm x 25mm, central mullion 60mm x 25mm, for shutter 50mm x 20mm having thickness of 12.5mm (18 gauge), shash bar MS Tee 25mm x 3mm where required joints milled and electrically flash-welded, with iron fittings including necessary iron handles, hinged cleat, tower bolts, iron hold fast and pintle hinges complete (excluding glazing and wire guage) and finished with ready mixed paint red lead non setting primer complete as per specification, Drawings and to the entire satisfaction of engineer-in-charge. (Note:- Glazing, wire guage and grill will be paid as per respective items)					
56.1	Glazed Windows shutter Section 47mm x 20mm (Without Glass)	10705.60 Kg	kg	145.49	Rupees Five Thousand Six Hundred And Forty One Paise Only	1856347.92
57	Wire gauge fixed on steel windows of standard rolled steel section, with 3mm thick flat iron cover moulding of 12.5mm width, fixed with machine screws, complete in all respects.	331.52 Sqm	Sqm	5692.06	Rupees Five Thousand Six Hundred Ninety Two And Six Paise Only	1887317.3
58	Providing & fixing fixed beeding 12mm X 12mm for fixed glass with Eco fixed gasket (EPDM)	4846.38 rmt	rmt	262.84	Rupees Two Hundred Fifty Two And Eighty Four Paise Only	127773.52
59	Providing and fixing glazing in door, window, ventilator shutters and partitions etc, complete as per the architectural drawings and the directions of engineer-in-Charge (Cost of gasket/beading shall be paid as per respective item)					
59.1	Float glass panes of 5mm thickness	734.03 sqm	sqm	816.46	Rupees Eight Hundred Sixteen And Forty Six Paise Only	599306.18
60	Providing & fixing 16 gauge stainless steel pipe railing of grade 304 duly fixed on steps with the help of bolts grouted on steps with hand rail and newel post of 50mm dia Stainless steel pipe, Balusters of 40mm dia stainless steel pipe complete in all respects.	4247.90 Kg	Kg	506.73	Rupees Five Hundred Six And Seventy Three Paise Only	2152538.37
61	Wrought iron and mild steel ladders, framed grills, grating etc. with ends of bars, riveted or welded or forged, framed window guards, barred iron doors, stair case, iron railing including cost of bolts and nuts or screws or welding rod, complete fixed in position.	119.59 Qtl	Qtl	10798.95	Rupees Ten Thousand Seven Hundred Ninety Eight And Ninety Five Paise Only	1291446.43
62	Factory manufactured solid flush door fixed in position iron hinges, etc (excluding the cost of any fittings other than specified above but including labour for fixing the same in position (Code : IS 2202-1) (1999) Commercial with elm or guirjan facing on both sides with laminated core and lipped edges:- 35mm thick	264.00 Sqm	Sqm	2430.42	Rupees Two Thousand Four Hundred Thirty And Forty Two Paise Only	641530.88
63	Extra for providing & fixing Steel Tube beading size 12mm x 12mm, 18 gauge of approved shape and section with screw for fixing of glass panes in stead of glazing clips and metal slash putty in steel doors, windows & Ventilators complete in all respect	4516.38 Rmt	Rmt	816.46		57976.8
	Signature of Tenderer with seal			70.50		340999.7

Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
63	Extra for providing vision panel not exceeding 0.1 sqm in all type of flush doors (including cost of glass) Rectangular or square	57.00 nos		403.49	Rupees Four Hundred Three And Forty Nine Paise Only	22998.93
64	Providing and fixing aluminium sliding door bolts ISI marked anodized (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with nuts and screws etc. complete :					
64.1	300mm x 16mm	57.00 Nos		209.65	Rupees Two Hundred Nine And Sixty Five Paise Only	11950.05
64.2	250mm x 16mm	47.00 Nos		192.79	Rupees One Hundred Ninety Two And Seventy Nine Paise Only	9061.13
65	Providing and fixing hydraulic door closer ISI mark with necessary screw etc. complete					
65.1	I.S.I Designation No. III (size of door 851mm to 1000mm)	161.00 Nos		1380.09	Rupees One Thousand Three Hundred Eighty And Nine Paise Only	222194.49
66	Providing and fixing double action hydraulic floor spring of approved brand and manufacture IS : 6315 marked, for doors including cost of cutting floors as required, embedding in floors and cover plates with brass pivot and single piece MS sheet outer box with slide plate and with stainless steel cover plate etc. complete as per the direction of Engineer-in-charge.	20.00 Nos		1951.62	Rupees One Thousand Nine Hundred Sixty One And Sixty Two Paise Only	39232.4
67	Cost of Aluminium fittings complete for doors, windows such as tower bolts, handleless and screw etc. for these fittings (Excluding sliding bolt) For shutter area above 0.50 sqm	436.13 Sqm		116.94	Rupees One Hundred Sixteen And Ninety Four Paise Only	51001.04



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Sl. No.	Description of work	No.or Qty.	Unit	Figure	Estimated Rate Words	AMOUN Rs. T P
66	Providing and fixing tiled false ceiling of specified materials of size 595x595 mm (GI Metal Ceiling Lay in plain Tegular edge Global white color tiles of size 595x595 mm, and 0.5 mm thick with 8 mm drop, made of GI sheet having galvanizing of 100 gms/sqm (both sides inclusive) and electro statically polyester powder coated of thickness 60 microns(minimum), including factory painted after bending.) in true horizontal level, suspended on inter locking metal grid of hot dipped galvanized steel sections (galvanized @ 120 grams/ sqm, both side inclusive) consisting of main "T" runner with suitably spaced joints to get required length and of size 24x38 mm made from 0.30 mm thick (minimum) sheet, spaced at 1200 mm center to center and cross "T" of size 24x25 mm made of 0.30 mm thick (minimum) sheet, 1200 mm long spaced between main "T" at 600 mm center to center to form a grid of 1200x600 mm and secondary cross "T" of length 600 mm and size 24x25 mm made of 0.30 mm thick (minimum) sheet to be interlocked at middle of the 1200x600 mm panel to form grids of 600x600 mm and wall angle of size 24x24x0.3 mm and laying false ceiling tiles of approved texture in the grid including, required cutting/making, opening for services like diffusers, grills, light fittings, fixtures, smoke detectors etc. Main "T" runners to be suspended from ceiling using GI slotted cleats of size 27 x 37 x 25 x 1.6 mm fixed to ceiling with 12.5 mm dia and 50 mm long dash fasteners, 4 mm GI adjustable rods with galvanised butterfly level clips of size 85 x 30 x 0.8 mm spaced at 1200 mm center to center along main T, bottom exposed width of 24 mm of all T sections shall be pre-painted with polyester paint, all complete for all heights as per specifications, drawings and as directed by Engineer-in-charge.	304.63	Sqm	1300.02	Rupees One Thousand Three Hundred And Two Paise Only	39602 08
67	Providing and Laying Tactile Flooring full body vitrified , low water absorption below 5%, having excellent slip resistance , very dense, durable and abrasion resistant, solid through colour, fade proof, highly chemical and stain resistance unglazed finish porcelain tile of size 300mm x 300mm x 10mm + 5mm thick, approved profile design, Tec-button/Tec-liner laid in ordinary grey cement and on 20mm thick bed of cement mortar 1:3 filling neat cement slurry between joints with White Cement containing pigment to match the shade complete in all respect. (Tile design and pattern will be as per guidelines issued for persons with disability)					
67.1	Total all Floor	18.60	Sqm.	1908.54	Rupees One Thousand Nine Hundred Eight And Fifty Four Paise Only	3549 8.84



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Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		Amount
				Figure	Words	
67.2	Extra rate for First Floor	4.65 Sqm.		3.16	Rupees Three And Sixteen Paise Only	14.69
67.3	Extra rate for Second Floor	4.65 Sqm.		6.32	Rupees Six And Thirty Two Paise Only	29.39
67.4	Extra rate for Third Floor	4.65 Sqm.		9.48	Rupees Nine And Forty Eight Paise Only	44.08
68	Providing and Fixing writing Boards made of Ply Board with sunmica finishing partly white partly green, Aluminium frame, Back side PVC water proof sheet duly fixed at site complete as per drawing & entire satisfaction of Engineer-in-Charge.	26.00 nos		10000.00	Rupees Ten Thousand Only	260000
69	Providing & Installation of Lab Tabel in Chemistry / Physics Lab Size of Table 13.50x3'-0" complete as per architect drawing	10.00 nos		86980.70	Rupees Eighty Six Thousand Nine Hundred Eighty And Seventy Paise Only	869807
70	Providing & Installation of Lab Demo Tabel in Chemistry / Zoology / Botony Lab. Size of Domonstration Table 5.50x2.25 complete as per architect drawing	2.00 nos		28829.90	Rupees Twenty Nine Thousand Eight Hundred Twenty Nine And Ninety Paise Only	59659.8
71	Providing & Installation of Lab Demo Table in Physics Lab, Bio Lab, Hime Science Lab Size of Demonstration Table 5.25 x 2.25 Complete as per Architect	2.00 nos		28810.00	Rupees Twenty Eight Thousand Eight Hundred Ten Only	57620
72	Providing & Installation of Table along wall in Chemistry/Biology / Physics 2'-6" wide & 2'-6" high complete as per architect drawing	283.34 mtr		4086.75	Rupees Four Thousand Eighty Six And Seventy Five Paise Only	953602.25
69	Cold twisted deformed (Ribbed/ Tor Steel Bar/TMT) Bars Fe 500 grade as per IS 1786-2008, for R.C.C works, where not including in the complete rate of RCC including bending and placing in position complete					
69.1	Total Qty for All Floor	4608.43 qtl		7876.91 7919.6	Rupees Seven Thousand Eight Hundred Seventy Six And Ninety One Paise Only	36300188.35 3641844.52
69.2	Extra rate for First Floor	710.53 qtl		13.70	Rupees Thirteen And Seventy Paise Only	9734.26
69.3	Extra rate for Second Floor	707.98 qtl		27.39	Rupees Twenty Seven And Thirty Nine Paise Only	19391.57
69.4	Extra rate for Third Floor	583.37 qtl		41.09	Rupees Forty One And Nine Paise Only	23970.67
69.5	Extra rate for Fourth Floor	115.89 qtl		54.78	Rupees Fifty Four And Seventy Eight Paise Only	6348.45
69.6	Extra rate for using steel produced in integrated plant from original ores complete in all respect as per the directions of Engineer-in-charge.	4608.43 Qtl.		393.27	Rupees Three Hundred Ninety Three And Twenty Seven Paise Only	1812357.27

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Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
70	Steel work in built up tubular (round, square or rectangular hollow tubes etc. ISI Marked) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete having span. -					
70.1	Above 15.00 mt. Span including the cost for machinery i.e. Hydra cranes etc. for hoisting in position.	140.73	qtl	12223.73	Rupees Twelve Thousand Two Hundred Twenty Three And Seventy Three Paise Only	1720 245.52
71	Providing and fixing (PPGI) precoated painted galvalume sheet roofing (size, shape and pitch of corrugation as approved by Engineer-in-charge). The end rib shall have anti capillary groove and return leg. The steel sheet must be having yield strength of 550 MPa (Fy= 550 MPa) metallic coated with Zinc- Aluminium alloy (i.e. 55% Al, 43.4%Zinc, 1.6% Si- Zincalume) AZ150 (Min. 150 bm/mm2 total on both sides), pre painted with super Durable Polyester XRW quality paint includes inorganic infrared reflective pigment. The sheet confirms to general requirement of AS/NZS 2728 type 4/ IS 15965 class 3 durability and gloss value of 25% -40%. should be supplied in single length upto 12 metre or as desired by Engineer-in-charge. The sheet shall be fixed using self drilling /self tapping screws of size (5.5x 55 mm) with EPDM seal, complete upto any pitch in horizontal/ vertical or curved surfaces, excluding the cost of purlins, rafters and trusses and including cutting to size and shape wherever required. 0.50 mm (+ 0.05 %) thick	467.38	sqm	823.10	Rupees Eight Hundred Twenty Three And Ten Paise Only	384 700.48
72	Providing and fixing Gutter 250mm wide with PPGI 0.50 thick (TCT) manufactured from zinc / aluminium alloy coated high tensile steel, having minimum yield strength of 550 MPa of approved colour fixed by means of self-drilling screws limped washers as per the manufactures guidelines complete in all respect and to the entire satisfaction of engineer in charge.	47.55	mt	1851.63	Rupees One Thousand Eight Hundred Fifty One And Sixty Three Paise Only	83 045.01
73	Ridges and valleys 45 cm overall, in plain G.I. Sheet 0.80mm fixed with galvanized iron J. and L. hooks 10mm diameter, G.I. Limpet and bitumen washers complete	23.77	mt	569.73	Rupees Five Hundred Sixty Nine And Seventy Three Paise Only	13 542.48



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Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		A - MOUNT Rs. P
				Figure	Words	
74	<p>Providing and fixing factory made ISI marked uninsulated metal fire rated doorset assembly for all non egress application areas like shafts etc consisting of galvanized iron steel frame and double leaf shutter, including necessary hardware accessories conforming to FD 120 UD classification of IS 3614 :2021 with fire rating of 120 minutes integrity. The door frame and shutter shall be made out of minimum 1.20 mm thick GI Sheet with minimum 120 GSM Zinc coating as per IS: 277. The entire fire rated doorset assembly shall be tested in unlatched condition as per IS 17518 (Pat-1) : 2022</p> <p>Frame: The frame shall be of minimum size 90 x 60 mm with grooved profile to take appropriate fire rated smoke seal, having mitred cut joints (self tab/screwed assembled at site) and provided with appropriate reinforcement suitable for taking hardware and flush Fixing as per IS-4351. The smoke seal material shall be of EPDM in accordance with / ASTM E-84 of minimum size 10 mm x 4 mm, fixed within the inbuilt groove or stuck with adhesive on the entire perimeter of the frame. The door frame shall be fixed in all four sides to masonry wall opening with CSK/Hex headed fastener of minimum 8 mm dia size and minimum 80 mm long with 8mm dia polyamide sleeves @ 4 numbers at each on vertical sides (up to 2100 mm height) and 2 numbers each on top and bottom sides.</p> <p>Door shutter: The double skin double leaf door shutter shall be consisting of minimum 46 mm thick and having box like structure, slots cut and holes punched, for fixing hardware with stiffeners as per IS: 16074 including resin bonded honey comb paper core infill material of density 5 kg/cum. Integral astragals to be provided on meeting styles of double leaf door, each on active and inactive leaf.</p> <p>The door shutters shall be mounted on the frame with SS 304 grade ball bearing butt hinges as per EN 1935:2002 or butt hinges as per IS 12817 both, of minimum size 100x75x3 mm @ minimum 4 numbers hinges per door leaf upto 2100 mm / 2400 mm height or as per test evidence, which</p>					



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Sl. No.	Description of work	No.or Qty.	Unit	Estimated Rate		AMC	UNT	P
				Figure	Words			
	<p>Accessories Hardware:</p> <p>Fire doorset shall be provided with one number fire rated SS304 grade shaft mortise dead lock, one number 50 mm to 80 mm Back Set with minimum 20mm Square forend with allen key including SS304 dead strike plate conforming to IS- 16015/2022 /EN 12209. Two numbers recessed flush pull handle (SS 304) of minimum size 40 mm x 120 mm. One number 300 mm long concealed lever action flush bolt (Dye-Cast Stainless Steel Finish) at bottom with SS dust proof socket and one number minimum 300 mm long concealed flush bolt (Dye-Cast Stainless Steel Finish) at top of inactive leaf of double door, as approved by the Engineer-in-charge.</p> <p>Finishing:</p> <p>Both frame and door shutters shall be factory finished with polyester powder coating of minimum 50 microns thick and shall have passed salt spray test as per IS: 13871 of approved colour and shade all complete as per manufacturer's specifications and as per direction of the Engineer-in-charge.</p> <p>Installation:</p> <p>The hollow space in the door frame shall be filled / injected with fire rated self extinguishing type polyurethane foam (PUF) after installation at site of work. Rate shall include for complete fire rated door assembly supply and installation by the approved manufacturer.</p>							
	Double leaf un-insulated fire rated door of FD 120 UD classification with 120 minutes integrity only as per IS 3614:2021 for non egress application area like shafts etc.	23.41	Sqm	12657.00	Rupees Twelve Thousand Six Hundred Fifty Seven Only	2	6300.37	



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SI. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
75	<p>Providing and fixing factory made ISI marked un-insulated metal fire rated doorset assembly for all egress applications areas like utility rooms and service areas consisting of galvanized iron steel frame and double leaf shutter including necessary hardware accessories, conforming to FD 120 UD classification of IS 3614:2021 with fire rating of 120 minutes integrity. The door frame and shutter shall be made out of minimum 1.20 mm thick GI Sheet with minimum 120 GSM Zinc coating as per IS: 277. The entire fire rated doorset assembly shall be tested in unlatched condition as per IS 17518 (Part- 1): 2022</p> <p>Frame: The frame shall be of minimum size 90 x 60 mm with grooved profile to take appropriate fire rated smoke seal having mitred cut joints (self tab/screwed assembled at site) and provided with appropriate reinforcement suitable for taking hardware and flush fixing as per IS: 4351. The smoke seal material shall be of EPDM tested in accordance with ASTM E- 84 of minimum size 10x4 mm, fixed within the inbuilt groove or stuck with adhesive on the entire perimeter of the frame. The door frame shall be fixed in all three sides to masonry wall opening with CSK/Hex headed fasteners of minimum 8 mm dia size and minimum 80 mm long with 8mm dia polyamide sleeves @ 5 numbers at each on vertical side and 3 numbers on top side.</p> <p>Door shutter: The double skin double leaf door shutter shall be consisting of minimum 46 mm thick and having box like structure, slots cut and holes punched for fixing of hardware with stiffener as per IS 16074 including Resin bonded honey comb paper core infill material of density 5 kg/cum. Each door leaf shall be provided with vision panel, having maximum area of 0.12 sqm, of 120 minute fire rated minimum 5 mm thick clear borosilicate glass pane fixed with clip-on arrangement and fire rated ceramic tape having minimum size 13x2mm to be fixed all around the glass on both the sides. Integral astragals to be provided for double leaf doors on the meeting style each on both active and inactive leaf. The door shutters shall be mounted on the</p>					

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Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMO UNT R. s. p
				Figure	Words	
	Hardware Accessories: Fire doorset shall provided with one number fire rated SS 304 grade Mortise dead lock, 50-80 mm Back Set, minimum 20 mm Square forend with allen key Escutcheon of Stainless Steel, and 65/70 mm cylinder with both side key conforming to IS: 16015:2022/EN12209, two pair of D type Pull handle of SS 304 grade of minimum 22 mm dia Centre to centre distance of 300 mm back to back fixing with spindle, one number 300 mm long Concealed lever action flush bolt (Dye-Cast Stainless Steel Finish) at bottom with SS dust proof socket and one number 600 mm long Concealed lever action flush bolt (Dye-Cast Stainless Steel Finish) on top of inactive leaf of double door. Two number fire rated surface mounted heavy duty door closer of size EN 3-5 with standard arm, of desired finish conforming to IS 3564/EN 1154.. Finishing: Both frame and door shutters shall be factory finished with polyester powder coating of minimum 50 microns thick and shall have passed salt spray test as per IS 13871 of approved colour and shade all complete as per manufacturer's specifications and as per direction of the Engineer-in-charge. Installation: The hollow space in the door frame shall be filled / injected with fire rated self extinguishing type polyurethane foam (PUF) after installation at site of work. The rate shall be inclusive of complete fire rated door assembly, supply and installation by the approved manufacturer. Double leaf un-insulated metal fire rated doorset of FD 120 UD classification with 120 minutes integrity only as per IS 3614:2021-For egress application like utility room and service area etc. Providing and applying plaster of paris (ISI marked such as JK, Kohinoor, Maharaja etc.) punning 6mm thickness over plastered surface to prepare the surface even and smooth complete in all respect as per the directions of Engineer-in-charge.					
75	Preparation of plastered or concrete surface for painting (including sand papering the surface) using ready mixed cement based wall putty by applying two or more coats to get required finish Providing and Fixing of Copper Sheet 16 Gauge 350mm wide on expansion joint including covering with C. Concrete complete in all respect as per specifications.	9.75 sqm		14577.25	Rupees Fourteen Thousand Five Hundred Seventy Seven And Twenty Five Paise Only	14 2 128.19
		7056.74 sqm		297.09	Rupees Two Hundred Ninety Seven And Nine Paise Only	209 6 486.89
76		12583.76 Sqm		84.28	Rupees Eighty Four And Twenty Eight Paise Only	106 0 559.29
77		93.57 Rmt.		4603.80	Rupees Four Thousand Six Hundred Three And Eighty Paise Only	43 0 777.57

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Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs.
				Figure	Words	
78	Preformed fillers for expansion joints in concrete pavement and structures (non-extruding and resilient type) part-3 Polymer Based (CED 13: building construction practices including painting, varnishing and allied finishing) complete as per IS 1838-3 (2011).	93.57	Rmt.	1056.66	Rupees One Thousand Fifty Six And Sixty Six Paise Only	98871.60
79	Providing and fixing covering 200mm wide Aluminium Sheet 14 Gauge with gatties and screw on vertical expansion joints one side fixed and one side fixed with slotted holes to allow movement complete in all respect as per specifications and to the entire satisfaction of engineer- in- charge.	137.15	Rmt.	569.94	Rupees Five Hundred Sixty Nine And Ninety Four Paise Only	78167.27
80	Applying priming coat with cement primer in all shade on newly plastered or concrete exterior surface	5085.25	Sqm	22.12	Rupees Twenty Two And Twelve Paise Only	112485.70
81	Wall painting with plastic emulsion paint of approved brand and manufacturer to give an even shade (two or more coats)	5085.25	Sqm	93.76	Rupees Ninety Three And Seventy Six Paise Only	476793.04
82	Distemping with Acrylic washable oil bound distemper (of approved manufacture) two or more coats over one priming coat to give an even shade	3390.17	Sqm	79.01	Rupees Seventy Nine And One Paise Only	267857.30
83	Applying priming coat with metal primer on new steel or iron work including preparation of surface.	503.07	Sqm	25.28	Rupees Twenty Five And Twenty Eight Paise Only	12717.60
84	Preparation of plywood surface for painting including sand papering the surface and applying filling with approved quality fillers consisting of white lead, linseed oil, Varnish, and Chalk Mitti including finishing the surface to required finish complete.	594.00	Sqm	45.30	Rupees Forty Five And Thirty Paise Only	26908.20
85	Applying pink primer or aluminum priming coat on wood work including preparation of surface knotting and stopping etc.	594.00	Sqm	29.50	Rupees Twenty Nine And Fifty Paise Only	1752.00
86	Painting two or more coats excluding priming coat with synthetic enamel paint in all shades on wood work, metallic or plastered, concrete surface to give an even shade.	1097.07	Sqm	69.53	Rupees Sixty Nine And Fifty Three Paise Only	76279.20
87	Finishing walls with textured exterior paint of required shade with two or more coats applied @ 3.28 litre/10Sqm over and including base coat of water proofing Cement Paint applied @ 2.20 Kg/10 Sqm	1437.92	Sqm	163.29	Rupees One Hundred Sixty Three And Twenty Nine Paise Only	234797.90
88	Finishing walls with acrylic smooth exterior paint of required shade with two or more coats applied @ 1.67 litre/10Sqm over and including base coat of water proofing Cement Paint applied @ 2.20 Kg/10 Sqm	2670.42	Sqm	126.42	Rupees One Hundred Twenty Six And Forty Two Paise Only	337594.00
89	Construction of Plinth protection complete as per drawing.					



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Sl. No.	Description of work	No. or Qty.	Unit	Figure	Words	Estimated Rate	AMOUNT Rs.
89.1	Earth work in excavation in foundations, trenches etc. in all kinds of soil where pick jumper work is not involved and not exceeding 2.0 metres depth including dressing of bottom and sides of trenches, stacking the excavated soil clear from the edge of excavation and subsequent filling around masonry in 15 cm. layers with compaction including disposal of all surplus soil as directed within a lead of 30 metres.	29.69	Cum.	191.74	Rupees One Hundred Ninety One And Seventy Four Paise Only		5692.70
89.2	Cement Concrete 1:8:16 with 40mm gauge stone aggregate using concrete mixing volumetric type	11.88	Cum.	3508.83	Rupees Three Thousand Five Hundred Eight And Eighty Three Paise Only		41684.00
89.3	First class burnt brick work laid in cement sand mortar 1:5 in foundation and plinth.	42.76	Cum.	5895.10	Rupees Five Thousand Eight Hundred Ninety Five And Ten Paise Only		252074.40
89.4	Base course of floor consisting of 100mm thick cement concrete 1:8:16 with stone aggregate 40mm gauge and 100mm fine sand filling using mechanical mixer for mixing of material	93.57	Sqm.	453.12	Rupees Four Hundred Fifty Three And Twelve Paise Only		42398.40
89.5	Conglomerate floor 40mm thick cement concrete topping 1:2:4 (Using mechanical mixer for mixing of material).	140.36	Sqm.	335.04	Rupees Three Hundred Thirty Five And Four Paise Only		47026.20
89.6	12.5 mm thick cement plaster 1:5 complete in all respect as per specification, drawing and to the entire satisfaction of Engineer-In-Charge.	93.57	Sqm.	191.82	Rupees One Hundred Ninety One And Eighty Two Paise Only		17948.00
A2	Total A1:- Construction of Ramp Block (G+2+Roof Storey) in RCC Frame Structure as per Architect drawings & PWD Specifications having foundation for G+4 Storey					116627080.8	423588397.40
1	Excavation in Soil (dry type) using Hydraulic Excavator Ck 90 with hydraulic excavator of 0.9 cum bucket capacity including cutting, trimming bottom and sides of excavation in accordance with requirements of lines, grades and cross sections, including disposal of surplus material and combined lead upto 35m. Earth filling under floors with surplus concrete in 15 cm layers including ramming, watering and compacting laid upto 30 metres (34.43-97+2.35% = 102.19)	1127.12	Cum.	35.82	Rupees Thirty Five And Eighty Two Paise Only		40373.40

Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
2	Providing and applying Anti Termite Treatment using pre constructional chemical treatment measures as per IS - 6313 - 2001 (Part 2) & using Chemical containing chlopyrifos systemic insecticide diluted to manufacturer's specifications (i) In foundation pits, by treating the bottom & sides upto height of 300mm by uniformly spraying solution @ 5 Litre / Sqm (ii) In the refill earth on both sides of all built up walls @ 7.5 Litre / Running meter (width - 300 mm, depth - 450 mm) (iii) Before laying the floor, by uniformly sprinkling the top surface of the consolidated earth within the outer perimeter @ 5 Litre solution per Sqm.	148.64	ltr	391.90	Rupees Three Hundred Ninety One And Ninety Paise Only	58252.02
3	Cement Concrete 1:4:8 with stone ballast of size. 40 mm gauge. using concrete mixing volumetric type	83.32	Cum.	4018.57	Rupees Four Thousand Eighteen And Fifty Seven Paise Only	334827.25
4	Sand filling under floor and in wells of bridge foundation including handling withing 100 metres	20.76	Cum.	1129.82 1144.03	Rupees One Thousand One Hundred Twenty Nine And Eighty Two Paise Only	23455.06 23750.06
5	Reinforced cement concrete M-25 mechanically batch mixed using batch type concrete mixer as per IS-1791 and vibrated by needle vibrator but excluding steel reinforcement centring and shuttering in foundation and plinth.	312.94	Cum	6053.67 6055.71	Rupees Six Thousand Fifty Three And Sixty One Paise Only	1894415.71 1895073.89
6	Shuttering for faces of concrete foundations and foundation beam & plinth beam (vertical or battering)	482.10	sqm	221.24	Rupees Two Hundred Twenty One And Twenty Four Paise Only	106659.8
7	Reinforced cement concrete M-30 mechanically batch mixed using batch type concrete mixer as per IS-1791 and vibrated by needle vibrator but excluding steel reinforcement centring and shuttering in superstructure.					
7.1	Beams	94.80	Cum	7150.30 6845.83	Rupees Seven Thousand One Hundred Fifty And Thirty Paise Only	677845.44 64884.68
7.2	Columns (Rectangular & Square)	108.66	Cum	7150.30 6845.83	Rupees Seven Thousand One Hundred Fifty And Thirty Paise Only	776951.6 743867.89
7.3	Slab	115.53	Cum	7150.30 6845.83	Rupees Seven Thousand One Hundred Fifty And Thirty Paise Only	826074.16 790848.74
8	Cement concrete 1:3:6 with stone ballast or shingle 40 mm gauge. using concrete mixing volumetric type					
8.1	Fourth Floor (Dummy Column)	9.45	Cum	4489.68	Rupees Four Thousand Four Hundred Eighty Nine And Sixty Eight Paise Only	42427.48
8.2	Extra rate for Third Floor	9.45	Cum	762.73	Rupees Seven Hundred Sixty Two And Seventy Three Paise Only	7207.8

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