

### STANDARD BIDDING DOCUMENT

# **Procurement of Works**

# National Competitive Bidding (NCB)

Single-Stage: Two-Envelope Bidding Procedure [Procurement of value above NRs. 20 Million]

**Government of Nepal** 

Public Procurement Monitoring Office (PPMO)

January, 2017

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## **BIDDING DOCUMENT**

for

## THE PROCUREMENT OF

## Construction Completion of Existing Building of Aanbookhaireni Rural Municipality

National Competitive Bidding (NCB) Single-Stage: Two-Envelope Bidding Procedure

# Aanbookhaireni Rural Municipality Aanbookhaireni,Tanahun

Issued on: Issued to: Invitation for Bids No.: **BCW/NCB/12/2076/077** NCB No.:



#### Abbreviations

BD	Bidding Document
BDF	Bidding Forms
BDS	. Bid Data Sheet
BOQ	Bill of Quantities
COF	Contract Forms
DP	Development Partners
DoLIDAR	. Department of Local Infrastructure Development and Agricultural Roads
ELI	. Eligibility
EQC	Evaluation and Qualification Criteria
EXP	Experience
FIN	Financial
GCC	General Conditions of Contract
GoN	Government of Nepal
ICC	International Chamber of Commerce
IFB	Invitation for Bids
ITB	Instructions to Bidders
JV	Joint Venture
LIT	. Litigation
NCB	National Competitive Bidding
PAN	Permanent Account Number
PPA	Public Procurement Act
PPMO	Public Procurement Monitoring Office
PPR	Public Procurement Regulations
PL	Profit & Loss
SBD	Standard Bidding Document
SCC	Special Conditions of Contract
TS	Technical Specifications
VAT	Value Added Tax
WRQ	. Works Requirements



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#### Aanbookhaireni Rural Municipality Office of Aanbookhaireni Rural Municipality

Aanbookhaireni, Tanahun

Invitation for Bids for the Construction Completion of Existing Building of Aanbookhaireni Rural Municipality

#### Contract Identification No: BCW/NCB/12/2076/077

Date of publication: 28th Nov,2019

- The Government of Nepal [GoN] has allocated funds towards the cost of Building Construction of Aanbookhaireni Rural Municipality and intends to apply part of the funds to cover eligible payments under the Contract for Construction Completion of Existing Building of Aanbookhaireni Rural Municipality( BCW/NCB/12/2076/077). Bidding is open to all eligible Nepalese Bidders.
- Aanbookhaireni Rural Municipality office of Municipal Executive invites electronic bids from eligible bidders for the construction of Construction Completion of Existing Building of Aanbookhaireni Rural Municipality under National Competitive Bidding – Single Stage Two Envelope Bidding procedures.

Only eligible bidders with the following key qualifications should participate in this bidding:

- Minimum Average Annual Construction Turnover of the best 3 years within the last 10 years: *NRs* 33,550,000.00
- Minimum Work experience of similar size and nature: at least 1 Contracts within the last ten (10) years, each with a value of at least NRs 27,000,000.00 that have been successfully or are substantially completed and that are similar to the proposed works.
- 3. Under the Single Stage, Two Envelope Procedure, Bidders are required to submit simultaneously two separate sealed envelopes, one containing (i) the Technical Bid and the other (ii) the Price Bid, both in turn enclosed in one sealed envelope as per the provision of ITB 21 of the Bidding Document.
- 4. Eligible Bidders may obtain further information and inspect the Bidding Documents at the office of Aanbookhaireni Rural Municipality, Aanbookhaireni Tanahun. Telephone No. 065540082 or may visit PPMO e-GP system <a href="http://www.bolpatra.gov.np/egp">www.bolpatra.gov.np/egp</a>.
- 5. A complete set of Bidding Documents available on online and may download the bidding documents for e-submission from PPMO's e-GP system www.bolpatra.gov.np/egp. Bidders, submitting their bid electronically, should deposit the cost of bidding document 5000.00 Nrs. on following specified bank:

#### Information to deposit the cost of bidding document in Bank:

Name of the Bank: Macchapuchere Bank Ltd. Name of Office : Aanbookhaireni Gaupalika Office Account no.: 2701524618454025

- 6. Pre-bid meeting shall be held at Office of Aanbookhaireni Rural Municipality office of Municipal Executive at 19th Dec,2019 13:00 PM.
- electronic bids must be submitted to the office through PPMO's e-GP system <u>www.bolpatra.gov.np/egp</u> on or before **12:00 PM** on **29th Dec,2019.** Bids received after this deadline will be rejected.
- 8. The bidswill be opened in the presence of Bidders' representatives who choose to attend



at 29th Dec,2019 14:00 PM at the office of Aanbookhaireni Rural Municipality office of Municipal Executive. Bids must be valid for a period of 90 days after bid opening and must be accompanied by a bid security or scanned copy of the bid security in pdf format in case of e-bid,\amounting to a minimum of NRs 8,40,000.00, which shall be valid for 30 days beyond the validity period of the bid. In case of Cash deposit : Information to deposit the bid security in Bank:

Name of the Bank: Macchapuchere Bank Ltd. Name of Office: Aanbookhaireni Gaupalika

Bank Address : Aanbookhaireni, Tanahun Office Account no.: 2701524618454041 GA-3-1

9. If the last date of purchasing and /or submission falls on a government holiday, then the next working day shall be considered as the last date. In such case the validity period of the bid security shall remain the same as specified for the original last date of bid submission.



# Part I: BIDDING PROCEDURES



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### **Section I: Instructions to Bidders**

A. General	
1. Scope of Bid	1.1 In connection with the Invitation for Bids indicated in the Bid Data Sheet (BDS), the Employer, as indicated in the BDS, issues this Bidding Document for the procurement of Works as specified in Section VI (Works Requirements). The <i>name, identification, and number</i> of Contracts of the National Competitive Bidding (NCB) are <b>provided in the BDS</b> .
	<ul><li>1.2 Throughout this Bidding Document:</li><li>(a)the term "in writing" means communicated in written form and delivered against receipt;</li></ul>
	<ul> <li>(b) except where the context requires otherwise, words indicating the singular also include the plural and words indicating the plural also include the singular; and</li> </ul>
	(c) "day" means calendar day.
2. Source of Funds	2.1 GoN Funded: In accordance with its annual program and budget, approved by the GoN, the implementing agency <b>indicated in the BDS</b> plans to apply a portion of the allocated budget to eligible payments under the contract(s) for which this Bidding Document is issued.
	Or
	Public Entities' own Resource Funded: In accordance with its annual program and budget, approved by the public entity, the implementing agency <b>indicated in the BDS</b> plans to apply a portion of the allocated budget to eligible payments under the contract(s) for which this Bidding Document is issued.
	Or
	DP Funded: The GoN has applied for or received financing (hereinafter called "funds") from the Development Partner (hereinafter called "the DP") <b>indicated in the BDS</b> toward the cost of the project named in the BDS. The GoN intends to apply a portion of the funds to eligible payments under the contract(s) for which this Bidding Document is issued.
	2.2 DP Funded: Payment by the DP will be made only at the request of the GoN and upon approval by the DP in accordance with the terms and conditions of the financing agreement between the GoN and the DP (hereinafter called the "Loan/Grant Agreement"), and will be subject in all respects to the terms and conditions of that Loan/Grant Agreement. No party other than the GoN shall derive any rights from the Loan Agreement or have any claim to the funds.
3. Fraud and Corruption	3.1 Procuring Entities as well as Bidders, suppliers and contractors and their sub-contractors shall adhere to the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this:;
	(a) the Employer adopts, for the purposes of this provision, the terms as



den	<ul> <li>(i) "corrupt practice" means the offering, giving, receiving, or soliciting, directly or indirectly, anything of value to influence improperly the actions of another party;</li> </ul>
	(ii) "fraudulent practice" means any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;
	(iii) "coercive practice" means impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
	(iv) "collusive practice" means an arrangement between two or more parties designed to achieve an improper purpose, including influencing improperly the actions of another party.
	v) "obstructive practice" means (a) deliberately destroying, falsifying, altering, or concealing of evidence material to an investigation; (b) making false statements to investigators in order to materially impede an investigation; (c) failing to comply with requests to provide information, documents, or records in connection with an investigation; (d) threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or (e) materially impeding GoN/DP's contractual rights of audit or access to information; and
	vi) "integrity violation" is any act which violates Anticorruption Policy, including (i) to (v) above and the following: abuse, conflict of interest, violations of GoN/DP sanctions, retaliation against whistleblowers or witnesses, and other violations of Anticorruption Policy, including failure to adhere to the highest ethical standard.
(b) the E the eng pra	Employer will reject a proposal for award if it determines that Bidder recommended for award has, directly or through an agent, laged in corrupt, fraudulent, collusive, coercive, or obstructive ctices or other integrity violations in competing for the contract;
(c) DPw dete ben collu proc take situa	ill cancel the portion of the financing allocated to a contract if it rmines at any time that representative(s) of the GoN or of a eficiary of DP-financing engaged in corrupt, fraudulent, isive, or coercive practices or other integrity violations during the urement or the execution of that contract, without the GoN having n timely and appropriate action satisfactory to DP to remedy the tion.
(d) DP in ac (as	will impose remedial actions on a firm or an individual, at any time, ccordance with DP's Anticorruption Policy and related Guidelines amended from time to time), including declaring ineligible, either



- was based on false or misrepresentation of Bidder's qualification information,(c)if it at any time determines that the firm has, directly or through an agent, engaged in corrupt, fraudulent, collusive,coercive, or
  - agent, engaged in corrupt, fraudulent, collusive,coercive, or obstructive practices in competing for, or in executing, a GoN/DP-financed contract.
- (d) if the Successful Bidder fails to sign the Contract.



	3.4 A bidder declared blacklisted and ineligible by the GoN, Public Procurement Monitoring Office (PPMO) and/or the DP in case of DP funded project, may be ineligible to bid for a contract during the period of time determined by the GoN, PPMO and/or the DP.
	3.5 In case of a natural person or firm/institution/company which is already declared blacklisted and ineligible by the GoN, any other new or existing firm/institution/company owned partially or fully by such Natural person or Owner or Board of director of blacklisted firm/institution/company; shall not be eligible bidder.
	3.6Furthermore, Bidders shall be aware of the provisions of GCC (GCC 28.3 and 72.3(j).
4.Eligible Bidders	4.1 A Bidder may be a natural person, private entity, or government owned entity subject to ITB 4.5 or any combination of them in the form of a Joint Venture (JV) under an existing agreement, or with the intent to constitute a legally-enforceable joint venture. In the case of a JV:
	(a) all partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms. Maximum number of JV shall be as <b>specified in the BDS.</b> and
	(b) the JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the parties of the JV during the bidding process and, in the event the JV is awarded the Contract, during Contract execution.
	4.2 A Bidder, and all parties constituting the Bidder, shall have the nationality of an eligible country, in accordance with Section V (Eligible Countries). A Bidder shall be deemed to have the nationality of a country if the Bidder is a citizen or is constituted, or incorporated, and operates in conformity with the provisions of the laws of that country. This criterion shall also apply to the determination of the nationality of proposed sub-contractors or suppliers for any part of the Contract including related services.
	4.3 A Bidder shall not have a conflict of interest. A Bidder found to have a conflict of interest shall be disqualified. A Bidder may be considered to be in a conflict of interest with one or more parties in this bidding process, if any of, including but not limited to, the following apply:
	(a) they have controlling shareholders in common; or
	(b) they receive or have received any direct or indirect subsidy from any of them; or
	(c) they have the same legal representative for purposes of this bid; or
	(d) they have a relationship with each other, directly or through common third parties, that puts them in a position to have access to material information about or improperly influence the Bid of another Bidder, or influence the decisions of the Employer regarding this bidding process; or

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(e) a Bidder participates in more than one bid in this bidding process either individually or as a partner in a joint venture. This will result in the disqualification of all Bids in which it is involved. However, subject to any finding of a conflict of interest in terms of ITB 4.3 (a)-(d) above, this does not limit the participation of the same subcontractor in more than one bid; or
<ul> <li>(f) a Bidder or any of its affiliated entity, participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the Bid; or</li> </ul>
(g) a Bidder was affiliated with a firm or entity that has been hired (or is proposed to be hired) by the Employer as Engineer for the Contract.
4.4 A firm that is under a declaration of ineligibility by the GoN in accordance with ITB 3, at the date of the deadline for bid submission or thereafter, shall be disqualified. A firm shall not be eligible to participate in any procurement activities under an DP-financed, -administered, or - supported project while under temporary suspension or debarment by DP pursuant to the DP's Anticorruption Policy (see ITB 3), whether such debarment was directly imposed by the DP, or enforced by other DPs pursuant to the Agreement for Mutual Enforcement of Debarment Decisions. A bid from a temporary suspended or debarred firm will be rejected.
4.5 Enterprises owned by Government shall be eligible only if they can establish that they are legally and financially autonomous and operate under commercial law, and that they are not a dependent agency of the GoN.
4.6 Bidders shall provide such evidence of their continued eligibility satisfactory to the Employer, as the Employer shall reasonably request.
4.7 Firms shall be excluded in any of the cases, if
(a) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, Nepal prohibits any import of goods or Contracting of works or services from that country or any payments to persons or entities in that country.Where Nepal prohibits payments to a particular firm or for particular goods by such an act of compliance, that firm may be excluded;
(b) DP Funded: as a matter of law or official regulation, Nepal prohibits commercial relations with that country, provided that the DP is satisfied that such exclusion does not preclude effective competition for the supply of goods or related services required;
(c) DP Funded: a firm sanctioned or temporarily suspended by the DP in relation to their guidelines or appropriate provisions on preventing and combating fraud and corruption in projects financed by them.
 4.8 In case a prequalification process has been conducted prior to the



	bidding process, this bidding is open only to prequalified Bidders.
5. Eligible Materials, Equipment and Services	5.1 The materials, equipment and services to be supplied under the Contract shall have their origin in any source countries as defined in accordance with Section V (Eligible Countries) and all expenditures under the Contract will be limited to such materials, equipment, and services. At the Employer's request, Bidders may be required to provide evidence of the origin of materials, equipment and services.
	5.2 For purposes of ITB 5.1 above, "origin" means the place where the materials and equipment are mined, grown, produced or manufactured, and from which the services are provided. Materials and equipment are produced when, through manufacturing, processing, or substantial or major assembling of components, a commercially recognized product results that differs substantially in its basic characteristics or in purpose or utility from its components.
	B. Contents of Bidding Documents
6. Sections of Bidding Document	<ul> <li>6.1 The Bidding Document consist of Parts I, II, and III, which include all the Sections indicated below, and should be read in conjunction with any Addenda issued in accordance with ITB 8.</li> <li>PART I Bidding Procedures <ul> <li>Section I</li> <li>Instructions to Bidders (ITB)</li> <li>Section II</li> <li>Bid Data Sheet (BDS)</li> <li>Section III</li> <li>Evaluation and Qualification Criteria (EQC)</li> <li>Section IV</li> <li>Bidding Forms (BDF)</li> <li>Section V</li> <li>Eligible Countries</li> </ul> </li> <li>PART II Requirements <ul> <li>Section VI</li> <li>Works Requirements (WRQ)</li> <li>Section VII</li> <li>Bill of Quantities (BOQ)</li> </ul> </li> <li>PART III Conditions of Contract and Contract Forms <ul> <li>Section VIII</li> <li>General Conditions of Contract (SCC)</li> <li>Section X</li> <li>Contract Forms (COF)</li> </ul> </li> <li>6.2 The Invitation for Bids issued by the Employer is not part of the Bidding Document.</li> </ul>
	<ul><li>6.3 The Employer is not responsible for the completeness of the Bidding Document and theirAddenda, if they were not obtained directly from the source stated by the Employer in the Invitation for Bids.</li></ul>
	6.4 The Bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding Document and to furnish with its bid all information and documentation as is required by the Bidding Documents. Failure to furnish all information or documentation required by the Bidding Document may result in the rejection of the bid.
7. Clarification of Bidding Document, Site Visit, Pre-Bid	7.1 A prospective Bidder requiring any clarification of the Bidding Document shall contact the Employer in writing at the Employer's address indicated in BDS or raise any question or curiosity during the pre-bid meeting if



Meeting	provided for in accordance with ITB 7.4.The Employer will respond in writing to any request for clarification, provided that such request is received within the period as mentioned in ITB 7.5. The Employer shall forward copies of its response to all Bidders who have acquired the Bidding Document in accordance with ITB 6.3, including a description of the inquiry but without identifying its source. Should the Employer deem it necessary to amend the Bidding Document as a result of a request for clarification, it shall do so following the procedure under ITB 8 and ITB 22.2.
	7.2 The Bidder is advised to visit and examine the Site of Works and its surroundings and obtain for itself, on its own risk and responsibility, all information that may be necessary for preparing the bid and entering into a Contract for construction of the Works. The costs of visiting the Site shall be at the Bidder's own expense.
	7.3 The Bidder and any of its personnel or agents will be granted permission by the Employer to enter upon its premises and lands for the purpose of such visit, but only upon the express condition that the Bidder, its personnel, and agents will release and indemnify the Employer and its personnel and agents from and against all liability in respect thereof, and will be responsible for death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection.
	7.4 The Bidder's designated representative is invited to attend a pre-bid meeting, if <b>provided for in the BDS</b> . The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.
	7.5 The Bidder is requested, to submit any questions in writing, to reach the Employer as <b>mentioned in BDS.</b>
	7.6 Minutes of the pre-bid meeting, including the text of the questions raised, without identifying the source, and the responses given, together with any responses prepared after the meeting, will be transmitted promptly to all Bidders who have acquired the Bidding Document in accordance with ITB 6.3. Any modification to the Bidding Document that may become necessary as a result of the pre-bid meeting shall be made by the Employer exclusively through the issue of an addendum pursuant to ITB 8 and not through the minutes of the pre-bid meeting.
	7.7 Non attendance at the pre-bid meeting will not be a cause for disqualification of a Bidder.
8. Amendment of Bidding Document	8.1 At any time prior to the deadline for submission of bids, the Employer may amend the Bidding Document by issuing agenda.
	8.2 Any addendum issued shall be part of the Bidding Document and shall be communicated in writing to all who have obtained the Bidding Document from the Employer in accordance with ITB 6.3.



	8.3 To give prospective Bidders reasonable time in which to take an addendum into account in preparing their Bids, the Employer may, at its discretion, extend the deadline for the submission of Bids, pursuant to ITB 22.2
	C. Preparation of Bids
9. Cost of Bidding	9.1 The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the Employer shall in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.
10. Language of Bid	10.1 The Bid, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Employer, shall be written in the language <b>specified in the BDS</b> . Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages in the language <b>specified in the BDS</b> , in which case, for purposes of interpretation of the Bid, such translation shall govern.
11. Documents Comprising the Bid	11.1 The Bid shall comprise two envelopes submitted simultaneously, one called the Technical Bid containing the documents listed in ITB 11.2 and the other the Price Bid containing the documents listed in ITB 11.3, both envelopes enclosed together in an outer single envelope.
	11.2 The Technical Bid shall comprise the following:
	(a) Letter of Technical Bid;
	(b) Bid Security in accordance with ITB 19;
	(c) alternative Technical Bid, at Bidder's option and if permissible, in accordance with ITB 13;
	(d) written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB 20.2;
	<ul> <li>(e) documentary evidence in accordance with ITB 17, establishing the Bidder's qualifications to perform the contract;</li> </ul>
	(f) Technical Proposal in accordance with ITB 16;
	(g) Bids submitted by a Joint Venture shall include a copy of the Joint Venture Agreement entered into by all partners. Alternatively, a Letter of Intent to execute a Joint Venture Agreement in the event of a successful Bid shall be signed by all partners and submitted with the Bid, together with a copy of the proposed agreement. The Joint Venture agreement, or letter of intent to enter into a Joint Venture including a draft agreement shall indicate at least the parts of the Works to be executed by the respective partners; and
	(h) any other required documents, which is not against the provision of Procurement Act/Regulation/Directives and Standard Bidding Document issued by PPMO as specified in the BDS.



	11.3 The Price Bid shall comprise the following:
	(a) Letter of Price Bid;
	(b) completed Bill of Quantities(BoQ), in accordance with ITB 12 and ITB 14, or as stipulated in the BDS;
	(c) alternative price Bids, at Bidder's option and if permissible, in accordance with ITB 13;
	(d) Any other document required in the <b>BDS</b> .
	11.4 The Bidder is solely responsible for the authenticity of the submitted documents.
12. Letter of Bid and Schedules	12.1 The Letters of Technical Bid and Price Bid, Schedules, and all documents listed under ITB 11, shall be prepared using the relevant forms in Section IV (Bidding Forms) and in Section VII (Bill of Quantities). The forms must be completed without any alterations to the text, and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested.
13. Alternative Bids	13.1 Unless otherwise <b>specified in the BDS</b> , alternative bids shall not be considered.
	13.2 When alternative times for completion are explicitly invited, a statement to that effect will be <b>included in the BDS</b> , as will the method of evaluating different times for completion.
	13.3 When specified in the BDS pursuant to ITB 13.1, and subject to ITB 13.4 below, Bidders wishing to offer technical alternatives to the requirements of the Bidding Document must first price the Employer's design as described in the Bidding Document and shall further provide all information necessary for a complete evaluation of the alternative by the Employer, including drawings, design calculations, technical specifications, breakdown of prices, and proposed construction methodology and other relevant details. Only the technical alternatives, if any, of the lowest evaluated Bidder conforming to the basic technical requirements shall be considered by the Employer.
	13.4 When <b>specified in the BDS</b> , Bidders are permitted to submit alternative technical solutions for specified parts of the Works. Such parts will be <b>identified in the BDS</b> and described in Section VI (Works Requirements). The method for their evaluation will be stipulated in Section III (Evaluation and Qualification Criteria).
14. Bid Prices and Discounts	14.1 The prices and discounts quoted by the Bidder in the Letter of Price Bid and in the Schedules shall conform to the requirements specified below.
	14.2 The Bidder shall submit a bid for the whole of the works described in ITB 1.1 by filling in prices for all items of the Works, as identified in Section VII (Bill of Quantities). In case of Unit Rate Contracts, the Bidder shall fill in rates and prices for all items of the Works described in the Bill of Quantities. Items against which no rate or price is entered by the Bidder will not be paid for by the Employer when



	executed and shall be deemed covered by the rates for other items and prices in the Bill of Quantities.
	14.3 The price to be quoted in the Letter of Price Bid shall be the total price of the Bid, excluding any discounts offered. Absence of the total price in the Letter of Price Bid or the Bid Price in the Bill of Quantities shall result in rejection of the Bid.
	14.4 The Bidder shall quote any discounts and the methodology for their application in the Letter of Price Bid, in accordance with ITB 12.1.
	14.5 If so indicated in ITB 1.1, bids are invited for individual Contracts or for any combination of Contracts (packages). Bidders wishing to offer any price reduction for the award of more than one Contract shall specify in their bid the price reductions applicable to each package, or alternatively, to individual Contracts within the package. Price reductions or discounts shall be submitted in accordance with ITB 14.4, provided the Bids for all Contracts are submitted and opened at the same time.
	14.6 Unless otherwise <b>provided in the BDS</b> and the Conditions of Contract, the prices quoted by the Bidder shall be fixed. If the 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, the Bidder shall furnish the indices and weightings for the price adjustment formulae in the Table of Adjustment Data in Section IV (Bidding Forms) and the Employer may require the Bidder to justify its proposed indices and weightings.
	14.7 All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause, as of the date 30 days prior to the deadline for submission of bids, shall be included in the rates and prices and the total bid price submitted by the Bidder.
15. Currency of Bid and Payment	15.1 The currency of the bid and payment shall be in Nepalese Rupees.
16. Documents Comprising the Technical Proposal	16.1 The Bidder shall furnish a Technical Proposal including a statement of work methods, equipment, personnel, schedule and any other information as stipulated in Section IV (Bidding Forms), in sufficient detail to demonstrate the adequacy of the Bidders' proposal to meet the work requirements and the completion time.
17. Documents Establishing theQualifications ofthe Bidder	17.1 To establish its qualifications to perform the Contract in accordance with Section III (Evaluation and Qualification Criteria) the Bidder shall provide the information requested in the corresponding information sheets included in Section IV (Bidding Forms).
18. Period of Validity of Bids	18.1 Bids shall remain valid for the period <b>specified in the BDS</b> after the bid submission deadline date prescribed by the Employer. A bid valid for a



	shorter period shall be rejected by the Employer as nonresponsive.
	18.2 In exceptional circumstances, prior to the expiration of the bid validity period, the Employer may request Bidders to extend the period of validity of their Bids. The request and the responses shall be made in writing. If a bid security is requested in accordance with ITB 19, it shall also be extended 30 days beyond the deadline of the extended validity period. A Bidder may refuse the request without forfeiting its bid security. A Bidder granting the request shall not be required or permitted to modify its Bid and to include any additional conditions against the provisions specified in Bid Documents.
19. Bid Security	19.1 The Bidder shall furnish as part of its bid, in original form, a bid security as <b>specified in the BDS</b> . In case of e-submission of bid, the Bidder shall upload scanned copy of Bid security letter at the time of electronic submission of the bid. The Bidder accepts that the scanned copy of the Bid security shall, for all purposes, be equal to the original. The details of original Bid Security and the scanned copy submitted with e-bid should be the same otherwise the bid shall be non-responsive.
	19.2 The bid security shall be, at the Bidder's option, in any of the following forms:
	a) an unconditional bank guarantee from Commercial Bank or Financial Institution eligible to issue Bank Guarantee as per prevailing Law or;
	<ul> <li>(b) a cash deposit voucher in the Employer's Account as specified in BDS.</li> </ul>
	In the case of a bank guarantee, the bid security shall be submitted either using the Bid Security Form included in Section IV (Bidding Forms) or in another Form acceptable to the employer. The form must include the complete name of the Bidder. The bid security shall be valid for minimum thirty (30) days beyond the original validity period of the bid, or beyond any period of extension if requested under ITB 18.2.
	19.3 The bid security issued by any foreign Bank outside Nepal must be counter guaranteed by Commercial Bank or Financial Institution eligible to issue Bank Guarantee as per prevailing Law in Nepal.
	19.4 Any bid not accompanied by an enforceable and substantially compliant bid security shall be rejected by the Employer as nonresponsive. In case of e- Submission, if the scanned copy of an acceptable Bid Security letter is not uploaded with the electronic Bid then Bid shall be rejected.
	19.5 The bid security of unsuccessful Bidders shall be returned within three days, once the successful Bidder's furnishing of the required performance security and signing of the Contract Agreement pursuant to ITB 40.1 and 41.1
	19.6 The bid security shall be forfeited if:



	GoN funded :
	(a) a Bidder requests for withdrawal or modification of its bid, except as provided in ITB 18.2:
	(i) during the period of bid validity specified by the Bidder on the Letter of Technical Bid and Price Bid, in case of electronic submission;
	(ii) from the period twenty-four hours prior to bid submission deadline up to the period of bid validity specified by the Bidder on the Letter of Technical Bid and Price Bid, in case of hard copy submission.
	(b)a Bidder changes the prices or substance of the bid while providing information pursuant to clause 27.1;
	(c) a Bidder involves in fraud and corruption pursuant to clause 3.1;
	(d) the successful Bidder fails to:
	(i) furnish a performance security in accordance with ITB 40.1;
	(ii) sign the Contract in accordance with ITB 41.1; or
	(iii) accept the correction of arithmetical errors pursuant to clause 33.1
	DP funded:
	The bid security shall be forfeited
	<ul> <li>(a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Letters of Technical Bid and Price Bid, except as provided in ITB 18.2; or</li> </ul>
	(b) if the successful Bidder fails to
	(i) furnish a performance security in accordance with ITB 40.1; or
	(ii) sign the Contract in accordance with ITB 41.1;
	(iii) accept arithmetical corrections in accordance with ITB 33.1;
	19.7 The Bid Security of a Joint Venture shall be in the name of the Joint Venture that submits the bid. If the Joint Venture has not been legally constituted at the time of bidding, the Bid Security shall be in the names of all future partners as named in the letter of intent mentioned in ITB 4.1.
20. Format and Signing of Bid	<ul> <li>20.1 The Bidder shall prepare one original set of the Technical Bid and one original of the Price Bid comprising the Bid as described in ITB 11 and clearly mark it "ORIGINAL – TECHNICAL BID" and "ORIGINAL – PRICE BID." Alternative bids, if permitted in accordance with ITB 13, shall be clearly marked "ALTERNATIVE". In addition, the Bidder shall submit copies of the bid in the number specified in the BDS, and clearly mark each of them "COPY." In the event of any discrepancy between the original and the copies, the original shall prevail.</li> <li>In case of e-submission of bid, the Bidder shall submit his bid electronically in PDE or web forms files as specified in ITB. Clause</li> </ul>
	21.1(b). 20.2 The original and all copies of the bid shall be typed or written in indelible
	ink and shall be signed by a person duly authorized to sign on behalf of

भाई विकेश माउँधाविका भाई विकेश माउँधाविका भारतिवित्र तर्ग भारतिवित्र भारत भारतिवार भारत २०७३
the Bidder. This authorization shall consist of a written confirmation as <b>specified in the BDS</b> and shall be attached to the bid. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the bid, except for un amended printed literature, shall be signed or initialed by the person signing the bid.
20.3 Any amendments such as interlineations, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the bid.
D. Submission and Opening of Bids
21.1 Unless otherwise <b>specified in BDS</b> , Bidders shall submit their bids by electronic or by mail/by hand/by courier. Procedures for submission, sealing and marking are as follows:
(a) Bidders submitting bids by mail, by hand or by courier
shall enclose the original of the Technical Bid, and the original of the Price Bid and each copy of the Technical Bid and Price Bid, including alternative bids, if permitted in accordance with ITB 13, in
separate sealed envelopes, duly marking the envelopes as "ORIGINAL TECHNICAL BID", "ORIGINAL – PRICE BID", "ALTERNATIVE" and "COPY No. – TECHNICAL BID" and "COPY NO. PRICE BID" These envelopes containing the original and the copies shall then be enclosed in one single envelope.
<ul> <li>separate sealed envelopes, duly marking the envelopes as "ORIGINAL TECHNICAL BID", "ORIGINAL – PRICE BID", "ALTERNATIVE" and "COPY No. – TECHNICAL BID" and "COPY NO. PRICE BID" These envelopes containing the original and the copies shall then be enclosed in one single envelope.</li> <li>(b) Bidders submitting Bids electronically shall follow the electronic bid submission procedure specified in this clause.</li> </ul>

21. Sealing and

Marking of Bids

ii. Interested bidders may either purchase the bidding document from the Employer's office as specified in the Invitation for Bid (IFB) or bidders may download the IFB and bidding document from e-GP system.

# iii. The registered bidders need to maintain their profile data required during preparation of bids.

- iv. In order to submit their bids the cost of the bidding document can be deposited as specified in IFB. In addition, electronic scanned copy (.pdf format) of the bank deposit voucher/cash receipt should also be submitted along with the technical bid.
- v. The bidder can prepare their technical and price bids using data and documents maintained in bidder's profile and forms/format provided in bidding document by Employer. The bidder may submit bids as a single entity or as a joint venture. The bidder submitting bid in joint venture shall have to upload joint venture agreement along with partner(s) Bolpatra ID provided during bidder's registration.
- vi. Bidders (all partners in case of JV) should update their profile data and documents required during preparation and submission of their technical bids.



No	D. Do	ocument	Requir	ement	Remar	ks
1.	Le	tter of Technical Bid	Manda	ory	PDF	
2.	Bi	d Security/Bank	Manda	ory	PDF	
3.		ompany registration	n Manda	ory	PDF	
4.	V/ Ce	AT registration ertificate	n Manda domest	ory for ic	PDF	
5.	Bu	isiness Registration	n Mandai	ory	PDF	
6.	Ta Ce su ev	ix Clearance ertificate/Tax return bmission idence/evidence of ne extension	Manda domest bidders	ory for ic	PDF	
7.	Po	ower of Attorney of	Manda	ory	PDF	
8.	Ba	ank Voucher for cost bid document	Manda	ory	PDF	
9.	Jo ag	int ventur reement	e Manda case of JV Bids	ory in	PDF	
10	). Qu Do	ualification ocuments	Manda	ory	Using details and Te	profile data(financi , contract details etc chnical Proposal
11	I. Ac sp (h)	lditional documents] ecified in ITB 11.2 )	lf applio	cable	PDF	
The requ	i <b>ired</b> b.   Do	forms and docu	ments s	hall be p	oart of	price bids. Remarks
1.	le	tter of Price Bid		Mandai	orv	PDF
2.	Co	ompleted Bill of Quar	tities (Bo0	Q) Mandai	tory	Online Forms
3.	Pr	ice Adjustment Table	!	If applie	cable	Online Forms
<mark>4.</mark>	Ac	ditional Documents	specified	in If applie	cable	PDF
<u>Note:</u> a) Bid	ders	(all partners in	case of	JV) shou	ld verij	fy/update their proj

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	<ul> <li>generated from the system. Bidders are advised to download and verify the response documents prior to bid submission.</li> <li>ix. For verifying the authentic user, the system will send one time password (OTP) in the registered e-mail address of the bidder. System will validate the OTP and allow bidder to submit their bid.</li> <li>x. Electronically submitted bids can be modified and/or withdrawn through system. The bidder may modify their bids multiple times online within bid submission date and time specified in e-GP system. Once a Bid is withdrawn, bidder won't be able to submit another bid response for the same bid.</li> <li>xi. The Bidder / Bid shall meet the following requirements and conditions for e-submission of bids;</li> <li>aa) The e-submitted bids must be readable through PDF reader.</li> <li>bb) The facility for submission of bid electronically through e-submission is to promote transparency, non-discrimination, equality of access, and open competition in the bidding process. The Bidders are fully responsible to use the e-submission facility properly in e-GP system as per specified procedures and in no case the Employer shall be held liable for Bidder's inability to use this facility.</li> <li>cc) When a bidder submits electronic bid through the PPMO e-GP portal, it is assumed that the bidder has prepared the bid by studying and examining the complete set of the Bidding documents including specifications, drawings and conditions of contract.</li> </ul>
	21.2. The inner and outer envelopes shall:
	(aa) bear the name and address of the Bidder;
	(bb) be addressed to the Employer as provided in BDS 22.1;
	(cc) bear the specific identification of this bidding process indicated in BDS 1.1; and
	21.3 The outer envelope and the inner envelope containing Technical Proposal shall bear a warning not to open before the time and date for the opening of Technical Bid in accordance with ITB 25.1.
	21.4 The inner envelope containing the Price Bid shall bear a warning not to open until advised by the Employer in accordance with ITB 25.7
	21.5 If all envelopes are not sealed and marked as required, the Employer will assume no responsibility for the misplacement or premature opening of the bid.
22. Deadline for Submission of Bids	22.1 Bids must be received by the Employer at the address and no later than the date and time indicated <b>in the BDS</b> .
	In case of e-submission, the standard time for e-submission is Nepal Standard Time as set out in the server. The e-procurement system will accept the e-submission of bid from the date of publishing of notice and will automatically not allow the e-submission of bid after the deadline for submission of bid.

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	22.2 The Employer may, at its discretion, extend the deadline for the submission of bids by amending the Bidding Document in accordance with ITB 8, in which case all rights and obligations of the Employer and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.
23. Late Bids	23.1 The Employer shall not consider any bid that arrives after the deadline for submission of bids, in accordance with ITB 22. Any bid received by the Employer after the deadline for submission of bids shall be declared late, rejected, and returned unopened to the Bidder.
24. Withdrawal, andModification ofBids	<ul><li>24.1 A Bidder may withdraw, or modify its bid- Technical or Price - after it has been submitted either in hard copy or by e-submission. Once a Bid is withdrawn, bidder shall not be able to submit another bid for this bidding process. Procedures for withdrawal or modification of submitted bids are as follows:</li></ul>
	(I) Bids submitted in Hard Copy
	<ul> <li>GoN Funded:</li> <li>a) Bidders may withdraw or modify its bids by sending a written notice in a sealed envelope, duly signed by an authorized representative, and shall include a copy of the authorization in accordance with ITB 20.2. The corresponding modification of the bid must accompany the respective writtennotice. All notices must be:</li> <li>(aa)prepared and submitted in accordance with ITB 20 and ITB 21,and in addition, the respective envelopes shall be clearly marked "WITHDRAWAL", "MODIFICATION;" and</li> <li>(bb) received by the Employer twenty four hour prior to the deadline prescribed for submission of bids, in accordance with ITB 22.</li> </ul>
	<ul> <li>A Bidder may withdraw or modify its Bid – Technical or Price – after it has been submitted by sending a written notice, duly signed by an authorized representative, and shall include a copy of the authorization in accordance with ITB 20.2, (except that withdrawal notices do not require copies). The corresponding modification of the Bid must accompany the respective written notice. All notices must be <ul> <li>i) prepared and submitted in accordance with ITB 20 and ITB 21 (except that withdrawal notices do not require copies), and in addition, the respective envelopes shall be clearly marked "WITHDRAWAL," and "MODIFICATION;" and</li> <li>ii) received by the Employer prior to the deadline prescribed for submission of Bids, in accordance with ITB 22.</li> </ul> </li> </ul>
	ii) E-submitted bids.
	<ul> <li>a) Bidder may submit modification or withdrawal prior to the deadline prescribed for submission of bids through e-GP system by using the forms and instructions provided by the system.</li> </ul>
	24.2 Bids requested to be withdrawn in accordance with ITB 24.1 shall not be opened. In case of hard copy submission, the Bid will be returned unopened to the Bidders.
	24.3 The following provisions apply for withdrawal or modification of the



	Bids:
	GoN Funded:
	(i) In case of bids submitted in hard copy no bid shall be withdrawn or modified in the interval between 24 hours prior to the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Letter of Bid or any extension thereof.
	(ii) In case of e-submitted bids no bids shall be withdrawn or modified in the interval between deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Letter of Technical Bid and Price Bid or any extension thereof.
	DP Funded:
	No Bid may be withdrawn or modified in the interval between the deadline for submission of Bids and the expiration of the period of bid validity specified by the Bidder on the Letters of Technical Bid and Price Bid or any extension thereof.
	24.4 Except in case of any modification or correction in bid document made by procuring entity, Bidder may submit request for withdrawal or modification only one time.
	24.5 In case of hard copy bid, no bid may be withdrawn if the bid has already been modified;except in case of any modification or correction in bid document by procuring entity.
	24.6 Request for withdrawal or modification must be made through the same medium of submission. Request for withdrawal or modifications through different medium shall not be considered.
25. Bid Opening	25.1 The Employer shall open the Technical Bids in public at the address, on the date and time <b>specified in the BDS</b> in the presence of Bidders` designated representatives who choose to attend. The Price Bids will remain unopened and will be held in custody of the Employer until the specified time of their opening. If the Technical Bid and Price Bid are submitted together in one envelope, the Employer shall reject the entire Bid.
	25.2 The Employer shall download the e-submitted Technical Bid. The e- GP system allows the Employer to download the e-submitted technical bid only after bid opening date and time after login simultaneously by at least two members of the Bid Opening Committee.
	25.3 Electronically submitted Technical Bid shall be opened at first in the same time and date as specified above. Electronic Bids shall be opened one by one and read out. The e-submitted technical bids must be readable through open standards interfaces. Unreadable and or partially submitted bid files shall be considered incomplete.
	25.4 Thereafter, envelopes marked "WITHDRAWAL" shall be opened and read out and the envelope with the corresponding Bid shall not be opened, but returned to the Bidder. No bid withdrawal shall be Permitted unless the



corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at bid opening. Next, envelopes marked "MODIFICATION"shall be opened and read out with the corresponding bid. No Technical Bid and/or Price Bid modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out and recorded at bid opening. Only the Technical Bid, both Original as well as Modification, are to be opened, read out, and recorded at the opening. Price Bids, both Original and Modification, will remain unopened in accordance with ITB 25.1.
25.5 All other envelopes holding the Technical Bid shall be opened one at a time, reading out: the name of the Bidder; whether there is a modification; the presence of a bid security and any other details as the Employer may consider appropriate.
Only Technical Bids read out and recorded at bid opening shall be considered for evaluation.
No bid shall be rejected at opening of Technical Bids except for late bids, in accordance with ITB 23.1.
25.6The Employer shall prepare a record of the opening of Technical Bids that shall include, as a minimum: the name of the Bidder and whether there is a withdrawal, or modification; and the presence or absence of a bid security. The Bidders' representatives who are present shall be requested to sign the record. The omission of a Bidder's signature on the record shall not invalidate the contents and effect of the record.
25.7 At the end of the evaluation of the Technical Bids, the Employer will invite bidders who have submitted substantially responsive Technical Bids and who have been determined as being qualified for award to attend the opening of the Price Bids. The date, time, and location of the opening of Price Bids will be advised in writing by the Employer. Bidders shall be given at least 7 days notice for the opening of Price Bids.
25.8 The Employer will notify Bidders in writing who have been rejected on the grounds of their Technical Bids being substantially nonresponsive to the requirements of the Bidding Document and return their Price Bids unopened.
25.9 The Employer shall conduct the opening of Price Bids of all Bidders who submitted substantially responsive Technical Bids, in the presence of Bidders' representatives who choose to attend at the address, on the date, and time specified by the Employer. The Bidder's representatives who are present shall be requested to sign a register evidencing their attendance.
25.10 All envelopes containing Price Bids shall be opened one at a time and the following read out and recorded:



	<ul> <li>(a) the name of the Bidder;</li> <li>(b) whether there is a modification;</li> <li>(c) the Bid Prices, including any discounts and alternative offers; and</li> <li>(d) any other details as the Employer may consider appropriate.</li> </ul>			
	Only Price Bids, discounts, modifications, and alternative offers read out and recorded during the opening of Price Bids shall be considered for evaluation. No Bid shall be rejected at the opening of Price Bids.			
	25.11 The Employer shall prepare a record of the opening of Price Bids that shall include, as a minimum, the name of the Bidder, the Bid Price (per lot if applicable), any discounts, modifications and alternative offers. The Bidders' representatives who are present shall be requested to sign the record. The omission of a Bidder's signature on the record shall not invalidate the contents and effect of the record.			
	E. Evaluation and Comparison of Bids			
26. Confidentiality	26.1 Information relating to the examination, evaluation, comparison, and post- qualification of bids and recommendation of Contract award, shall not be disclosed to Bidders or any other persons not officially concerned with such process until information on Contract award is communicated to all Bidders.			
	26.2 Any attempt by a Bidder to influence the Employer in the evaluation of the bids or Contract award decisions may result in the rejection of its bid.			
	26.3 Notwithstanding ITB 26.2, from the time of bid opening to the time of Contract award, if any Bidder wishes to contact the Employer on any matter related to the bidding process, it may do so in writing.			
27. Clarification of Bids	27.1 To assist in the examination, evaluation, and comparison of the Technical and Price Bids, the Employer may, at its discretion, ask any Bidder for a clarification of its Bid. Any clarification submitted by a Bidder that is not in response to a request by the Employer shall not be considered. The Employer's request for clarification and the response shall be in writing. No change in the substance of the Technical Bid or prices in the Price Bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the Price Bids, in accordance with ITB 33. In case of e-submission of bid, upon notification from the employer, the bidder shall also submit the original of documents comprising the Technical and Price Bid as per ITB 11.2 and ITB 11.3 for verification of submitted documents for acceptance of the e-submitted bid.			
	27.2 If a Bidder does not provide clarifications of its Bid by the date and time set in the Employer's request for clarification, its Bid may be rejected.			
28. Deviations, Reservations, and	<ul><li>28.1 During the evaluation of bids, the following definitions apply:</li><li>(a) "Deviation" is a departure from the requirements specified in the</li></ul>			



Omissions	Bidding Document;		
	(b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Bidding Document; and		
	(c) "Omission" is the failure to submit part or all of the information or documentation required in the Bidding Document.		
29. Examination of Technical Bid	29.1The Employer shall examine the Technical Bid to confirm that all documents and technical documentation requested in ITB 11.2 have been provided, and to determine the completeness of each document submitted.		
	29.2 The Employer shall confirm that the following documents and information have been provided in the Technical Bid. If any of these documents or information is missing, the offer shall be rejected.		
	(a) Letter of Technical Bid;		
	(b) written confirmation of authorization to commit the Bidder;		
	(c) Bid Security; and		
	(d) Technical Proposal in accordance with ITB 16		
30. Determination of Responsiveness of Technical Bid	30.1 The Employer's determination of a Bid's responsiveness is to be based on the contents of the bid itself, as defined in ITB11.2.		
	30.2 A substantially responsive Technical Bid is one that meets the requirements of the Bidding Document without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that,		
	(a) if accepted, would:		
	<ul> <li>(i) affect in any substantial way the scope, quality, or performance of the Works specified in the Contract;</li> </ul>		
	or (ii) limit in any substantial way, inconsistent with the Bidding Document, the Employer's rights or the Bidder's obligations		
	under the proposed Contract; or		
	(b) If rectified, would unfairly affect the competitive position of other Bidders presenting substantially responsive bids.		
	30.3 The Employer shall examine the technical aspects of the Bid submitted in accordance with ITB 16, Technical Proposal, in particular, to confirm that all requirements of Section VI (Works Requirements) have been met without any material deviation, reservation or omission.		
	30.4 If a bid is not substantially responsive to the requirements of the Bidding Document, it shall be rejected by the Employer and may not subsequently be made responsive by correction of the material		



	deviation, reservation, or omission.				
	30.5 In case of e-submission bids, the Employer evaluates the bid on the basis of the information in the electronically submitted bid files. If the Bidder cannot substantiate or provide evidence to establish the information provided in e-submitted bid through documents/ clarifications as per ITB Clause 27.1, the bid shall not be considered for further evaluation.				
	30.6 In Case, a corruption case is being filed to Court against the Natural Person or Board of Director of the firm/institution /company or any partner of JV, such Natural Person or Board of Director of the firm/institution /company or any partner of JV such bidder's bid shall be excluded from the evaluation, if public entity receives instruction from Government of Nepal.				
	30.7Except in case of e-submission, the Financial Bid of the bidder, which is evaluated as substantially non-responsive in technical bid, shall be returned to the respective bidders.				
31.NonconformitiesEr rors, andOmissions	31.1 Provided that a bid is substantially responsive, the Employer may waive any non-conformities in the bid that do not constitute a material deviation, reservation, or omission.				
	31.2 Provided that a Technical Bid is substantially responsive, the Employer may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities in the Technical Bid related to documentation requirements. Requesting information or documentation on such nonconformities shall not be related to any aspect of the Price Bid. Failure of the Bidder to comply with the request may result in the rejection of its bid.				
	31.3 Provided that a Technical Bid is substantially responsive, the Employer shall rectify quantifiable nonmaterial nonconformities related to the Bid Price. To this effect, the Bid Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component. The adjustment shall be made using the methods indicated in Section III (Evaluation and Qualification Criteria).				
	31.4 If the monetary value of such non-conformities is found to be more than fifteen percent of the Bid Price of the bidder pursuant to ITB <b>31.3</b> , such bid shall be considered nonresponsive and shall not be involved in evaluation.				
32 Qualification of the Bidder	32.1 The Employer shall determine to its satisfaction during the evaluation of Technical Bids whether Biddersmeet the qualifying criteria specified in Section III (Evaluation and Qualification Criteria).				
	32.2 The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the				



	Bidder, pursuant to ITB 17.1.
	32.3 An affirmative determination shall be a prerequisite for the opening and evaluation of a Bidder's Price Bid. A negative determination shall result into the disqualification of the Bid, in which event the Employer shall return the unopened Price Bid to the Bidder.
33. Correction of Arithmetical Errors	33.1 During the evaluation of Price Bids, the Employer shall correct arithmetical errors on the following basis:
	(a) only for unit price Contracts, if there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected, unless in the opinion of the Employer there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price shall be corrected;
	(b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected;
	(c) If there is a discrepancy between the bid price in the Summary of Bill of Quantities and the bid amount in item (c) of the Letter of Price Bid, the bid price in the Summary of Bill of Quantities will prevail and the bid amount in item (c) of the Letter of Price Bid will be corrected.
	(d) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a), (b) and (c) above.
	33.2 If the Bidder that submitted the lowest evaluated bid does not accept the correction of errors, its bid shall be disqualified and its bid security shall be forfeited.
34 Subcontractors	34.1 In case of Prequalification, the Bidder's Bid shall name the same subcontractor as submitted in the prequalification application and approved by the Employer.
	In case of Post-qualification, the Employer may permit subcontracting for certain specialized works as indicated in Section III When subcontracting is permitted by the Employer, the sub-contractor shall meet the qualifications criteria as indicated in section III.
	Sub-contractors' qualification and experience will not be considered for evaluation of the Bidder. The Bidder on its own (without taking into account the qualification and experience of the sub-contractor) should meet the qualification criteria.
	Bidders may propose subcontracting up to the percentage of total value of contracts or the volume of works as <b>specified in the BDS</b> .
35. Evaluation of	35.1 The Employer shall use the criteria and methodologies listed in this



Price Bids	Clause. No other evaluation criteria or methodologies shall be permitted.
	35.2 To evaluate a Price Bid, the Employer shall consider the following:
	(a) the bid price, excluding Value Added Tax, Provisional Sums, and the provision, if any, for contingencies in the Summary Bill of Quantities, for Unit Rate Contracts, or Schedule of Prices for lump sum Contracts, but including Day work items, where priced competitively;
	(b) price adjustment for correction of arithmetic errors in accordance with ITB 33.1;
	(c) price adjustment due to discounts offered in accordance with ITB 14.4;
	(d) adjustment for nonconformities in accordance with ITB 31.3;
	(e) application of all the evaluation factors indicated in Section III (Evaluation and Qualification Criteria);
	35.3 The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in bid evaluation.
	35.4 If this Bidding Document allows Bidders to quote separate prices for different Contracts, and to award multiple Contracts to a single Bidder, the methodology to determine the lowest evaluated price of the Contract combinations, including any discounts offered in the Letter of Price Bid, is specified in Section III (Evaluation and Qualification Criteria).
	35.5 if the bid for an Unit Rate Contract, which results in the lowest Evaluated Bid Price is seriously unbalanced or front loaded <b>or extremely low</b> in the opinion of the Employer, the Employer 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, taking into consideration the schedule of estimated Contract payments, the Employer may require that the amount of the performance security be increased at the expense of the Bidder as <b>mentioned in BDS</b> to protect the Employer against financial loss in the event of default of the successful Bidder under the Contractor may consider the bid as non-responsive.
	35.6 In case of e-submission bids, the Employer evaluates the bid on the basis of the information in the electronically submitted bid files. If the Bidder cannot substantiate or provide evidence to establish the information provided in e-submitted bid through documents/ clarifications as per ITB Clause 27.1, the bid shall not be considered for further evaluation.



	<b>35.7</b> In Case, a corruption case is being filed to Court against the Natural Person or Board of Director of the firm/institution /company or any partner of JV, such Natural Person or Board of Director of the firm/institution /company or any partner of JV such bidder's bid shall be excluded from the evaluation, if public entity receives instruction from Government of Nepal.
36. Comparison of Bids	36.1 The Employer shall compare all substantially responsive bids in accordance with ITB 35.2 to determine the lowest evaluated bid.
37. Employer's Right to Accept Any Bid, and to Reject Any or All Bids	37.1 The Employer reserves the right to accept or reject any bid, and to annul the bidding process and reject all Bids at any time prior to contract award, without thereby incurring any liability to Bidders. In case of annulment, all Bids submitted and specifically, bid securities, shall be promptly returned to the Bidders.
	F. Award of Contract
38. Award Criteria	38.1 The Employer shall award the Contract to the Bidder whose offer has been determined to be the lowest evaluated bid and is substantially responsive to the Bidding Document, provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily.
39. Letter of Intent to Award the Contract/Notification of Award	39.1 The Employer shall notify the concerned Bidder whose bid has been selected in accordance with ITB 38.1 within seven days of the selection of the bid, in writing that the Employer has intention to accept its bid and the information regarding the name, address and amount of selected bidder shall be given to all other bidders who submitted the bid.
	39.2 If no bidder submits an application pursuant to ITB 42 within a period of seven days of the notice provided under ITB 39.1, the Employer shall, accept the bid selected in accordance with ITB 38.1 and Letter of Acceptance shall be communicated to the selected bidder prior to the expiration of period of Bid validity, to furnish the performance security and sign the contract within fifteen days.
	<b>39.3</b> In Case, a corruption case is being filed to Court against the Natural Person or Board of Director of the firm/institution /company or any partner of JV, such Natural Person or Board of Director of the firm/institution /company or any partner of JV such bidder's bid shall be excluded from the evaluation, if public entity receives instruction from Government of Nepal.
40. Performance Security	40.1 Within Fifteen (15) days of the receipt of Letter of Acceptance from the Employer, the successful Bidder shall furnish the performance security in accordance with the Conditions of Contract, subject to ITB 35.5, as specified below from Commercial Bank or Financial Institution eligible to issue Bank Guarantee as per prevailing Law in Nepalusing Sample Form for the Performance Security included in Section X (Contract Forms), or another form acceptable to the Employer. The performance security issued by any foreign Bank outside Nepal must be counter guaranteed by





within Seven (7) days of providing the notice under ITB 25.8 and ITB 39.1 by the Public Entity, for review of the proceedings stating the factual and legal grounds.
42.2 Late application filed after the deadline pursuant to ITB 42.1 shall not be processed.
42.3 The chief of Public Entity shall, within five (5) days after receiving the application, give its decision with reasons, in writing pursuant to ITB 42.1:
<ul> <li>(a) whether to suspend the procurement proceeding and indicate the procedure to be adopted for further proceedings; or</li> </ul>
(b) to reject the application.
The decision of the chief of Public Entity shall be final for the Bid amount up to the value as stated in 42.4.
42.4 If the Bidder is not satisfied with the decision of the Public Entity in accordance with ITB 42.3, is not given within five (5) days of receipt of application pursuant to ITB 42.1, it can, within seven (7) days of receipt of such decision, file an application to the Review Committee of the GoN, stating the reason of its disagreement on the decision of the chief of Public Entity and furnishing the relevant documents, provided that itsBid amount ,equal or more than Rupees Twenty Million (NRs. 20,000,000). The application may be sent by hand, by post,by courier, or by electronic media at the risk of the Bidder itself.
42.5 Late application filed after the deadline pursuant to ITB 42.4 shall not be processed.
42.6 Within three (3) days of the receipt of application from the Bidder, pursuant to ITB 42.4, the Review Committee shall notify the concerning Public Entity to furnish its procurement proceedings, pursuant to ITB 42.3.
42.7 Within three (3) days of receipt of the notification pursuant to ITB 42.6, the Public Entity shall furnish the copy of the related documents to the Review Committee.
42.8 The Review Committee, after inquiring from the Bidder and the Public Entity, if needed, shall give its decision within one (1) month of the receipt of the application filed by the Bidder, pursuant to ITB 42.4.
42.9 The Bidder, filing application pursuant to ITB 42.4, shall have to furnish a cash amount or Bank guarantee from Commercial Bank or Financial Institution eligible to issue Bank Guarantee as per prevailing Law equivalent to one percent (1%) of its quoted Bid amount with the validity period of at least ninety (90) days from the date of the filing of application pursuant to ITB 42.4.
42.10 If the claim made by the Bidder pursuant to ITB 42.4 is justified, the Review Committee shall have to return the security deposit to the



made.
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# Section II: Bid Data Sheet

	A. General
ITB 1.1	The number of the Invitation for Bids is: BCW/NCB/12/2076/077
ITB 1.1	The Employer is: Aanbookhaireni Rural Municipality
ITB 1.1	The number and identification of lots comprising this bidding process is: Construction Completion of Existing Building of Aanbookhaireni Rural Municipality( BCW/NCB/12/2076/077)
ITB 2.1	The name of the Project is Construction Completion of Existing Building of Aanbookhaireni Rural Municipality
	The DP is <b>NA</b>
	The implementing agency is Aanbookhaireni Rural Municipality
	GoN Funded or DP Funded: <b>NA</b>
ITB 3.3 (d)	For DP Funded:Not Applicable (For GoN funded delete this row)
ITB 4.1 (a)	<ul> <li>For GoN Funded:</li> <li>Maximum number of partner in a joint venture shall be : 3 (three)</li> <li>For DP Funded:</li> <li>[select one options as per DPs Policy]</li> <li>There is no limit on the number of members in a JV or</li> <li>Maximum number of partner in a joint venture shall be : [insert number]</li> </ul>
ITB 4.4	For DP: [insert website address for the list of debarred firms]
	B. Bidding Document
ITB 7.1	For clarification purposes only, the Employer's address is:
	Attention: Lekhnath NeupaneAddress: Aanbookhaireni,TanahunTelephone: : 065-540082Facsimile number:
	Electronic mail address: www.bolpatra.gov.np/egp
ITB 7.4	A Pre-Bid meeting "shall" held. Pre-Bid Meeting will
	Take place at the following date, time and place:
	Date:16th Dec,2019
	Time: 13:00 PM
	Place: Office of Aanbookhaireni Rural Municipality



	site visit <b>shall not be</b> organized by the Employer.							
ITB 7.5	Time for request: Requests for clarification should be received by the Employer no later than <b>10 days</b> prior to the deadline for submission of bids.							
C. Preparation of Bids								
ITB 10.1 The language of the bid is: English / Nepali								
ITB 11.2 (h)	TB 11.2 (h) The Bidder shall submit with its Technical Bid the following additional documents:							
	a. Firm / Company Registration Certificate							
	b. Business Registration License							
	c. VAT and PAN Registration Certificates							
	d. Tax Clearance Certificate up to F/Y 075/76							
	e. A written declaration made by the Bidder stating that the Bidder is not ineligible to participate in the Bid; has no conflict of interest in the proposed bid procurement proceedings and has not been punished for the profession or business related offence.							
	f. Joint Venture Authorization / Agreement (if any)							
	g. Power of Attorney							
ITB 11.3 (b)	In accordance with ITB 12 and ITB 14, the following schedules shall be submitted with the bid, including the priced Bill of Quantities for Unit Rate Contracts and Schedule of Prices for lump sum contracts: <b>[Insert schedules, if any]</b>							
11.3 (d)	The Bidder shall submit with its Price Bid the following additional documents:							
	a. Firm / Company Registration Certificate							
	b. Business Registration License							
	c. VAT and PAN Registration Certificates							
	d. Tax Clearance Certificate up to F/Y 075/76							
	e. A written declaration made by the Bidder stating that the Bidder is not ineligible to participate in the Bid; has no conflict of interest in the proposed bid procurement proceedings and has not been punished for the profession or business related offence.							
	f. Joint Venture Authorization / Agreement (if any)							
	g. Power of Attorney							
ITB 13.1	Alternative bids "shall not be" permitted.							
ITB 13.2	Alternative times for completion "shall be" permitted.							
	If alternative times for completion are permitted, the evaluation method will be as specified in Section III (Evaluation and Qualification Criteria).							
ITB 13.4	Alternative technical solutions shall be permitted for the following parts of the Works:							



	If alternative technical solutions are permitted, the evaluation method will be as specified in Section III (Evaluation and Qualification Criteria).
ITB 14.6	The prices quoted by the Bidder <i>[insert "shall be" or "shall not be"]</i> subject to adjustment during the performance of the Contract.
	[insert the following text, in case price adjustment is applicable
	"Bidder shall submit the Table of Price Adjustment Data as a part of price bid."]
ITB 18.1	The bid validity period shall be 90 days.
ITB 19.1	The Bidder shall furnish a bid security, from Commercial Bank or Financial Institution eligible to issue Bank Guarantee as per prevailing Law with a minimum of <i>NRs. 8,40,000.00</i> which shall be valid for 30 days beyond the validity period of the bid.
ITB 19.2 (b)	Office Name:
	Account Name:Aanbookhaireni Gaupalika
	Bank Name:: Macchapuchere Bank Ltd.
	Bank Address: Aanbookhaireni, Tanahun
	Account Number: 2701524618454041 GA-3-1
ITB 20.1	In addition to the original of the bid, the number of copy/ies is/are: [insert "Not Applicable when additional copy is not required and insert number of copy/ies when copy/ies is/are required]
ITB 20.2	The written confirmation of authorization to sign on behalf of the Bidder shall
	indicate:
	(a) The name and description of the documentation required to demonstrate the authority of the signatory to sign the Bid such as a Power of Attorney; and
	(b) In the case of Bids submitted by an existing or intended JV, an undertaking signed by all parties (i) stating that all parties shall be jointly and severally liable, and (ii) nominating a Representative who shall have the authority to conduct all business for and on behalf of any and all the parties of the JV during the bidding process and, in the event the JV is awarded the Contract, during contract execution.
	D. Submission and Opening of Bids
ITB 21.1	Bidders shall have the option of submitting their bids[insert option 1: "by electronic only"
ITB 22.1	For bid submission purposes only, the Employer's address is :
	Attention : Aanbookhaireni Rural Municipality
	The deadline for hid submission is :
	Date : 29th Dec.2019
	Time : 12:00 PM
ITB 25.1	The Technical Bid opening shall take place at : Address : Office of Aanbookhaireni Rural Municipality,Aanbookhaireni,Tanahun Date : 29th Dec,2019



	Time :14:00 PM						
	E. Evaluation and Comparison of Bids						
ITB 34.1	a) Contractor's proposed subcontracting: Maximum percentage of subcontracting permitted is: <b>25% of the total contract amount.</b>						
	b) Sub-contractors' qualification and experience will not be considered for evaluation of the Bidder. The Bidder on its own (without taking into account the qualification and experience of the sub-contractor) should meet the qualification criteria.						
ITB 35.5	The amount of the performance security be increased by <b>Eight (8)</b> percent of the quoted bid price.						
ITB 41.4	For DP Funded: Not Applicable [For GoN funded delete this row]						

# Section III: Evaluation and Qualification Criteria

This Section contains all the criteria that the Employer shall use to evaluate bids and qualify Bidders by post-qualification exercise. GoN/DP requires bidders to be qualified by meeting predefined, precise minimum requirements. The method sets pass-fail criteria, which, if not met by the bidder, results in disqualification. In accordance with ITB 32 and ITB 35, no other methods, criteria and factors shall be used. The Bidder shall provide all the information requested in the forms included in Section IV (Bidding Forms).

### 1. Evaluation

In addition to the criteria listed in ITB 35.2 (a) - (e) the following criteria shall apply:

Note:

Use the evaluation criteria listed below as appropriate and required for the project.

### 1.1 Adequacy of Technical Proposal

Evaluation of the Bidder's Technical Proposal will include an assessment of the Bidder's technical capacity, to mobilize key equipment and personnel for the contract



consistent with its proposal regarding work methods, scheduling, and material sourcing in sufficient detail and fully in accordance with the requirements stipulated in Section VI (Works Requirements).

### **1.2 Multiple Contracts**

Multiple Contracts, if permitted under ITB 35.4, will be evaluated as follows:

### Award Criteria for Multiple Contracts [ITB 35.4:

Bidders have the option to Bid for any one or more Contracts. Bids will be evaluated taking into account discounts offered, if any, for combined contracts. The contract(s) will be awarded to the Bidder or Bidders offering the lowest evaluated cost to the Employer for combined contracts, subject to the selected Bidder(s) meeting the required qualification criteria for combination of multiple contracts as the case may be.

### Qualification Criteria for Multiple Contracts:

The criteria for qualification shall be the sum of the minimum requirements for respective individual contracts as specified under items 2.3.2, 2.3.3, 2.3.4 and 2.4.2b.

With respect to the **Contracts of Similar Size and Nature** under item 2.4.2(a). of Section III, the evaluation shall be done as below:

N is the minimum number of contracts as per Note (2) of 2.4.2 Specific Construction Experience

V is the minimum value of a single contract as per Note (3) of 2.4.2 Specific Construction Experience

i. Minimum requirements for combined contract(s) shall be the aggregate requirements for each contract for which the bidder has submitted bids as follows, and N1,N2,N3, etc. shall be different contracts:

Contract 1: N1 contracts, each of minimum value V1;

Contract 2: N2 contracts, each of minimum value V2;

Contract 3: N3 contracts, each of minimum value V3;

----etc.

### and

ii. Total number of contracts is equal or less than N1 + N2 + N3 +--but the total value of all such contracts is equal or more than N1 x V1 + N2 x V2 + N3 x V3 +---.

### 1.3In Case, other than Multiple Contracts

Bidders have the option to Bid for any one or more Contracts. The contracts will be awarded to the Bidder or Bidders offering the lowest evaluated cost to the Employer, subject to the selected Bidder(s) meeting the required qualification whichshall be the sum



of the minimum requirements for respective individual contracts as specified under items Required Bid Capacity as per 2.3.3. Under this case, Contract shall be awarded based on Least Cost Combination to the Employer.

### **1.4 Completion Time**

An alternative Completion Time, if permitted under ITB 13.2, will be evaluated as follows:

### [insert project specific requirements]

### 1.5 Alternative Technical Solutions

Alternative technical solutions, if permitted under ITB 13.4, will be evaluated as follows:

### [insert project specific requirements]

### **1.6 Quantifiable Nonconformities and Omissions**

Subject to ITB 14.2 and ITB 35.2, the evaluated cost of quantifiable nonconformities including omissions, is determined as follows:

[*Insert in bidding document:* "Pursuant to ITB 31.3, the cost of all quantifiable nonmaterial nonconformities shall be evaluated, but excluding omission of prices in the BoQ.The Employer will make its own assessment of the cost of any nonmaterial nonconformities and omissions for the purpose of ensuring fair comparison of bids."]

## 2. Qualification

### 2.1 Eligibility

Criteria			Compl	Documents				
Requirement Single Entity			Submission					
		Entity	Entity All Partners		One	Requirements		
		Combined Partner		Partner				
2.1.1 Nationa	2.1.1 Nationality							
Nationality accordance	in with	must meet requirement	must meet requirement	must meet requirement	not applicable	Letter of Technical Bid Forms		



ITB sub-clause 4.2					ELI –1; ELI
					–2 with attachments
2.1.2 Conflict of Int	erest				
No conflicts of interest in accordance with ITB Sub-Clause 4.3.	must meet requirement	existing or intended JV must meet requirement	must meet requirement	not applicable	Letter of Technical Bid
2.1.3 Government/D	P Eligibility			. <u> </u>	
Not having been declared ineligible by government/DP, as described in ITB Sub-Clause 4.4.	must meet requirement	must meet requirement	must meet requirement	not applicable	Letter of Technical Bid
2.1.4 Government-	owned Entity				
Bidder required to meet conditions of ITB Sub-Clause 4.5.	must meet requirement	existing or intended JV must meet requirement	must meet requirement	not applicable	Forms ELI - 1, ELI - 2, with attachments
2.1.5 UN Eligibility					
Not having been declared ineligible based on a United Nations resolution or Employer's country law, as described in ITB Sub-Clause 4.8.	must meet requirement	existing or intended JV must meet requirement	must meet requirement	not applicable	Letter of Technical Bid
2.1.6 Other Eligibi	ility				
Firm Registration Certificate	must meet requirement	not applicable	must meet requirement	not applicable	Document attachment
Business Registration Certificate	must meet requirement	not applicable	must meet requirement	not applicable	Document attachment
VAT and PAN Registration certificate (only for domestic bidders)	must meet requirement	not applicable	must meet requirement	not applicable	Document attachment



Tax Clearance Certificate/Tax return submission evidence/evidence of time extension for the F/Y 2075/076 (Only for domestic bidders)	must meet requirement	not applicable	must meet requirement	not applicable	Document attachment
Additional requirements					
[Insert if any]					

### 2.2 Pending Litigation

Criteria		Comp	Documents				
Requirement	Single		Submission				
	Entity	All Partners	Each	One	Requirements		
		Combined	Partner	Partner			
2.2.1 Pending Lit	2.2.1 Pending Litigation						
All pending litigation shall be treated as resolved against the Bidder and so shall in total not represent more than 50 percent of the Bidder's net worth.	must meet requirement by itself or as partner to past or existing JV	not applicable	must meet requirement by itself or as partner to past or existing JV	not applicable	Form LIT - 1		

### Note:

(1) The percentage should normally be within the range of 50% to 100% of the Bidder's net worth.

### 2.3 Financial Situation

Criteria		Compliance Requirements			Documents
Requirement	Single Entity	Joint Venture			Submission Requirement
		All Partners Combined	Each Partner	One Partner	s



### 2.3.1 Historical Financial Performance

Submission of audited balance sheets and income statements, for the last 3 years to demonstrate the current soundness of the Bidder's financial position. As a minimum, a Bidder's net worth calculated as the difference between total assets and total liabilities should be positive.	must meet requirement	not applicable	must meet requirement	not applicable	Form FIN - 1 with attachments

#### Note:

(1) The financial information provided by a Bidder should be reviewed in its entirety to allow a truly informed judgment, and the pass-fail decision on the financial position of the Bidder should be given on this basis. Balance sheet of the past three to five years period which shall be decidedaccording to the nature of the work.

2.3.2 Average Annual Construction Turnover								
Minimum average annual construction turnover of NRs 33,550,000.00 calculated as total certified payments received for construction contracts in progress or completed, within best three years out of last ten fiscal years.	must meet requirement	must meet requirement	must meet 25 % of the requirement	must meet 40 % of the requirement	Form FIN -2			

Only the net amount shall be calculated after deducting the amount for VATand such amount shall be adjusted to present value by applying wholesale price index of Nepal Rastra Bank. **Note:** 

- (2) The amount stated should normally not be less than 1.5 x V/T, the estimated annual turnover in the subject contract based on a straight-line projection of the Employer's estimated cost (V), over the contract duration (T) in year. Contract duration less than one year shall be considered one year. The multiplier of 1.5 may be reduced up to1 (one) in accordance with the size, nature and complexity of contracts.
- (3) Usually not less than 25 %
- (4) Usually not less than 40 %



2.3.3 Financial Resources					
Using Forms FIN - 3 in Section IV (Bidding Forms) the Bidder must demonstrate access to, or availability of, financial resources in the form of "Lines of Credit","	must meet requirement	must meet requirement	must meet 6 of the requirement	must meet 7 of the requirement	Form FIN - 3
2.3.4 Required Bid Capacity					
The bidding capacity of the	must meet	must meet	must meet	must meet	Form FIN
bidder should be equal to or	requirement	requirement	(3a)	(4a)	<mark>-4,5</mark>
more than the		•	<b>C</b> (1)	<b>C</b> 11	
NRs(2a)			of the	of the	
			requirement	requirement	
Notes	-				

Note:

(5) Construction cash flow requirement for a number of months (to the nearest half-month), determined as the total time needed by the Employer to pay a contractor's invoice, allowing for (a) the actual time consumed for construction, from the beginning of the month invoiced, (b) the time needed by the Project Manager to issue the monthly payment certificate, (c) the time needed by the Employer to pay the amount certified, and (d) a contingency period of one month to allow for unforeseen delays. The total period should not exceed six months. The assessment of the monthly amount should be based on a straight-line projection of the estimated cash flow requirement over the particular contract period, neglecting the effect of any advance payment and retention monies, but including contingency allowances in the estimated contract cost.

(6) Usually not less than 25 %

(7) Usually not less than 40 %

(2a) Equal to Engineer's Estimate( without VAT and Contingencies but including Provision Sum )in round figure

(3a) Usually not less than 25 %

(4a) Usually not less than 40 %



### 2.4 Experience

Criteria		Compli	Documents		
Requirement Single		Joint Venture			Submission
	Entity	All Partners Combined	Each Partner	One Partner	Requirement
2.4.1 General Construc	tion Experience	e			
Experience under construction contracts in the role of contractor, subcontractor, or management contractor for at least the last 5 years prior to the applications submission deadline.	must meet requirement	not applicable	must meet requirement	not applicable	Form EXP - 1

Note:

(1) Insert number of years in words and figures. The time period is normally 5 years, but may be reduced to not less than 3 years, according to the nature of works.



### 2.4.2 Specific Construction Experience

### (a) Contracts of Similar Size and Nature

Only the net amount shall be calculated after deducting the amount for VATand such amount shall be adjusted to present value by applying wholesale price index of Nepal Rastra Bank.

### Note:

- (2) Insert number of contracts, the range should be one to two, depending on the size and complexity of the subject contract, the exposure of the risk to the Employer by contractor's default.
- (3) Insert amount in Nepalese rupees, which is usually 80% of the estimated value of the subject contract.

(b) Construction Experience in Key Activities						
For the above or other contracts executed during the period stipulated in 2.4.2(a) above, a minimum construction experience in the following key activities :	must meet all requirements	must meet all requirements	not applicable	not applicable	Form EXP - 2(b)	
[list activities indicating volume, number or rate of production as applicable; for the key activity (ies) in the subject contract. The rates should be about 80% of the estimated production rates of the key activity(ies) in the subject contract as needed to meet the expected construction schedule with due allowance for adverse climatic conditions.]						



RCC M20 : 95.65 Cum			
RCC M25: 40.5 Cum Brick Work 1:4 : 256.68 Cum			
Form Work : 1011.8 Sqm			
Reinforcement : 34.5 MT			

\* List the production rate(s) for the key activity (ies) in the subject contract. The rates should be about 80% of the estimated production rates of the key activity(ies) in the subject contract as needed to meet the expected construction schedule with due allowance for adverse climatic conditions.



### 2.5 Personnel

The Bidder must demonstrate that it has the personnel for the key positions that meet the following requirements:

SN.	Position	Required No.	Academic Qualification [When position demands]	Total Work Experience [Years]	Experience in Similar Works [years]
1.	Team leader	1	Bachelor	3	2
2.	Engineer	1	Bachelor in Civil Engineering	3	2
3.	Sub- Engineer	1	Deploma in Civil Engineering	3	2
4.					
5.					

In case the bidder proposes to consider Personnel that may be spared from committed/ongoing contracts for evaluation, the bidder shall provide details of personnel which will be spared from such committed/ongoing contracts based on the physical progress at the date of bid submission.

The Bidder shall provide details of the proposed personnel and their experience records in the relevant Information Forms included in Section IV (Bidding Forms).

### Note:

The managerial and technical competence of a contractor is largely related to the key personnel on site. The extent to which the Bidder should demonstrate having staff with extensive experience should be limited to those requiring critical operational or technical skills. The qualification criteria should therefore refer to a limited number of such key personnel, for instance, the project or contract manager and those superintendents working under the project manager who will be responsible for major components (e.g., superintendents specialized in dredging, piling, tunneling, or earthworks, as required for each particular project).

Criteria of acceptability should be based on:

- (a) a minimum number of years of experience in a similar position; and
- (b) a minimum number of years of experience and/or number of comparable projects carried out in a specified number of preceding years.
- (c) minimum education qualification only in case the position requires. It is appropriate to specify that certain positions are filled by individuals who have held posts of comparable authority for, say, three years with the Bidder, so that key staff in executive site positions have sufficient knowledge of the Bidder's management, policy, procedures, and practices to act with confidence and authority within that framework.



### 2.6 Equipment

The Bidder must demonstrate that it has the key equipment listed hereafter:

No.	Equipment Type and Characteristics	Min. Number Requirement
1.	Concrete Mixture	1
2.	Needle Vibrator	1
3.	Generator	1
4.	Tractor	1
5.	Thedolite/Level Machine	1

In case the Bidder proposes to consider Equipment that may be spared from committed/ongoing contracts for evaluation, the Bidder shall provide details of Equipment which will be spared from committed / ongoing contracts clearly demonstrating the availability of such equipment with respect to the physical progress of the ongoing contracts on the date of bid submission.

In case of Equipment to be leased/hired the same procedure as mentioned above shall apply.

The Bidder shall provide further details of proposed items of equipment using the relevant Form in Section IV (Bidding Forms)

### Note:

An inventory of construction equipment represents a high capital cost overhead to a contractor. Consequently, not all competent potential bidders will maintain an inventory of high-value items that are in suitable condition for major contracts. This is particularly so with management contractors, who undertake construction projects mainly by subcontracting. In most cases Bidders can readily purchase, lease, or hire equipment; thus, it is usually unnecessary for the assessment of a contractor's qualification to depend on the contractor's owning readily available items of equipment. The pass-fail criteria adopted should therefore be limited only to those bulky or specialized items that are critical for the type of project to be implemented, and that may be difficult for the contractor to obtain quickly. Examples may include items such as heavy lift cranes and piling barges, dredgers, tunnel boring machines, asphalt mixing plants, etc. Even in such cases, contractors may not own the specialized items of equipment, and may rely on specialist subcontractors or equipment-hire firms. The availability of such subcontractors and of the specified equipment should be subject to verification prior to contract award. The terms of any lease or hire agreement for equipment should preferably include provision that the equipment will remain on the site (or be vested in the Employer) in the event of default of the Contractor, thereby ensuring more timely continuity of work by a replacement contractor



### 2.7Subcontractors

The experience and financial capacity of the sub-contractors shall not be added to those of the Bidder for purposes of qualification of the Bidder.

The sub-contractors proposed shall be fully qualified for their work proposed, and meet the following criteria:

2.7 (a) Nature of Works that can be sub contracted:

(i) ..... (ii) .....

Note: Employer should specify the nature of work, if sub-contracting is permitted.

2.7 (b) Qualification Criteria

The proposed sub-contractor shall meet the following requirements:

- 1) Completion of 80% of the quantity of the work being sub contracted
- Average Annual Construction Turnover for the work being sub contracted should be at least 1.5 \* V/T where V is the proposed value of sub contract and T is time in year. For contract duration of up to 1 year, T shall be "1".
- Financial Resources: The sub contract must demonstrate that it has the financial resources to meet its current contract commitment plus three months' requirements for the sub contracted work.

Note: Delete 2.7(b) if 2.7(a) is not applicable



# Section IV: Bidding Forms

This Section contains the forms which are to be completed by the Bidder and submitted as part of its Bid.



## Letter of Technical Bid

The Bidder must accomplish the Letter of Bid in its letterhead clearly showing the Bidder's complete name and address.

Date:
-------

Invitation for Bid No.:

То:.....

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Bidders (ITB) Clause 8.
- (b) We offer to execute in conformity with the Bidding Documents the following Works:
- (c) Our Bid consisting of the Technical Bid and the Price Bid shall be valid for a period of *[insert validity period as specified in ITB 18.1 of the BDS]* days from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
- (d) Our firm, including any subcontractors or suppliers for any part of the Contract, have nationalities from eligible countries in accordance with ITB 4.2and meet the requirements of ITB 3.4,& 3.5
- (e) We are not participating, as a Bidder or as a subcontractor, in more than one Bid in this bidding process in accordance with ITB 4.3(e), other than alternative offers submitted in accordance with ITB 13.
- (f) Our firm, its affiliates or subsidiaries, including any Subcontractors or Suppliers for any part of the contract, has not been declared ineligible by DP, under the Employer's country laws or official regulations or by an act of compliance with a decision of the United Nations Security Council;
- (g) We are not a government owned entity/We are a government owned entity but meet the requirements of ITB 4.5;<sup>1</sup>
- (h) We declare that, we including any subcontractors or suppliers for any part of the contract do not have any conflict of interest in accordance with ITB 4.3 and we have not been punished for an offense relating to the concerned profession or business.
- (i) We declare that we are solely responsible for the authenticity of the documents submitted by us. The document and information submitted by us are true and correct. If any document/information given is found to be concealed at a later date, we shall accept any legal actions by the Employer.



- (k) We agree to permit the Employer/DP or its representative to inspect our accounts and records and other documents relating to the bid submission and to have them audited by auditors appointed by the Employer.
- (I) If our Bid is accepted, we commit to mobilizing key equipment and personnel in accordance with the requirements set forth in Section III (Evaluation and Qualification Criteria) and our technical proposal, or as otherwise agreed with the Employer.

1		١.
1 r	n	۱.
١I		
۰.		

Name:
In the capacity of
Signed
Duly authorized to sign the Bid for and on behalf of
Date



## Letter of Price Bid

The Bidder must accomplish the Letter of Bid in its letterhead clearly showing the Bidder's complete name and address.

Date: .....

Name of the contract: .....

Invitation for Bid No.: .....

То:....

- We, the undersigned, declare that:
- (a) We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Bidders (ITB) Clause 8;
- (b) We offer to execute in conformity with the Bidding Documents the following Works:
- (c) The total price of our Bid, excluding any discounts offered in item (d) below is: NRs. .....; or when left blank is the Bid Price indicated in the Bill of Quantities.
- (d) The discounts offered and the methodology for their application are:....
- (e) Our bid shall be valid for a period of *[insert validity period as specified in ITB 18.1]* days from the date fixed for the bid submissiondeadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (f) If our bid is accepted, we commit toobtain a performance security in accordance with the Bidding Document;
- (g) We have paid, or will pay the following commissions, gratuities, or fees with respect to the bidding process or execution of the Contract:<sup>1</sup>

Name of Recipient		Address	Reason	Amount

(h) We understand that this bid, together with your written acceptance thereof included in

<sup>&</sup>lt;sup>1</sup> If none has been paid or is to be paid, indicate "None".



yournotification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed;

- (i) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive; and
- (j) We declare that we are solely responsible for the authenticity of the documents submitted by us.
- (k) We agree to permit the Employer/DP or its representative to inspect our accounts and records and other documents relating to the bid submission and to have them audited by auditors appointed by the Employer.

Name: .....

In the capacity of ..... Signed ..... Duly authorized to sign the Bid for and on behalf of .....

Date .....



# **Table of Price Adjustment Data**

[To be used if Price Adjustment is applicable as per GCC 53.1]

Code	Index Description	Source of Index*	Base Value and Date	Employer's Proposed Weighting Range (coefficient)	Bidder's Proposed Weighting (coefficient)**
1	2	3	4	5	6
	Non - Adjustable (A)			0.15	0.15
	Labor (b)	National Salary and Wage Rate Index- "Construction Labor" of <b>NRB</b>		0.35 to 0.45	
	Materials (c)	National Wholesale Price Index- "Construction Materials" of <b>NRB</b>		0.35 to 0.45	
	Equipment usage (d)	"Fuel" Wholesale Price of Diesel fixed by <b>NOC</b>		0.05 to 0.10	1.00
		TOTAL			1.00

\*Normally following source of index shall apply. Public Entity shall choose applicable Index for each item.

(a) Labor: "National Salary and Wage Rate Index"- "Construction Labor" of Nepal Rastra Bank or rate fixed by District Rate Fixation Committee

(b) Material:"National Wholesale Price Index" - Construction Materials" of Nepal Rastra Bank



(c) Equipment usage: "National Wholesale Price Index" - Machinery and Equipment" of Nepal Rastra Bank or "Fuel" Price fixed by Nepal Oil Corporation.

 $^{\star\star}$  Bidders proposed weightings should be within the range specified by the Employer in column - 5



# Table of Price Adjustment Data

## [To be used if Price Adjustment is applicable as per GCC 53.6]

Code	Construction Material*	Unit	Base Price (NRs/Unit) (Ex-factory)	Source (Factory)**
1	2	3	4	5

\* Major construction materials to be specified by Employer in column - 2.

\*\* Base Price and source normally to be specified by Employer (or alternatively informed to be proposed by bidder) in column 4 and 5.

### Note:

The base prices of the construction materials shall be taken as of 30 days before the deadline for submission of the Bid as quoted by the Bidder and verified by the Employer. For the purpose of calculation of price adjustment, the Ex-factory price of the same source shall be taken into consideration.



## **Bid Security**

### **Bank Guarantee**

Bank's <mark>Name, and Address of Issuing Branch or Office</mark> (On Letter head of the Commercial bank or any Financial Institution eligible to issue Bank Guarantee as per prevailing Law)

Beneficiary: ..... name and address of Employer .....

- (a) has withdrawn or modifies its Bid:
  - i) during the period of bid validity specified by the Bidder on the Letter of Technical and PriceBid, in case of electronic submission

(ii) from the period twenty-four hours prior to bid submission deadline up to the period of bid validity specified by the Bidder on the Letter of Technical Bid and Price Bid, in case of hard copy submission; or

- (b) does not accept the correction of errors in accordance with the Instructions to Bidders (hereinafter "the ITB"); or
- (c) changes the prices or substance of the bid while providing information pursuant to clause 27.1 of ITB; or
- (d) having been notified of the acceptance of its Bid by the Employer during the period of bid validity, (i) fails or refuses to execute the Contract Agreement, or (ii) fails or refuses to furnish the performance security, in accordance with the ITB.
- (e) is involved in fraud and corruption in accordance with the ITB

This guarantee will remain in force up to and including the date .......*number*......days after the deadline for submission of Bids as such deadline is stated in the instructions to Bidders or as it may be extended by the Employer, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this guarantee should reach the Bank not letter than the above date.

This Bank guarantee shall not be withdrawn or released merely upon return of the original guarantee by the Bidder unless notified by you for the release of the guarantee.

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 758.

#### ....Bank's seal and authorized signature(s) ....



## Letter of Commitment for Bank's Undertaking for Line of Credit

Bank's Name, and Address of Issuing Branch or Office (On Letter head of the Commercial bank or any Financial Institution eligible to issue Bank Guarantee as per prevailing Law)

Invitation for Bids No:

Date:

Contract No:

Name of Contract :

To:

[Name and address of the Procuring Entity]

### CREDIT COMMITTMENT No: [insert number]

We have been informed that *[name of Bidder]* (hereinafter called "the Bidder") intends to submit to you its Bid (hereinafter called "the Bid") for the execution of the Works of *[description of* **works]**under the above Invitation for Bids (hereinafter called "the I").

Furthermore, we understand that, according to your conditions, the Bidder's Financial Capacity i.e. Liquid Asset must be substantiated by a Letter of Commitment of Bank's Undertaking for Line of Credit.

At the request of, and arrangement with, the Bidder, we [name and address of the Bank] do hereby agree and undertake that [name and address of the Bidder] will be provided by us with a revolving line of credit, in case awarded the Contract, for execution of the Works viz. [insert name of the works], for an amount not less than NRs ......[in figure] ( in words) for the sole purpose of the execution of the above Contract. This Revolving Line of Credit will be maintained by us until issuance of "Taking-Over Certificate" by the Procuring Entity.

In witness whereof, authorised representative of the Bank has hereunto signed and sealed this Letter of Commitment.



Signature

Signature

# **Technical Proposal Format**

Personnel

Equipment

Site Organization

Method Statement

**Mobilization Schedule** 

**Construction Schedule** 

Others



## Personnel

## Form PER - 1: Proposed Personnel

Bidders should provide the names of suitably qualified personnel to meet the specified requirements for each of the positions listed in Section III (Evaluation and Qualification Criteria). The data on their experience should be supplied using the Form below for each candidate.

No.	Name	Position*	Academic Qualification	Total Work Experience [Years]	Experience in Similar Works [years]
1.					
2.					
3.					
4.					
5.					

\* As listed in Section III (Evaluation and Qualification Criteria).



## Form PER - 2: Resume of Proposed Personnel

The Bidder shall provide all the information requested below. Fields with asterisk (\*) shall be used for evaluation.

Position*			
Personal Information	Name	Date of Birth	
	Professional qualifications		
Present employment	Name of employer		
	Address of employer		
	Telephone         Contact (manager/personnel officer)		
	Fax	E-mail	
	Job title	Years with present employer	

Summarize professional experience over the last twenty years in reverse chronological order. Indicate particular technical and managerial experience relevant to the project.

From*	То*	Company, Project, Position and Relevant Technical and Management Experience*

### Note:

In case of e-submission the Resume of Proposed Personnel shall be submitted on notification by the Employer as per ITB 27.



## Equipment

The Bidder shall provide adequate information to demonstrate clearly that it has the capability to meet the requirements for the key equipment listed in Section III (Evaluation and Qualification Criteria). A separate Form shall be prepared for each item of equipment listed, or for alternative equipment proposed by the Bidder. The Bidder shall provide all the information requested below, to the extent possible. Fields with asterisk (\*) shall be used for evaluation.

### (i) For the equipment under Bidder's ownership

No.	Equipment Type and Characteristics	Total Nos. of Equipment under Bidder's Ownership	No. of Equipment engaged/proposed for ongoing/committed contracts	Nos. of Equipment proposed for this contract
1.				
2.				
3.				
4.				
5.				

### (ii) For the Equipment to be leased/hired

· · ·				
No.	Equipment Type and Characteristics	Total Nos. of Equipment under the ownership of lease/hire provider	No. of Equipment engaged/committed for other works	Nos. of Equipment proposed to be leased/hired for this contract
1.				
2.				
3.				
4.				
5.				

Type of Equipment\*

Equipment Information	Name of manufacturer	Model and power rating
	Capacity*	Year of manufacture
Current Status	Current location	
	Details of current commitments	
Source	Indicate source of the equipment	
	Owned      Rented      Leased      Specially manufactured	

The following information shall be provided only for equipment not owned by the Bidder.



Owner	Name of owner		
	Address of owner		
	Telephone         Contact name and title		
	Fax	email	
Agreements	Details of rental / lease / manufacture agreements specific to		
	the project		

The Bidder shall be solely responsible for the data provided. However, this shall not limit the right of Employer to verify the authenticity of submitted information.

### Note:

In case of e-submission the "Agreements" shall be submitted on notification by the Employer as per ITB 27.1



# **Bidder's Information and Qualification Format**

Site Organization

Method Statement

Mobilization Schedule

**Construction Schedule** 

Others



## **Bidder's Qualification**

To establish its qualifications to perform the contract in accordance with Section III (Evaluation and Qualification Criteria) the Bidder shall provide the information requested in the corresponding Information Sheets included hereunder.

## Form ELI - 1: Bidder's Information Sheet

Bidder's Information				
Bidder's legal name				
In case of JV, legal name of each partner				
Bidder's country of constitution				
Bidder's year of constitution				
Bidder's legal address in country of				
constitution				
Bidder's authorized representative (name,				
address, telephone numbers, fax numbers, e-				
mail address)				
Attached are copies of the following original documents.				
1. In case of single entity, articles of incorporation or constitution of the legal entity named above, in accordance with ITB 4.1 and 4.2.				
2. Authorization to represent the firm or JV named in above, in accordance with ITB 20.2.				

3. In case of JV, letter of intent to form JV or JV agreement, in accordance with ITB 4.1.

4. In case of a government-owned entity, any additional documents not covered under 1 above required to comply with ITB 4.5.



## Form ELI - 2: JV Information Sheet

Each member of a JV must fill in this form

JV / Specialist Subcontractor Information				
Bidder's legal name				
JV Partner's or Subcontractor's legal name				
JV Partner's or				
Subcontractor's country of constitution				
JV Partner's or				
Subcontractor's year of constitution				
JV Partner's or				
Subcontractor's legal address in country of				
constitution				
JV Partner's or				
Subcontractor's authorized representative				
information (name, address, telephone				
numbers, fax numbers, e-mail address)				
Attached are copies of the following original documents.				
<ol> <li>articles of incorporation or constitution of the legal entity named above, in accordance with ITB 4.1 and 4.2.</li> <li>Authorization to represent the firm named above, in accordance with ITB 20.2.</li> <li>In the case of government-owned entity, documents establishing legal and financial</li> </ol>				

autonomy and compliance with commercial law, in accordance with ITB 4.5.





## Form LIT - 1: Pending Litigation

Each member of a JV must fill in this form

Pending Litigation							
<ul> <li>No pending litigation in accordance with Criteria 2.2 of Section III (Evaluation and Qualification Criteria)</li> <li>Pending litigation in accordance with Criteria 2.2 of Section III (Evaluation and Qualification Criteria)</li> </ul>							
Year Matter in Dispute Value of Pending Claim as a Claim in NRS Percentage on Net Worth							


### Form FIN - 1: Financial Situation

Each Bidder or member of a JV must fill in this form

Financial Data for Previous 3 Years [in NRS]				
Year 1 :	Year 2 :	Year 3 :		

#### Information from Balance Sheet

Total Assets		
Total Liabilities		
Net Worth		
Current Assets		
Current Liabilities		

#### Information from Income Statement

Total Revenues		
Profit Before Tax		
Profit After Tax		

- Attached are copies of financial statements (balance sheets including all related notes, and income statements) for the last three or above years, as indicated above, complying with the following conditions.
- All such documents reflect the financial situation of the Bidder or partner to a JV, and not sister or parent companies.
- Historic financial statements must be audited by a certified auditor.
- Historic financial statements must be complete, including all notes to the financial statements.
- Historic financial statements must correspond to accounting periods already completed and audited (no statements for partial periods shall be requested or accepted).

### Note:

In case of e-submission the attachments should not be uploaded but shall be submitted on notification by the Employer as per ITB 27.1



### Form FIN - 2: Average Annual Construction Turnover

Each Bidder or member of a JV must fill in this form

The information supplied should be the Annual Turnover of the Bidder or each member of a JV in terms of the amounts billed to clients for each year for work in progress or completed to NRs at the end of the period reported.

Annual Turnover Data for the Last 10 Years (Construction only)				
Year	Amount Currency			

 Average Annual Construction Turnover (Best three years within the last 10 years)



### Form FIN - 3: Financial Resources

Specify proposed sources of financing, as "lines of credit", available to meet the total construction cash flow demands of the subject contract or contracts as indicated in Section III (Evaluation and Qualification Criteria).

	Financial Resources				
No.	Source of financing	Amount (in NRS)			
1					
2					
3					

Note : The letter from the Bank must be in the prescribed formatand stated details/terms and conditions as per the Bid Forms "Letter of Commitment for Bank's Undertaking for Line of Credit"



### Form FIN - 4: Bid Capacity

Each Bidder or member of a JV must fill in this form

Bid Capacity = [(7 x A) – B]

A = Average Annual Turnover of best three years out of last ten fiscal years.

B = Annual Value of the existing commitments and works (ongoing) to be completed, calculated from **FIN-5.** 

SN	Name of Bidder	Pan No.	<mark>A, in</mark> Million	<mark>B, in</mark> Million	Bid Capacity, in Million
<mark>1</mark>	I	I			
2	I				
<mark>3</mark>					

**Total Bid Capacity :** 

Signature of Bidder



### Form FIN-5: Current Contract Commitments / Works in Progress

Bidders and each partner to a JV 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.

	Current Contract Commitments (For Calculation of B with reference of FIN-4)								
No.	Name of Contract	Name of the Contractor/s	Employer's Contact Address, Tel, Fax	Contract Share in % (a)	Contract Amount in Millions (b)	Contract Date(yyyy- mm) (c)	Initial or Revised Contract Duration (months) (d)	Value of outstanding works [In Millions,NRS] <sup>#</sup> (e)	Estimated Time in Month to Complete the outstanding works (f) = (c) + (d) – Date of Invitation of Bid (f)
1									
2									
3									
<mark>4</mark>									

Signature of Bidder

# The Outstanding Works means Contract Price (excluding Vat) minus Work Evaluated by Employer till the reference date.Bidder shall have to submit the relevant documentary evidence to substantiate the facts/figures.

Note 1: "B" shall be calculated as :  $B = \sum \left[\frac{(e) \times (a)}{(f)}\right] x 12$ , If (f) is less than 12, then value of (f) shall be taken as 12.



Note 2: If Initial or Revised Contract Date is run out with respect to Date of Invitation of Bid, the Estimated Time in Month to Complete the outstanding works shall be taken equal to 12 months.



### Form EXP - 1: General Construction Experience

Each Bidder or member of a JV must fill in this form.

General Construction Experience					
Starting Month Year	Ending Month Year	Year	Contract Identification and Name and Address of Employer Brief Description of the Works Executed by the Bidder	Role Bidder	of



### Form EXP - 2(a): Specific Construction Experience

Fill up one (1) form per contract.					
Contract of Similar Size and Nature					
Contract No of	Contract Identi	fication			
Award Date		Completion			
		Date			
Role in Contract		Management	Subcontractor		
		Contractor			
Total Contract Amount	🗅 NRS				
If Partner in a JV or subcontractor, specify	Percent of	Amount			
participation of total contract amount	Total				
Employer's Name					
Address					
Telephone/Fax					
Number					
E-mail					
Description of the similarity in accordance with 0	Criteria 2.4.2 (a)	of Section III			
Note :					
The Employer should insert here contract size,					
complexity, methods, technology, or other					
characteristics as described in Section VI					
(Work Requirements) against which the bidder					
demonstrates similarity in the box on the right-					
hand-side.					
hand-side.					



### Form EXP - 2(b): Specific Construction Experience in Key Activities

Fill up one (1) form per contract.					
Contract of Similar Size and Nature					
Contract No of	Contract Ide	ntification			
Award Date		Completion Date			
Role in Contract	Contractor	Management Contractor	C Subcontractor		
Total Contract Amount	☐ NRS 				
If Partner in a JV or subcontractor, specify participation of total contract amount	Percent of Total	Amount			
Employer's Name					
Address					
Telephone/Fax					
Number					
E-mail					
Description of the similarity in accordance with Criteria	a 2.4.2 (a) of So	ection III			
Note :					
The Employer should insert here production rate(s) for the key activity (activities) subject contract against which the bidder demonstrates in the box on the right-hand-side production rates achieved by him on previous contracts.					



# Section V - Eligible Countries

[This section contains the list of eligible countries. Select one option, either GoN Funded or DP Funded.]

For GoN funded: *[with estimate upto NRs. 1 Billion]* For the purpose of ITB 4.2: "**Nepal"**; and For the purpose of Country of Origin ITB 5.1 and GCC 79.2: "**all Countries"** 

For DP funded: [attach list as per their list of eligible countries]



# Part II : BIDDING PROCEDURES



# Table of Clauses

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# **Section VI: Works Requirements**

This Section contains the Specification, the Drawings, and supplementary information that describe the Works to be procured.



## Scope of Work

The Project entitled "Construction Completion of Existing Building of Aanbookhaireni Rural Municipality" lies in Aabookhaireni Rural Municipality, Aabookhaireni-3, Tanahun. The proposed work consists of the construction of Office Building. The construction work includes, earth works in excavation, Brick soling as required, stone masonary works, Pcc and RCC works as specified in the specification and in BOQ.



### **Specifications**

### Notes on the Specifications

A set of precise and clear specifications is a prerequisite for Bidders to respond realistically and competitively to the requirements of the Employer without qualifying or conditioning their Bids. The specifications must be drafted to permit the widest possible competition and, at the same time, present a clear statement of the required standards of workmanship, materials, and performance of the goods and services to be procured. Only if this is done will the objectives of economy, efficiency and fairness in procurement be realized, responsiveness of Bids be ensured, and the subsequent task of bid evaluation facilitated. The specifications should require that all goods and materials to be incorporated in the Works be new, unused, of the most recent or current models, and incorporate all recent improvements in design and materials unless provided otherwise in the Contract.

Samples of specifications from previous similar projects are useful in this respect. The use of metric units is encouraged by the Funding Agency in case of funding assisted projects. Most specifications are normally written specially by the Employer or Project Manager to suit the Contract Works in hand. The available standard specification of works of Ministry of Physical Infrastructure and Transport, DoLIDAR and Other line Ministries can be adopted for respective civil construction works.

There are considerable advantages in standardizing General Specifications for repetitive Works in recognized public sectors, such as highways, urban housing, irrigation, and water supply, in the same country or region where similar conditions prevail. The General Specifications should cover all classes of workmanship, materials, and equipment commonly involved in construction, however it may not necessarily be adequate to be used in a particular Works Contract and may necessitate preparation of Particular (Special) Specifications to amend and or supplement the provision of the General Specifications to meet the requirement of the particular Works.

Care must be taken in drafting specifications to ensure that they are not restrictive. In the specification of standards for goods, materials, and workmanship, recognized international standards should be used as much as possible. Where other particular standards are used, whether national standards of Nepal or other standards, the specifications should state that goods, materials, and workmanship that meet other authoritative standards, and which ensure substantially equal or higher quality than the standards mentioned, will also be acceptable.

Employers should decide whether technical solutions to specified parts of the Works are to be permitted. Alternatives are appropriate in cases where obvious (and potentially less costly) alternatives are possible to the technical solutions indicated in the Procurement Documents for certain elements of the Works, taking into consideration the comparative specialized advantage of potential bidders. For example:

The Employer should provide a description of the selected parts of the Works with appropriate references to Drawings, Specifications, Bill of Quantities, and Design or Performance criteria, stating that the alternative solutions if applicable shall be at least structurally and functionally equivalent to the basic design parameters and specifications.

Such alternative solutions shall be accompanied by all information necessary for a complete evaluation by the



Employer, including drawings, design calculations, technical specifications, breakdown of prices, proposed construction methodology, and other relevant details.

### Sample Clause: Equivalency of Standards and Codes

Wherever reference is made in the Contract to specific standards and codes to be met by the goods and materials to be furnished, and work performed or tested, the provisions of the latest current edition or revision of the relevant standards and codes in effect shall apply, unless otherwise expressly stated in the Contract. Where such standards and codes are national, or relate to a particular country or region, other authoritative standards that ensure a substantially equal or higher quality than the standards and codes specified will be accepted subject to the Project Manager's prior review and written consent. Differences between the standards specified and the proposed alternative standards shall be fully described in writing by the Contractor and submitted to the Project Manager at least 30 days prior to the date when the Contractor desires the Project Manager's consent. In the event the Project Manager determines that such proposed deviations do not ensure substantially equal or higher quality, the Contractor shall comply with the standards specified in the documents.

These Notes for Preparing Specifications are intended only as information for the Employer or the person drafting the Procurement Documents. They should not be included in the final documents.





# Drawings

### Note:

- 1. It is customary to bind the drawings in a separate volume, which is often larger than other volumes of the contract documents. The size will be dictated by the scale of the drawings, which must not be reduced to the extent that details are reduced illegible.
- 2. A simplified map showing the location of the Site in relation to the local geography, indicating major roads, posts, airports, and railroads, is helpful.
- 3. The construction drawings, even if not fully developed, must show sufficient details to enable bidders to understand the type and complexity of the work involved and the price the Bill of Quantities.













Eew























# **Supplementary Information**

[insert supplementary information if any]



# **Section VI: Bill of Quantities**<sup>2</sup>

### Notes for Unit Rate Contracts:

### **Objectives**

The objectives of the Bill of Quantities are

- (a) to provide sufficient information on the quantities of Works to be performed to enable Bids to be prepared efficiently and accurately; and
- (b) when a Contract has been entered into, to provide a priced Bill of Quantities for use in the periodic valuation of Works executed.

In order to attain these objectives, Works should be itemized in the Bill of Quantities in sufficient detail to distinguish between the different classes of Works, or between Works of the same nature carried out in different locations or in other circumstances which may give rise to different considerations of cost. Consistent with these requirements, the layout and content of the Bill of Quantities should be as simple and brief as possible.

#### Content

The Bill of Quantities should be divided generally into the following sections:

- (a) Preamble;
- (b) Work Items (grouped into parts);
- (c) Day works Schedule;
- d) Provisional Sums; and
- (d) Summary.

### Preamble

The Preamble should indicate the inclusiveness of the unit prices, and should state the methods of measurement which have been adopted in the preparation of the Bill of Quantities and which are to be used for the measurement of any part of the works.

### Work Items

The items in the Bill of Quantities should be grouped into sections to distinguish between those parts of the Works which by nature, location, access, timing, or any other special characteristics may give rise to different methods of construction, or phasing of the Works, or considerations of cost. General items common to all parts of the works may be grouped as a separate section in the Bill of Quantities.

### Day work Schedule

A Day work Schedule should be included only if the probability of unforeseen work, outside the items included in the Bill of Quantities, is high. To facilitate checking by the Employer of the realism of rates quoted by the Bidders, the Day work Schedule should normally comprise the following:

(a) A list of the various classes of labor, materials, and Constructional Plant for which basic day work rates or prices are to be inserted by the Bidder, together with a statement of the conditions under which the Contractor will be paid for work executed on a day work basis.

<sup>&</sup>lt;sup>2</sup>In lump sum contracts, delete "Bill of Quantities" and replace with "Schedule of Activities" throughout this section.



(b)	Nominal quantities for each item of Day <sub>TABLE</sub> OF CONTENTS	work, to	be priced b	by each
	Bidder at Day work rates as bid. The Technical Specification of Civil way	dra	rate to be e	entered
	by the Bidder against each basic Day	KS	work item	should
	include the Contractor's profit, overheads, supervision, and other charges.			

Provisional 1	SITE CLEARANCE & PREPARATION	1
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### 1.1 Scope

Technical Specifications of Civil Works

The site and ground in the immediate neighbourhood shall be cleared of all jungle and root, cutting trees and uprooting, removing away bushes, remains of old buildings, brick bats, useless dumped materials, removing loose earth and concrete pieces (if any). It shall be removal of grass, shrubs etc., maximum depth cleared of all grass, shrubs etc. The maximum depth of excavation shall be 0.3m. A distance of 6 metre around the building shall be dressed and levelled properly with outward slope of 1 in 100. The surplus excavated material shall be disposed as directed.

### 1.2 Measurement

The measurement unit shall be taken in **Lump Sum** for above works, and payment shall be done in the amount as quoted in approved bill of quantity, as per instruction of engineer, all complete.

### 2 EARTHWORK IN EXCAVATION

### 2.1 Excavation for lift up to 2.5m

### 2.1.1 Scope

Earthwork in excavation in foundation trenches, raft foundation etc. in soil including dressing of sides, ramming of bottom, lift up to 2.5m, stacking of excavated materials at least 4m clear off the edge of excavation and then returning the stacked soil in 0.15m layer when required in plinth, under floor, sides of foundation, laying and depositing the layer by watering and ramming and then disposing of all surplus excavated soil as directed within a lead of 30m.

### 2.1.2 Classification of Soil

All soils shall be taken as ordinary soil; unless hard rock or old masonry or concrete or block kankar or running sand which requires special treatment for the purpose of excavation are met with when an additional item shall be formed. Ordinary pebbles or kankar shall be taken under ordinary soil for which nothing extra will be paid.

### 2.1.3 Excavation

The foundation shall be dug to the dimensions shown on the drawings and to depth, at which, in the opinion of the Engineer, the stratum of good hard soil is made with.

The excavation shall be carefully done up to the levels, as per shapes and dimensions as shown or figured in the Drawings or as directed by the Engineer. Should any of the excavation be taken below the specified levels, the Contractor shall fill such excavation at his own expense with concrete well rammed in position until it is brought up to the proper levels; filling in with excavated materials will not be allowed for this purpose. No extra charge will be paid, excavated earth shall be stacked at least 4m from the edge of foundation.



The Contractor shall dispose off all surplus excavated soil at his own cost as directed by the Engineer without additional cost.

If foundations are made broader or longer than given dimension, the extra length and breadth shall be filled in after the foundations are built with earth rammed and compacted, at the Contractor's expense.

The Contractor shall at his own expense, make provision for all extra excavation in slope, pumping, dredging or bailing out water from the trenches and keep free of water during the laying of foundation works.

The Contractor shall also at his own cost remove such portions of boulders or rocks and the remains of the old dismantled structures as are required to make the bottom of the trench horizontal and level, nothing extra shall be admissible separately in the Bill of Quantities. The trenches rafts shall be inspected by the Engineer, before the concrete is laid therein, when the trench level shall be recorded. The filling in of side of trench excavations can be done in not more than 0.15m layers. Each layer shall be watered and rammed hard before adding the next layer. Such fillings shall be brought up to the ground level without extra charge and shall form part of the item of excavation.

### 2.1.4 **Timbering of foundation**

When foundations are to be taken deep, the sides of the trenches shall be protected by erecting timber shoring and structuring. Timbering shall be close or open depending on the nature of the soil and work. The arrangement of timbering, sizes and spacing of members shall be as directed by the Engineer. Nothing extra on this account shall be admissible which require special treatment for the purpose of excavation, and it shall be deemed to be included in excavation in soil. Ordinary pebbles shall be taken under soil for which nothing extra shall be paid.

### 2.1.5 **De-watering**

The Contractor shall not be paid extra for bailing out or pumping out of all water which may accumulate in the excavation during the progress of the work either from seepage, springs, rain or any other source and shall be removed after their purpose is served.

Pumping water from any foundation enclosure or trenches shall be generally in such a manner as to preclude the possibility of any damage to the foundation trenches, concrete or masonry or any adjacent structures. The excavation shall be kept free from water (i) during inspection and measurement, (ii) when concrete and/or masonry works are in progress and till they come above the natural water level and (iii) till the Engineer considers that the mortar is sufficiently set.

### 2.1.6 **Trimming and Levelling**

The bottom of all foundation should be trimmed and levelled in accordance with the Drawings. Bottom of the foundation shall be rammed and watered before concrete is deposited.


# 2.1.7 Disposal

Disposal of the surplus earth shall be done within site area as directed by the Engineer. Nothing extra shall be paid for such disposal made.

## 2.1.8 Measurement

It shall be measured correct up to 1cm and be the product of the exact length and width of the lowest step of the footings according to the Drawings or the Engineer's instructions and the depth measured vertically. Where the ground is not level, average depth shall be taken. Rate shall be inclusive of all the Works described above.

## 2.2 Excavation for lift from 2.5m-10m

2.2.1 Scope

Earthwork in excavation in foundation trenches, raft foundation etc. in soil including dressing of sides, ramming of bottom, with lift from 2.5m to 10m, stacking of excavated materials at least 4m clear off the edge of excavation and then returning the stacked soil in 0.15m layer when required in plinth, under floor, sides of foundation, laying and depositing the layer by watering and ramming and then disposing of all surplus excavated soil as directed within a lead of 50m.

The Workmanship shall be same as per the **specification clause 2.1** 

# 2.2.2 Measurement:

Extra payment shall be made for the extra lift involved beyond 2.5m up to 10m, under this item. Measurement shall be done in the exact length, breadth and depth. The measurement unit shall be in cubic meter.

# **3** FILLING WORKS

# 3.1 Earth Filling (Excavated Earth / Borrowed Earth)

#### 3.1.1 Scope

Filling in plinth floor with materials brought from outside in 0.20m layer compacted to 0.15m layer under floors including watering, ramming, consolidation and dressing, all complete.

# 3.1.2 Material and workmanship

The earth for filling shall be brought from outside the site within a lead of 30m, to be approved by the Engineer prior to filling. If the earth from within the site were of unsuitable quality, earth shall be brought from outside the site, which shall be measured in compacted volume and paid as an item under borrowed earth/soil.

The work shall be done with laying earth in 0.20m layer by layer respectively compacted in 0.15m layer, each layer being watered and rammed thoroughly. It



shall include excavation, watering, compaction of earth with transportation, screening, if necessary, filling and all the cost of labour etc., all complete.

## 3.1.3 Measurement

The measurement shall be taken for the consolidated thickness of earth and paid in cubic meter. Pit or stack measurement shall not be done for payment. Quantity of earth fill under this item shall be arrived at by calculation i.e. sum total of earth filling required in trenches around foundations, over raft, under floors or any other filling less the total quantity involved in foundation excavation.

## 4 Sand Filling

## 4.1.1 Scope

Filling in plinth floor with river or mine sand brought from outside in 0.15m layers under floors including ramming, consolidation, and dressing, all complete.

# 4.1.2 Material and workmanship

The sand for filling shall be brought from outside the site shall be approved by the Engineer prior to filling. The sand for filling shall be either pit sand or river sand.

The work shall be done with sand in 0.15m layers, each layer being rammed thoroughly. It shall include excavation of sand, transportation, screening, if necessary, filling and all the cost of labour etc., all complete.

#### 4.1.3 Measurement

The measurement shall be taken for the consolidated thickness of sand and paid in cubic meter.

# 5 CONCRETE WORK

# 5.1 Plain Cement Concrete (P.C.C.) 1:3:6

This Section covers Plain cement concrete in foundation of walls and RCC footings with cement, sand and aggregates including mixing, laying, finishing to approved level, lines and dimensions, curing, including centering, shuttering, all.

- i) M 10 (1:3:6) in below foundation footing,  $\dots M^3$
- ii) M 15 (1:2:4) in plinth level floor,  $\dots M^2$

#### 5.2 Materials

Cement, sand and stone aggregate shall conform to the specifications as under Reinforced Cement Concrete works.

# 5.3 Mixing

All proportions shall be volume except cement which shall be proportioned by weight and as specified. Mixing shall be done in a mechanical mixer as per specifications of reinforced cement concrete work. However, in special cases, hand mixing may be

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allowed by Engineer when the following procedure shall be adopted. Several materials shall be accurately gauged in boxes and thoroughly mixed on a water tight platform of adequate size, being turned over at least thrice till the color is uniform and then wet twice. Water shall be added gradually and not more than required to sufficiently wet the materials. Only that much concrete shall be mixed which can be used within half an hour. Each stack shall however be not larger than consuming one bag of cement. All such stacks shall be placed distinct from each other. In case hand mixing is allowed, the Contractor shall put in 10% more cement than specified without extra charges.

#### 5.4 Lying of Concrete

Concrete shall be laid in horizontal layers of not more than 150mm. thick and gently vibrated. Excessive vibration till the separation of the materials shall not be done.

5.5

# Curing

After laying the concrete it shall be kept wet for seven days. If cast in hot weather, the concrete shall be covered with gunny bags which shall be kept constantly wet. Other work on concrete shall not start until after three days after laying the concrete.

#### 5.6 Measurement

Measurement shall be taken in cubic meters of exact length, breadth and depth. This shall be inclusive of any formwork or shuttering required completing the item. Rate shall include all materials and labor.

# 6 CONCRETE ON GRADES

Providing and laying Reinforced Concrete of Grades as indicated below unless specified otherwise in the schedule of quantities, excluding the \Cost of Formwork and the Cost of Reinforcement in:

Slab and Beams	M20.
Beams	M20.
Columns	M20
Staircase Waist Slab and Step	M20
Fins and Louvers	M20.
Water tank	M20
Column Footing	M20
	Slab and Beams Beams Columns Staircase Waist Slab and Step Fins and Louvers Water tank Column Footing

Unless specified in Bill of Quantities.

#### 6.1 General RCC Works

All RCC work shall be carried out in strict accordance with IS 456-1978 specification, and the construction drawings. Any discrepancies in this dimension on the drawings or any points not clear to the Contractor shall be brought to the notice of the Engineer and clarified in advance before proceeding with the work.



The Contractor shall allow wastage in all materials and item of works. He shall also allow for tests of concrete work shall be cast in the absence of the Engineer. The Contractor shall personally check that both the formwork and reinforcement have been correctly placed and fixed and satisfy himself that all work preparatory to casting is completely ready, before requesting the Engineer for inspection and approval with at least 24 hours prior notice. The formwork horizontally and vertically shall be checked properly prior to concreting. The Engineer shall have all lines and levels rechecked if he feels that there might be improper alignment which must be corrected prior to concreting of any sort. However the onus of lines and level rests with the contractor and any misalignment of the Contractor, absolutely.

# 6.2 Quality of the Materials Required

The materials used in the works shall be of the quantities and kinds specified. Materials delivered to the works shall be equal to the approved sample which shall be deposited with the approval of the Engineer at least 30 days before it is required for use in work. Delivery shall be made sufficiently in advance of constructional requirements to enable further sample to be selected and tested if so desired by the Engineer. No material shall be used in the works until approved. Materials failing to comply with the approved samples and specification shall be immediately removed from the working site at the Contractor's cost and by the next day.

## 6.2.1 Water

Water used in mixing concrete shall be free from injurious amounts of oils, acids, alkalis, organic materials or other deleterious substances. Storage for the water shall be of adequate size.

# 6.2.2 Cement

The cement shall be ordinary Portland cement of approved brand and manufacture and shall comply in all respects with the I.S. 269-1967 for ordinary Portland cement. It shall be delivered on the site-in packages with an unbroken seal fixed by the makers and plainly marked with the name of brand and date of manufacture. It shall be-stored in a dry place, in regular piles not exceeding ten bags high, raised off the floor by 150 mm, timber scantlings and recorded in such a manner that it will be well protected from moisture and contamination, and that the consignments can be used up in the order in which they are received. Set cement being immediately removed from the work site and replaced by the contractor at his own expense. If desired, tests shall be made by taking samples of cement from stores or elsewhere from the works. The selection of samples and procedure for testing shall comply with appropriate I.S. codes.

# 6.2.3 Aggregate

All aggregate shall conform to IS 383-1970. Aggregate with test certificates shall, where possible, be delivered from a source that normally produces aggregate satisfactory for concrete, and if requested by the Engineer the Contractor shall supply evidence to this effect. If he is instructed to do so, the Contractor shall supply samples of aggregate for the purpose of making preliminary concrete test

cubes as herein specified.

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# 6.2.4 **Deleterious Materials**

Aggregate shall not contain any harmful materials, such as iron pyrites, coal, mica shale or similar laminated materials, clay alkali, soft fragments, sea shells, organic impurities etc. in such quantity as to effect the strength and durability of the concrete or in addition to the above for reinforcement concrete, any material which corrodes the reinforcement. Aggregate, which is chemically reactive with the alkali of cement, is harmful and shall not be used as cracking of concrete may take place.

# 6.2.5 Fine Aggregate

The fine aggregate shall be natural sand or sand derived by crushing suitable gravel or stone and shall be free from coagulated lumps. Sand derived from a stone unsuitable for coarse aggregate shall not be in the aggregate.

The fine aggregate shall conform to the requirements of I.S. 282-1970. Fine aggregate shall contain, not more than 3% of materials removable by decantation test, or more than 1% dry lumps. The total of coal, clay lumps, shale, soft fragments and other deleterious substance shall not be more than 5%.

The percentage of clay lumps shall be determined by examining the various fractions that remain after the materials has been tested for grading. Any particle that can be broken with fingers shall be classified as clay lumps and the total percentage of clay lumps shall be determined on the basis of the total original weight of sample. The fine aggregate shall be well graded from fine to coarse and shall meet the following gradations requirements:

	<u>Gradat</u>	ion for A	<u>ggregate</u>		
Table: 1					
Weight Passir	ng			ge By	
Sieve Design 10 mm.	No. 4	No.16	No. 30	No.50	No. 10
Fine Aggregate 100 mm.	95-100	45-80	25-55	10-30	2-100

Blending will be permitted in order to meet the gradations requirements for the fine aggregate.

# 6.2.6 Coarse Aggregate

The Coarse aggregate shall be crushed stone or uncrushed gravel. The pieces of aggregates shall be angular, friable, flaky and laminated pieces. Mica shale shall only be present in such quantities at not to effect adversely the strength and durability of the concrete as ascertained by tests on concrete cubes. After 24 hours immersion in water, a previously dried sample shall not have gained more than 5% in weight and not more than 10% if it is to be used in plain concrete or elsewhere as described. The coarse aggregate shall conform to the requirements



of IS 383-1970. The percentage of wear at 500 revolutions of Los Angeles Rattler Test shall not be more than 50%. The coarse aggregate shall meet the gradation of Table 2

of Table $-2$									
		Gr	adati	ions	for C	oarse Agg	regate		
Table: 2									
Sieve		Percen	tage	By '	Weigh	t Passing	Sieve		
Designa	tion	50mm		25	mm	20	10	No. 4	No. 8
(Sq. ope	ning)	38mm							
38mm.	&	100	90-	20-	55	0-15	0-5		
down		100							0-5
20mm.	&			10	0	90-100	20-55	0-10	0.5
down									

#### 6.2.7 Measurement and Proportioning of Concrete Materials

The aggregate shall be measured by volume in a gauge box of correct and approved size based on the weight of the material or by other approved accurate means. The gauge box or other container shall be filled with the aggregate without compacting to a predetermined uniform depth, accurate allowance being made for bulking due to moisture content of the fine aggregate.

The cement shall be measured by weight, one or more complete bags containing 50 kg, being used for a single batch of concrete and as the size of the mixer shall permit this to be done.

The normal proportion of cement and aggregate shall comply with the quantities specified below for the concrete described for each part of the work. The specified quantities shall be altered if instructed after examination of the aggregate materials in samples or in bulk in order to obtain the densest concrete with approved materials. Any such alterations within the range of 1 part of fine aggregate to  $1\frac{1}{2}$  part of coarse aggregate and 1 part of fine aggregate to  $2\frac{1}{2}$  part of coarse aggregate shall be made without any alteration in the charge made by the Contractor.

#### 6.3 **Properties of Concrete**

The minimum cement content of mixture shall be as below:

Grade	Minimum Cement Content in Kg./Cu. m.
M 10	210.00
M 20	340.00
M 25	430.00
M30	440.00
M40	450.00
M60	460.00



The quantity of water used shall be varied to suit the moisture content of the aggregate and shall be just sufficient to produce a dense concrete consistent with practical workability.

# 6.4 Concrete Grade and Strength

The compressive strength (cube strength) for Portland Cement concrete shall be in accordance with IS. 456-1978. Table -2 from which following figures are taken:

Grade	Specific Characteristic Compressive Strength at 28 days
M 20	20 N / mm
M 25	2
M 30	25 N / mm
	2
	30 N / mm
<b>Control of Concrete</b>	2

## 6.5.1 **Preliminary Tests**

6.5

The Contractor shall be called upon to submit representative samples to be used for concrete in order that they may be tested at a laboratory and the stability of materials, tests shall be borne by the Contractor.

# 6.5.2 Works Cube Tests

During the progress of the work 15 cm cubes shall be made as peer IS 456-1978 as necessary and tested in accordance with IS 516-1959. Ten cubes shall come from various batches. The Engineer shall record the concrete used in the project from these batches and a record maintained. Failure of cube tests may warrant demolition of related works in the project from the failed batch and possible rejection of the batch materials used.

# 6.5.3 Measurement of Consistency

The consistency shall be determined by making a trial mixture with dried aggregate. The consistency of the trial mixture shall be measured as instructed.

The slum of the approved trial mixture shall be measured and this lump shall not be exceeded throughout all batches of concrete made from the same materials mixed in the same proportions as the trial mixtures and used in those parts of the work as instructed. In no case, however, shall the slump exceed 50 mm. for concrete in slabs or exceed 25mm. for concrete consolidated by mechanical vibration. The slump test shall be made on concrete actually being placed in the works at the commencement of each grade of concrete placing and such other times as instructed.

The apparatus used for the slump test shall be in a standard cone. When the cone is filled it shall be raised vertically clear of the concrete and the slump shall be





measured. Care shall be taken to prevent vibration of the samples being tested. If the Engineer requires the use of other means for testing the consistency of the concrete it shall be done as instructed without any extra charge.

# 6.6 Concrete Mixing

The cement and aggregate shall be thoroughly mixed together in a specified proportion by volume or weight in a batch type mechanical mixer, unless another type of mixer is approved. The water shall be admitted to the drum of the mixer, only when all the cement and the aggregate constituting one batch are in the drum. The concrete shall be mixed until the mixer is of uniform color and in no case for less than minute. If the drum rotates at lower speeds, the minimum period shall be increased inversely proportional to that speed. The period of mixing shall be measured from time when all the materials and water are in the drum. The entire contents of the drum shall be discharged before the materials for the succeeding batch are fed into the drum. Materials spilled from the skip or other container shall not be used. No partly set or frozen concrete shall be used in the work. Partly set or frozen concrete shall not be remixed with the addition of cement or aggregate.

# 6.7 Distribution of Concrete

The concrete shall be distributed from the mixers to the position of placing in the works by approved means that do not cause separation or otherwise impair the quality of the concrete.

# 6.7.1 **Preparation of Placing Concrete**

Before the concrete is placed the formwork shall be checked for lines and levels, horizontally and verticality and shall be true. Any water accumulated therein or thereon shall be removed. All saw dust; chips, nails and other debris shall be washed out or otherwise removed from the formwork. The reinforcement shall then be inspected for accuracy of fixing. Proper MS Chairs shall be used as shall be approved. Immediately before placing the concrete the formwork shall, except in frosty weather, be well wetted and inspection openings closed. The Engineer may instruct the use of a medium gauge polythene sheet laid over the horizontal formwork in which case the Contractor at no extra charge shall provide it to the project. Suitable release agents as per the IS codes shall be used where necessary as shall be approved by the Engineer.

# 6.7.2 Placing Concrete

The interval between adding the water to the dry mix and completion of the concrete placing operation shall not exceed 30 minutes nor when an approved admixture that accelerates the initial setting of the cement be used, shall the interval be reduced appropriately.

Except where otherwise approved for slabs and large sections, concrete shall be placed in the formwork by shovels or other approved implements and shall not be dropped from a height or handled in a manner to cause separation. Accumulations of hardened concrete dropping on the reinforcement shall be avoided. Concrete shall be sorted along the formwork.

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Concrete shall be laid gently (not thrown) in layers not exceeding 15cms and each layer of concrete while being placed shall be compacted by pining with rods and shall be consolidated by approved methods of ramming, tamping with wooden tampers or with mechanical vibration to form a dense surface free from honey combing and tolerably free from watermarks and air holes and other blemishes. The concrete shall be tamped against the face of the formwork so as to produce a dense fair surface. The number and type of mechanical vibrations shall be approved before consolidation by vibration. Over vibration, which will separate coarse aggregate from concrete, should be avoided.

Placing and consolidation of concrete shall be done in such a manner as not to disturb concrete already placed and reinforcement projecting from concrete already placed shall not be vibrated or jarred. In formed walls and other structures having lateral dimensions of 125mm. or under, each layer of concrete while being placed shall be properly consolidated by approved methods of mechanical vibrations produced by internal or external mechanical vibration.

Any water accumulating on the surface of the newly placed concrete shall be removed by approved means and no further concrete shall be placed thereon until such water is removed. No fresh concrete shall be brought into contact with concrete containing cement of different type. Unless otherwise approved or instructed, concrete shall be placed in a single operation to the full depth of slabs, beams and members similar thereto and shall be placed in horizontal layers not exceeding 900 mm. deep in walls, columns until completion of the part of the of the work between construction joints as specified or approved part of a construction, joints of the form and in the position herein after specified shall be made. If a temporary cessation of concrete placing be unavoidable elsewhere, construction joint shall likewise be made.

Concrete shall be laid continuously if laying is suspended for rest or for the following day, the end shall be sloped to an angle of 30 and made rough for future jointing when the work is resumed the previous sloped portion shall be roughed, cleaned and watered and a grouts of neat cement shall be applied and the fresh concrete shall be laid before the lower layer has set.

#### 6.7.3 Vibration

#### a. Appearance

The concrete that is to be compacted by vibration should appear anything from earth dry to slightly glistering. The mix should have the appearance of lacking in fines.

b. Placing

Segregation is likely to take place when the concrete is tipped into the form and this should be avoided. The concrete mix should not contain surplus water and sand, which will develop segregation under influence of vibratory compaction. The distribution of new concrete should be uniform for the whole section and the surface kept horizontal the whole time, thus ensuring the movement of the concrete is downward only. Vibrators shall not be used as a spreading or disturbing agent.



The vibrators shall be of rotary out of balance immersion type or the electromagnetic type and operate at a frequency not less than 4000 cycles per minute. The vibration shall be of such a power input as to produce an acceleration of 3-4sec / sec in the mass of the compacted concrete. The vibrators shall be provided for continuous operation. The Contractor at no extra cost, if instructed by the Engineer shall use needle or plate vibrators.

## c. Disposition of Vibration

Internal vibrators shall be disposed within the mix, when placed, so as to maintain the whole of the concrete under treatment in an adequate state of agitation such that de-aeration and effective compaction may be attained at a rate commensurate with the supply of concrete from the mixtures. Insertion of vibrators at about 450mm. centre is considered sufficient.

#### d. Period of Vibration

Vibration shall continue during the whole period occupied by placing the concrete, the vibration being adjusted so that the center of the vibration approximates to the center of the mass being compacted at the time of placing. The concrete should not be over vibrated and the period of insertion of internal vibrator should be about 15 seconds at any point.

#### e. Compactness

The concrete shall be judged to be compacted when the mortar fills the space between the coarse aggregate so as to form a glistening and even surface except for slight irregularities where the course aggregate breaks this smooth surface. When this condition has been attained the vibrators shall be withdrawn slowly.

The vibrator must not be placed against the steel or the formwork, the minimum distance being 75mm. The compressor must be placed in such a position that formwork reinforcement and recently laid concrete are subjected to the minimum amount of vibration.

# 6.8 Construction Joints

Construction Joints shall be made in the positions hereinafter specified or elsewhere as approved. Such joints shall be truly vertical or horizontal as the case may be, except that in an inclined or curbed member the joints shall be strictly at right angles to the axis of the members.

Construction joints shall be made horizontally at the top of the footings and horizontally 75mm. below the lowest beam soffit at the head of columns. Concrete in the ribs and slabs of small tee, all beams shall be placed in one operation, but for large beams concrete in the rib up to a level 25mm. below the slab soffit, shall be placed first. Concrete in haunches or splays on the beams or braces and the concrete in the head of adjoining portion of the columns shall be placed at the same time as that in the beams or braces. Concrete in splays at the junction of walls and slabs shall be placed at the same time as that in the slab. Construction joints in the length of a beam shall be avoided where practicable, but where joints are unavoidable they shall be made as previously approved by the Engineer. Construction joints in slab shall be made parallel to the main reinforcement, and where required at right angles to the main reinforcement, they shall be made at a place previously approved by the Engineer.

# 6.9 Protection and Curing of Concrete

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Immediately after placing or finishing, concrete surfaces not covered by forms shall be protected from loss of surface moisture for at least seven days when the average daily temperature is at least 21 o C, where Portland cement has been used. Protection from loss of surface water shall be done by any of the following methods where applicable to the type of work involved:

- by water covering
- by covering of surfaces with water-impervious paper
- by application of approved impervious membrane

Surface from which forms have been removed before the curing period has elapsed shall be protected as specified for surfaces not covered by forms above. Membrane curing shall not be used in surfaces required to receive additional concrete or concrete fill, or on cement finish coats that are to receive dust proofing or hardening treatment, or during hot weather.

Water curing shall be performed by keeping the concrete surface wet by pounding, by continuous spraying or by covering the surface with approved water-saturated covering such as 25 mm. of sand or sawdust, or by one or more layers of burlap. The exposed concrete surfaces shall be saturated with water throughout the full, stipulated curing period. Where forms, remain in place during the curing period, they shall be kept sufficiently wetted with clean water to reduce cracks and to prevent joints from opening in the forms.

The impervious membrane-curing compound shall be an approved non-bituminous, colourless, liquid sealing compound in atomized form so as to preserve the natural colour of the concrete. The curing compound shall be applied as soon as surface water has disappeared from concrete surfaces with approved pressure spraying equipment in accordance with the manufacture's direction and in sufficient thickness to form an effective water seal. No compound shall be used which will adversely affect the subsequent installation of finished flooring. Joints of sheet membrane used for curing shall be lapped at least 150 mm. and sealed with waterproof tape as recommended by the manufacturer. Polythene sheet shall be considered the water- impervious Paper / membrane for purposes of interpretation of this item. No liquid curing compound may be used without specific written approval of the Engineer regarding type, manufacturer, location and extent of use and application procedures.

#### 6.10 Honeycombed Areas

Immediately after stripping formwork, minor defects and honeycombed areas shall be patched and holes filled before the concrete is thoroughly dry. Patch areas shall be chipped away to 25 mm. depths with regular edges perpendicular to the surface. Areas to be patched shall be thoroughly wet including the areas at least 150 mm. wide entirely surrounding them, just prior to placing the mortar. Mortar shall be of same material and the proportions as used for the concrete, without coarse aggregate. A sufficient quantity of white cement shall be substituted for part of the ordinary cement so that the patching mortar, when dry, will match the surrounding concrete. Water in the mix shall be kept to a minimum and mortar shall be re-tampered without adding water and shall be allowed to stand for one hour prior to use during which time it shall be mixed to prevent setting. The mortar shall be thoroughly compacted into place, screened so as to leave the patch slightly higher than surrounding surface, left



undisturbed for one or two hours to permit initial and finished to match the adjoining work. Where patched exceed 25mm. of the surface. After sufficient shrinkage time has elapsed, the patching shall proceed as described above. Patches shall be kept wet for five days. Tie holes left by the withdrawal of rods or holes left by removal of ends of ties shall be filled solidly with mortar. For holes passing entirely though the wall, plunger-type grease gun or other device to force mortar through the wall, starting at the back face, shall be used. When a hole is completely filled, excess mortar shall be struck off with a cloth flush with a surface. Holes not passing entirely through the walls shall be filled solidly with mortar. Any excess mortar shall be stuck off with a cloth on the wall surface. The surface of non-shuttered faces of concrete work other than the slabs shall be smoothed with a wooden float (or if approved steel trowel) to give a finish equal to that of the rubbed down stuttered faces. Concealed concrete faces shall be left as it is, except that honeycombed surface shall be made good.

The top faces of the slabs not intended to be surfaced shall be levelled and floated to a smooth finish at the levels or falls shown on the drawings or as instructed by the Engineer.

The floating shall not be executed to the extent of bringing excess fine material to the surface. Ribbed surfaces of slabs shall be formed at the time of tamping and levelling. Indentation in slab or stair surface shall be formed by implements giving the depth and pattern instructed. The top faces of slabs intended to be covered with screed, granolithic or similar surfacing shall be left with a spade finish. The soffits of the slab and faces of the walls intended to be rendered shall be roughened by approved means to form as key for a good adhesion surface for the render. Concrete surface to take finishes other than those specifically referred to herein shall be prepared in an approved meanner to form a good surface for adhesion to suit the finish as instructed.

#### 6.11 Test of Structure

The Engineer may instruct that a loading test be made on the works or any part thereof if in his opinion such a test be deemed necessary for one or more of the following reason:

- a. The site made concrete test cubes failing to attain the specified strength.
- b. Overloading during construction of the works or part thereof.
- c. The props and or forms being prematurely removed.
- d. Concrete improperly cured.
- e. Any other circumstances attributable to alleged negligence on the part of the contractor, which in the opinion of the Engineer may result in the works or part thereof being less than the expected strength.
- f. Any reason other than the foregoing.

If the loading test be instructed to be solely or in part for the reason (a) the test shall be made at the Contractor's own cost.

If the tests are instructed to be made for one or more of the reasons (b) to (e) inclusive the Contractor shall be reimbursed for the cost of the test if the result thereof be satisfactory.

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If the tests are instructed to be made for the reason (f) the contractor shall make the test and shall be reimbursed for the cost relating thereof irrespective of the result of the test.

For the purpose of a loading test on floors, roofs and similar structures and their support, the test load shall be equivalent to 1 and 2/3 times the superimposed load for which the works or part thereof to be tested has been designed. The test load shall not be applied within 90 days or (28 days if rapid hardening Portland cement be used) of the completing of placing of the concrete in the part of the works to be tested, and the latter shall not be supported during the test by shuttering or other non-permanent support. Means shall be taken to ensure that in the event of a failure under the test temporary support of the loaded member shall be immediately available. The test shall proceed strictly as instructed. For the loading test on floors, roofs or similar structures the result shall be deemed satisfactory if upon removal of the test load the residual deflection does not exceeds one quarter of the maximum deflection after 24 hours loading. If the result shall be deemed to be satisfactory if the residual deflection after removal of the second test load does not exceed one quarter of the maximum deflection after removal of the second test.

If the result of the loading test is not satisfactory the Engineer shall instruct that part of the works concerned to be taken down or removed and reconstructed to comply with this specifications, or that such other remedial measures shall be taken as to make the works secure. If the test instructed to be made for one or more of the reasons (a) to (e) inclusive as specified, the Contractor shall take down or remove and reconstruct the defective work or shall take the remedial measures instructed by the Engineer at his own cost.

#### 6.12 Measurement of RCC Members

In calculating the contents of any RCC member, for measurement purposes, the dimensions adopted shall be structural concrete members exclusive of any finish.

a. <u>Raft Slab and Beams</u>

It shall be measured in cubic meters of work done as per the drawings. Measurement shall be done for the raft concrete below the column junction to the raft slab / beam. Nothing extra shall be paid for any profiling of the surface to suit the site and the designs or any odd size or shapes that may be required.

Beam

b.

Measurement shall be between RCC columns or resting on walls in cubic meters of work done as shown on the drawings. The depth shall be taken from bottom of the stem to the top of the slab or chajja if any. Lintels when connected to main RCC structure shall be measured as beams. Except in the case of lateral or horizontal RCC nominal ties used to stabilize certain walls, parapets etc.

c. <u>Columns</u>

These shall be measured in cubic meters of work done according to the drawings from the top of the footing or raft slab to the top of the slab in case of ground floor and from the top of each subsequent slab to the slab above for all other



floors. Unless otherwise specified nothing extra shall be admissible for any odd size and for any special section and shape or alignment of columns i.e. square, rectangular, round, elliptical etc. and lay at any angle as may be shown on drawings.

d. <u>Slab</u>

These shall be measured in cubic meters of work done as per the drawings. These shall be measured from beam to beam, wall to wall or beam to wall including bearing part on the wall.

Unless otherwise specified in the schedule nothing extra shall be admissible for slab laid to slopes, canopy slabs or those of any shape or section, any cantilevered part of any projections small or big beyond the bearing beam or wall as may be shown on drawings or for drop slab in wet areas. Cement plaster or render shall be paid for separately.

e. <u>Walls</u>

These shall be measured from the ends of slabs / columns / beams, and shall be termed as wall. It shall be paid in cubic meters excluding any finishing work.

f. <u>Stairs</u>

These shall be measured in cubic meters of the concrete work done as per the drawings. Unless specified otherwise nothing extra shall be admissible for step profiles laid in a straight run or in any shape as shown in the plans or instructed by the Engineer.

g. <u>Column Footings</u>

These shall be measured in cubic meters of the concrete work done as per the designs and drawings. Unless otherwise specified nothing extra shall be admissible for any particular shape of the footing.

# 7 Reinforcement

### 7.1 Scope

Supplying and fixing TMT deformed steel (Grade Fe500) reinforcement in RCC work including bending, binding with wire, placing in position including the cost of binding wire, as per Drawing, specification and instruction of engineer

### 7.2 Reinforcement Bar

Bar reinforcement described, as "Deformed Steel" shall be hot rolled deformed bars and cold twisted, shall conform to **NS 191-2046**. The standard "TMT" bars shall mean thermo mechanically treated, conforming to **NS 501-2058**. With respect to manufacture, quality, physical properties and related requirements, reinforcement bar of the fore – going description shall comply with appropriate parts of NS 191-2046/NS 501-2058/IS 1786 and IS Standards Nos. 432 – 1966 (latest revision), 139 – 1966

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(latest revision) and 1786 – 1966 (latest revision) for TMT bars, Mild Steel and Deformed Steel respectively.

Reinforcement bar shall be free from pitting due to corrosion, loose rust, mill scale, paint, oil, grease, adhering earth, ice or other materials that may impair the bond between the concrete and the reinforcement or that may in the opinion of the Engineer, cause corrosion of the reinforcement or cement grout shall not be permitted.

# 7.3 Certificate and tests for reinforcement bars

For each consignment of reinforcement bars used in the Works, the Contractor shall, if required, supply a certificate giving the ultimate strength, yield stress and elongation and the result of the cold bend test for each type and each size of bar. Tests for the purpose of obtaining the information shall conform to relevant NBC 101-1994 / IS code.

The Engineer shall select as many test pieces as he deems necessary where the reinforcement bars are supplied for which the makers test sheet or other records are not available, or where in the opinion of the engineer, materials have been subject to corrosion or other bad effect and the Contractor shall supply and deliver the test pieces free of cost without reimbursement and pay the cost of preparing and testing them as well.

# 7.3.1 **Dimensions of reinforcement bars**

The size of reinforcement bars described on the Working Drawings or elsewhere shall be the minimum and the rolling margin and other tolerance shall be wholly above this size. The length of a reinforcement bar shall be not less that the length on the Drawing or elsewhere and shall not be more than 50mm. in excess of that length. Bar bending schedule shall be prepared by the Contractor and submitted for approval of the Engineer. Such schedules shall be prepared based on reinforcement details, prior to the execution of the work. Nothing extra shall be paid for this.

# 7.3.2 **Bending of reinforcement bars**

Reinforcement bars shall be bent by approved means producing a gradual and even motion. Bars shall comply with the dimensions described in the Drawings. Overall dimensions of bend or internal dimensions of bending or the like shall be within a tolerance of 30mm. Any discrepancies or inaccuracies found by the Contractor in the Drawings or other documents shall be immediately reported to the Engineer whose interpretation and requirements relating there to shall be accepted. The internal radius of bends shall be not less than twice the diameter of the bars unless described to the contrary on the bending lists or elsewhere in the Drawing. Hooks and other end anchorage bends for mild steel shall be bent to an internal radius of twice the diameter of the bar. This internal radius of the bends of corner binders or stirrups or links shall be half. Bars which have been bent shall not be straightened or re–bend for incorporation in the works without the prior approval of the Engineer.



## 7.3.3 Fixing reinforcement bars

Reinforcement bars shall be accurately fixed and by approved means and maintained in the position described. Bars intended to be in contact shall be securely wired together at all such points with 16 gauge soft iron tying wire. Binders, stirrups and links shall tightly embrace the bars with which they are intended to be in contact and shall be securely wired or, if approved, spot welded thereto.

Reinforcement shall be lapped, joined or spliced only at the positions described. Splices and like found to be necessary elsewhere should be formed only if and as instructed. Lapping shall be provided as shown in the Drawings and as permitted. Where practicable bars in each member shall be assembled and fixed in the form of a rigid cage or skeleton before placing in the moulds or formwork. Lap length should not be less than development length.

Immediate before concreting, the reinforcement shall be checked for position, cleanliness, and freedom from rust or retarding liquid. Measures shall be taken to ensure that reinforcement remains correctly in position with required cover during the placing and consolidating of the concrete.

Reinforcement projecting from work being concreted or already concreted shall not be bent nor correct its position for any reason unless approved and shall be protected from deformation in future. Extensions shall be thoroughly coated with cement grout wash or encased in concrete or otherwise protected from corrosion as instructed.

#### 7.3.4 Cover of Concrete and Spacing of bars

Unless otherwise described, the clear cover of concrete to the reinforcement shall be as follows **or as specified in the drawings**:

- Horizontal, vertical, stair slab, inclined slabs or Lintel band: 15mm or the size of the bars whichever is greater
- Short Lintel: 20mm or the size of the bar whichever is greater
- **Beams:** 25mm or the size of the main bars whichever is greater. Binders and the like 15mm minimum.
- **Columns:** 40mm or the size of the main bars whichever is greater. Rectangular binders or links or helical binding, 15mm minimum.
- Footing: 50mm minimum.

# 7.3.5 Measurement

For the purpose of ascertaining payments due to the Contractor, the basis of measurements of reinforcement bars used in the works shall be calculated by weight in kg (*or MT*), which shall be computed from the size and lengths of the bars (not binding wires) described on the Working Drawings or elsewhere. No allowance in the weight shall be made for cutting to waste, rolling margin, extra length or other tolerance. The Contractor is deemed to have taken this factor into consideration and quoted accordingly in the tender. The Contractor's rate for unit weight of bars reinforcement shall be deemed to include all allowances omitted in

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calculating the weight and for any other tolerances, and for providing tying wire, spacer bars, chairs and cover blocks as specified hereinafter for carriage and handling, for bending hooking, cranking and for fixing and maintaining in correct position in the Works. Standard laps of the lengths as shown in the Drawing or as instructed at site shall be admissible. Standard hooks (8 times the diameter for each hook for mild steel, deformed steel) shall be added to the finished length to arrive at the length of the bar for cutting and measurement.

#### 8 Formwork

## 8.1 Design

Formwork shall be designed and constructed so that concrete can be properly placed and thoroughly compacted. Formwork shall be firmly supported and adequately strutted, braced, or tied. The formwork shall be needed for normal, ornamental or ribbed slab, cornices, etc. as per design. It shall be capable of adjustment to the lines and dimensions of the finished concrete and it shall be sufficiently strong to resist without distortion, the pressure of concrete during its placing and compaction and other loads to which it may be subjected. It shall not be liable to suffer distortion under the influence of the weather. When concrete is to be vibrated, special care shall be taken to ensure that the formwork will remain stable and the joints tight. The safety and adequacy of centering and shuttering shall be the sole responsibility of the Contractor. The Contractor shall if required supply to the Engineer drawings and calculations for the formwork he proposes to use.

# Material

Material used for formwork in various parts of the structure shall be as follows:

<u>Part</u>	Materials
Foundations	Wood / 19mm thick waterproof Ply
	Board
Beams, Cornice and Slab	Standard Metal or PVC or 19mm
	waterproof Ply Board and MS pipe props with threads for variable height
Curved Shape Beams and ribbed Slabs,	
Including all RCC works	Standard Metal or PVC or 19mm waterproof Ply Board cut in strips, and MS pipe props with threads for variable height

All formworks shall be built watertight and of materials of sufficient strength to hold the concrete without bulging between supports.



All formworks shall conform accurately to the shape lines and dimensions shown on the Contract Drawings, account being taken of camber where required.

All formworks shall be securely braced to maintain their true position and form.

All formworks shall be checked frequently during the pouring operations and until removed so that they may be driven up if any settlement occurs.

## 8.2 Deflection and camber

The Contractor shall make allowance for any settlement or deflection of the formwork that is likely to arise during construction, so that the hardened concrete conforms accurately to the specified line and level. The Contractor shall also make allowance in the formwork for any camber specified by the Engineer to allow for the elastic deflection of structural members and deflection due creeping of the concrete. In the absence of any specified camber, the soffit of all beams and slabs shall be given a camber equal to 1/240 of the span length to ensure that the structure has the prescribed shape after removal of the forms.

# 8.3 Supports

Formwork shall be constructed so that the formwork to the side's members can be removed without distributing the soffit formwork or its supports. Props and supports shall be designed to allow the formwork to be adjusted accurately to line and level and to be erected and removed in an approved sequence without injury to the concrete. Supports shall be carried to construction, which is sufficiently strong to afford the necessary support without injury to any portion of the structure. This may mean in some cases that it is carried down to the foundations or other suitable base. Steel props and bracing shall be provided for the temporary support of composite construction where separately specified.

# 8.4 Joints and edges

All joints in the formwork shall be close fitting to prevent leakage of grout from the concrete. At construction joints formwork shall be tightly secured against previously cast or hardened concrete to prevent the formation of stepping or ridges in the concrete. Formwork shall be constructed to provide straight and true angles, arises or edges. Where chambers are shown on to provide a smooth and continuous accurate alignment at sides and provide a clean line at construction joints in the concrete these shall be fixed with their joints either vertical or horizontal, unless otherwise specified.

#### 8.5 Sundries

Formwork shall be provided to the top surface of concrete where the slope or the nature of the work requires it. **Provision shall be made for forming holes, ducts, voids and chases for civil, sanitary, electrical services and for building in pipes, conduits, lifts and other fixings, as shown on the drawings.** The material and position of any ties passing through the concrete shall be to the Engineer's approval. Except where corrosion of a metal tie is unimportant it shall be possible to remove a tie so that no part of it remaining embedded in the concrete shall be nearer to the finished surface of the concrete that the specified thickness of cover to the reinforcement. Any holes left after the removal of ties shall be filled with concrete or mortar of approved composition.

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# 8.6 Cleaning and treatment of formwork

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Space to be occupied by concrete shall be free from all rubbish, chipping, shaving, sawdust, dirt and tying wire, etc., before concrete is placed. The formwork to be in contact with the concrete shall be cleaned and treated with suitable non-staining form oil or other approved material. Care shall be taken that oil or composition is kept away from contact with the reinforcement or with concrete at any construction joints. Surface retarding agents shall not be used except with the permission of the Engineer. Formwork shall be thoroughly cleaned after each use. Damaged or distorted formwork shall not be used.

# 8.7 Striking or removal of formwork

All formwork shall be removed without shock or vibration that might damage the concrete. Before the soffit and props are removed the surface of the concrete shall be exposed where necessary in order to ensure that the concrete has hardened sufficiently. In no circumferences shall formwork be struck off until the concrete reaches cube strength of at least three times the stress to which the concrete may be subjected at the time of striking. The formwork to vertical surfaces such as walls, columns and sides of beams may be removed after 24 hours in normal weather conditions although care must be taken to avoid damage to the concrete, especially to arise and features. In cold weather a longer period may be necessary before striking. Suitable curing methods should immediately follow the removal of the formwork.

The following minimum times shall elapse before removal of formwork.

8.7.1 <u>Time of Formwork</u>

The times given for the removal of props are based on the assumption that the total live plus dead weight to be supported at the time of removal is not more than one half the total design loads. For horizontal members where the loading is higher proportion of the total design load these may need to be increased.

# 8.8 Removal of Formworks

The Contractor shall record on the drawing or in some approved manner, the date on which the concrete is placed in each part of the work and the date on which the formwork is removed there from and have this record checked and countersigned by the Engineer. The Contractor shall be responsible for the safe removal of the formwork but the Engineer may delay the time of removal if he considers it necessary. Any work showing signs of damage through original removal of formwork or loading shall be entirely reconstructed without any extra cost of the employer.

Formworks for various types of structural component shall not be removed before the minimum periods specified below, which shall also be subjected to the approval of the Engineer.



Ordinary Portland	l Cemen	t Concrete		Rapid Hardenin Cement Concre	ng Portland ete
Temp (°C)	40 – 20	20 – 5		40 - 20	20 -5
Part of Structure	Days	Days		Days	Days
a. Column & Walls	1	2	Do not remove formworks	1/2	2
b. Beam Sides, cornice	2	4	until site cured test cubes	1	3
c. Slabs 125 mm	7	14	of 28 days strength	4	7
d. Slab below	14	28	6	8	14
e. Soffit of main beam	21	28		10	16

Before removing any formwork the Contractor must notify the Engineer well in advance to enable him to inspect the concrete if he so desires.

#### 8.9 Tolerance

The formwork shall be so made as to produce a finished concrete true to shape, lines, levels, plumb and dimensions as shown on the Drawings subject to the following tolerance unless otherwise specified elsewhere in this Specification or Drawings or directed by the Engineer.

a.	Sectional dimension	- 5mm
b.	Plumb	- 1 in 1000 of height
c.	Levels	- 3mm before any deflection has taken place

#### 8.10 Re-use of formworks

Before re-use, all formworks shall be thoroughly scraped, cleaned, joints etc. examined and when necessary repaired and inside surface treated as specified here above. Formwork shall not be used/re-used, if declared unfit or unserviceable by the Engineer.

#### 8.11 Classification

Ordinary exterior grade plywood of good quality shall be used for formwork. Where an especially good finish is required and shall be made mostly of approved brand of heavy quality plywood to produce a perfectly level, uniform and smooth surface. Re-



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use only may be permitted after special inspection and approval by the Engineer. He may also permit utilization of used plywood for the "ordinary" class.

## 8.12 Rate

Rate shall include for all necessary material and labour to execute the formwork.

#### 8.13 Measurement

Measurement for payment shall be done of the area on which centring shuttering has been carried out. Rate shall include cantering and shuttering including propping, strutting etc. and removal of formworks including applying form oil to shuttering shall be measured in sqm.

## 9 CHIMNEY MADE FIRST CLASS BRICKS LAID DRY ON FLAT SOLING

#### 9.1 Scope

Providing and laying brick on flat soling, all complete.

# 9.2 Material

The bricks shall conform to as per specified under clause 10.1.2 of Civil Works.

# 9.3 Workmanship

The brick shall be laid over 50mm thick compacted sand. Brick shall be laid dry brick on flat, as directed by engineer. Each brick shall be laid separately and tamped firmly in place in the sand bed. Joints between bricks shall be filled with dry sand. On completion the surface shall be true to line and level with no part deviating from true line and level by more than 20mm. No mud on sand filling shall be allowed when level is not maintained in excavation.

## 9.4 Measurement

It shall be done in square meter of the area done, which includes sand bed. Rate shall be for material and labour, all complete.

#### 10 BRICKWORK

#### **10.1** Brick work in foundation

#### 10.1.1 Scope

This Section covers the furnishing of all labour, materials, equipment and construction of chimney made brick works for foundation, plinth and superstructure, all complete in accordance with the Drawing details, specifications and instruction of the Engineer.



## 10.1.2 Material

## 10.1.2.1 Chimney made Bricks

The Brick shall be first class chimney made bricks of quality approved by the Engineer and free from grit and other impurities such as lime, iron and other deleterious salts, conforming NS 1 2035 / IS code (latest revision). These shall be well burnt, sound, and hard with sharp edges and shall emit ringing sound when struck with a mallet. These shall be of uniform size.

The size of the bricks shall be 25.0cm x 12.5cm x 7.5cm unless otherwise specified, with a tolerance of  $\pm$  3mm in each direction. The compressive strength should be 3.5N/mm<sup>2</sup>. The bricks shall be provided with frogs.

#### 10.1.3 Samples

Samples of each type of brick taken at random from the load shall be deposited with the Engineer for his approval before being used in the work. All subsequent deliveries shall be up to the standard of the sample approved.

#### 10.1.4 Mortar

Cement mortar shall be of proportions specified for each type of work as specified in the drawings. It shall be composed of Ordinary Portland Cement and Sand. The ingredients shall be accurately gauged by measure and shall be well and evenly mixed together in mechanical mixer, care being taken not to add more water that is required. No mortar that has begun to set shall be used, unless otherwise specified. Mortar shall comply with NBC 202-1994-latest revision or 2250-1980 latest revision; Code of Practice for preparation and use of masonry mortar. Compressive strength for mortar (1:4) and (1:6) shall be respectively 7.5N/mm<sup>2</sup> and 3.0 N/mm<sup>2</sup>.

#### 10.1.5 Cement

Portland cement conforming to NS 49/2041 – latest revision shall be used, unless otherwise specified. Cement shall be fresh when delivered at site.

### $10.1.6 \hspace{0.1 cm} \textbf{Sand}$

Sand shall be clean, neither too fine nor too coarse and shall fall within the grading zone III to IV given in table of IS: 382. The silt content of sand shall not exceed 5% by volume.

#### 10.1.7 Water

Water used for mixing mortar shall be in accordance with of NBC 110-2050.Water shall be clean and free from oil, waste, acid or other organic matter in solution or suspension. Water shall be from approved source. Storage for the water shall be of sufficient size and as directed by the Engineer.



## 10.1.8 Mix Proportion

a) For brickwork **250 mm thick (**250 mm fair faced machine made or chimney made) and above, the mortar mix shall be in a proportion of **1:6** i.e. consisting of one part cement and 6 parts sand.

b) For brick piers, **half brick walls** (*chimney made*), honey combed brickwork and hollow (cavity) walls, the mortar mix shall be in a proportion of **1:4** i.e. consisting of one part cement and four parts sand.

c) For **brick on edge** the mix shall be in a proportion of **1:3** i.e. consisting of one part cement and three part sand.

## 10.1.9 Soaking of Bricks

All bricks shall be thoroughly soaked before use, in specially prepared vats, tubes or tanks for not less than two hours and until air bubbles stop being given off. The soaked bricks shall be kept on wooden planks or platforms to avoid earth being smeared on them.

# 10.1.10Mortar Mixing

Mixing of mortar shall be done in a mechanical mixer. The ingredients shall be accurately gauged by measure and shall be well and evenly mixed together in mechanical mixer, care being taken not to add more water that is required.

Hand mixing shall be resorted to only when specifically permitted by the Engineer. If hand-mixing is allowed, the operation shall be carried out on a clear watertight platform with the gauged materials and ten percent extra cement.

Cement and sand shall be mixed dry thoroughly and then water shall be added gradually. Wet mixing shall be continued till mortar of the consistency of a stiff paste and uniform colour is obtained.

Only the quantity of mortar, which can be used up within 30 minutes of its mixing, shall be prepared at a time. Mortar shall be used as soon as possible after mixing and before it has begun to set and in any case within 30 minutes after the water is added to the dry mixture. Mortar left unused for more that 30 minutes after mixing shall be rejected and removed from the site of work.

# 10.1.11 Laying Brickwork

The brick shall be built in English bond with upwards facing frog in case of 250 mm thick brickwork (for chimney made and fair faced machine made bricks both).

Each brick shall be set with bed and vertical joints filled thoroughly with mortar. Selected bricks shall be used for the exposed brickwork. The walls shall be taken up truly plumb. All courses shall be laid truly horizontal and vertical joints shall be truly vertical. Vertical joints in alternate course shall come directly over the other. The thickness of brick courses shall be kept uniform and for this purpose wooden straight edge



with graduation giving thickness of each brick course including joint shall be used. Necessary tools comprising of wooden straight edge, masons sprit level, square, foot rule, plumb, line and pins etc. shall be frequently and fully used by the masons to ensure that the walls are taken up true to plumb, line and levels.

Both the faces of walls of thickness greater than 23cm shall be kept in proper plane. All the connected brickwork shall be carried up nearly at one level and no partition of work shall be raised more than one meter above the rest of the work. Any dislodged brick shall be removed and reset in fresh mortar.

Before commencing any brickwork, the Contractor shall confer with other trades to ensure that all pipes, conduits, drains, sleeves, bolts, hangers, or any other materials necessary to be installed in the brickwork at the time it is built, have been fixed or provided for.

#### 10.1.12**Joints**

Bricks shall be laid that all joints are full of mortar. The thickness of joints shall be not more than 10mm. The face joints shall be raked to a minimum depth of 7mm by a raking tool during the progress of the work when the mortar is still green, so as to provide proper key for the plaster or pointing to be done. Where plastering pointing is not to be done, the joints shall be struck flush and finished at the time of laying. The face of brickwork shall be kept cleaned and mortar dropping removed.

#### 10.1.13Openings

Openings in brickwork for air conditioning ducts, exhaust fans, grills pipes etc. shall be provided at the time of laying brickwork without any extra cost.

After installation of piping, conduits, grills, etc. all openings left around pipes, conduits, grills etc. shall be checked and caulked with cement mortar to render the whole work vermin proof and tidily finished.

The rates quoted are deemed to be inclusive of closing such pre determined openings including erection and dismantling of scaffolding if required, the placing of inserts, collars, grills etc. to be paid separately under respective items.

#### 10.1.14Curing

All fresh brickwork shall be protected from the effects of sun, rain, etc. by suitable covering. All brickwork shall be kept constantly moist on all the faces for at least ten days.

#### 10.1.15Scaffolding

Unless otherwise instructed by the Engineer double scaffolding having two sets of vertical supports shall be provided for all building work. The supports shall be sound, strong and tied together with horizontal pieces over which the scaffolding planks shall be fixed. The Contractor shall be



responsible for providing and maintaining sufficiently strong scaffolding so as to withstand all loads likely to come upon it.

## 10.1.16Putlog Holes

The putlog holes (if inevitable for scaffolding) which provide resting space for horizontal members shall not be left in masonry under one metre in width or immediately near the skew backs of arches. The holes left in the masonry work for supporting the scaffolding shall be filled with bricks filled with mortar to fit the size of opening with proper beds and joints.

#### 10.1.17 Measurements

The measurement of brickwork both 230mm (above 230mm, if any) and 115mm thick shall be the product of the length, height and thickness i.e. in cubic meter for chimney made and fair faced machine made brickwork.

Deduction for doors, windows and other openings including lintels shall be made to arrive at the net quantity of work. Nothing shall be paid extra for forming such openings. However, no deductions shall be made for areas less than 0.1 sqm. overall, bearing of lintels, beams, girders and hold fasts blocks but nothing extra like form work shall be paid for embedding these. Similarly, no deductions shall be made for chimney flue left in the walls, but nothing extra shall be allowed for rendering for flue openings as specified. Unless otherwise specified nothing extra shall be admissible for cutting shape other than straight or any cutting necessary for shaping the walls to the structural design. Rate shall be inclusive of all necessary scaffolding, watering, cutting of bricks, curing, vertical & horizontal reinforcement within brickwork, materials and labour.

# **11 Plastering Works**

# 11.1.1 Scope

This Section covers the furnishing of all labour, materials, scaffolding, equipment, tools, plants and incidentals, necessary and required for the completion of all plaster work, all complete in accordance with the detail shown on the Drawing and these Specifications or as directed by the Engineer.

- (i) 12.5mm thick Plastering work in 1:4 CM (1 cement: 4 Sand) 50% Coarse Sand +50% Fine Sand) on ceiling......Sqm.
- (ii) 12.5mm Thick Plastering work in 1:4 CM (1 cement: 4 Sand) 50% Coarse Sand +50% Fine Sand) on walls of fair side of brickwork/RCC soffits......Sqm
- (iii) 20mm Thick Plastering work in 1:6 CM (1 cement: 6 Sand) 50% Coarse Sand +50% Fine Sand) on walls of rough side of brickworks/externally exposed walls.....Sqm





## 11.1.2 General

Plaster as herein specified shall be applied to all internal and external surfaces where called for. All plasterwork shall be executed by skilled workmen in a workmanlike manner and shall be of the best workmanship and in strict accordance with the dimensions on drawings subject to the approval of the Engineer.

The primary requirement of plasterwork shall be to provide dense, smooth and hard enclosure and devoid of any cracks on the interior and/or exterior.

#### 11.1.3 Mortar

The mortar of the specified mix shall be used. Mortar shall be prepared as specified under "Brickwork". It shall be made in small quantities, as required and applied within 15 minutes of adding water to the plaster mix.

Cement: Cement shall be as per specification under "Concrete Work"

Water: Water shall be as per specification under "Concrete Work"

Sand: for plaster work normally clean coarse sand shall be used. However, if specified in the item of work, coarse sand conforming to the specifications under "Concrete Work" with 50% fine sand shall be used.

## 11.1.4 Scaffolding

Double scaffolding having two sets of vertical supports shall be provided. The supports shall be sound and strong, tied together with horizontal pieces over which scaffolding planks shall be fixed. The Contractor shall get the scaffolding approved from the Engineer well in advance.

# 11.1.5 Chasing and Breakage

All fixing of door and window frames, chasing, installation of conduits, inserts, boxes etc. shall be completed before any plastering work is commenced on a surface. No chasing or cutting of plaster shall be permitted normally. However, if the same is felt unavoidable at places, written permission shall be obtained from the Engineer before cutting any such plaster. Broken corners shall be cut back out less than 150mm on both sides and patched with plaster of Paris as directed. All corners shall be round to a radius of 8mm or as directed by the Engineer.

# 11.1.6 Preparation

Masonry and concrete surface, which call for application of plaster, shall be clean, free from dust and loose mortar. Efflorescence if any shall be removed by brushing and scraping. For masonry surfaces the joints shall be raked out properly, while the concrete surfaces shall be roughened by wire brushing and hacking to provide the key, thereby ensuring proper bond to the satisfaction of the Engineer. The surface shall then be thoroughly washed with water, cleaned and kept wet before plastering is commenced.

#### 11.1.7 Chicken Wire Mesh

Galvanized chicken mesh (24 gauge, 12mm size) shall be provided at junctions of brick masonry and concrete members, to be plastered, and other locations as



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called for, properly stretched and nailed with galvanized nails, equal thickness of plaster on both sides of the mesh. The width of the mesh shall be as approved by the Engineer. The chicken mesh wherever specified, shall be fixed in place before plastering.

#### 11.1.8 Samples

Samples of each type of plaster shall be prepared well in advance of undertaking mass work for the approval of the Engineer.

#### 11.1.9 Water Proofing Compound & additives

The waterproofing compound or plaster additive of approved brand shall be used in proportions as per manufacturer' specifications, if necessary, if allowed and approved by engineer.

#### 11.1.10 Application

Ceiling plaster shall be completed before commencement of wall plaster. Plastering shall be started from the top and worked down towards the floor. To ensure even thickness and true surface, plaster about 15 x 15cm shall be first applied, horizontally and vertically, at not more that 2 meters intervals over the entire surface to be plastered to serve as gauges. The surfaces of these gauges areas shall be finished truly in plane of the finished plastered surface. The mortar shall be laid in between the gauges with a trowel ensuring thorough filling of joints. The mortar shall be applied uniformly slightly more than the thickness specified across the gauges, with small upward and side ways movements at a time. Finally the surface shall be finished off true with trowel or wooden float according as a smooth or a sandy granular texture is required. Excessive towelling or over working the float shall be avoided.

All corners, arises, angles and junctions shall be truly vertical or horizontal as the case may be and shall be carefully and neatly finished. Rounding or chamfering corners, arises, junctions, etc. where required shall be done without any extra payment. Such rounding shall be carried out with proper templates to the sizes required. No portion of the surface shall be left out to be patched up later on.

In suspending work at the end of the day, the plaster shall be left, cut clean to line both horizontally and vertically. When recommencing the plastering, the edge of the old work shall be scraped, cleaned and wetted with cement slurry before is applied to the adjacent areas, to enable the two to be properly joint together. Plastering work shall be closed at the end of the day on the body of the surface and not nearer than 15cm to any corners or arises. It shall not be closed on the body of the features such as pilasters, bands and cornices, nor at the corners or arises. Horizontal joints in plasterwork shall not also occur on parapet tops and copings, as these invariably lead to leakage.

#### 11.1.11 Grooves

Wherever directed all joints between concrete and brick masonry besides other locations as called for shall be expressed by a groove cut in plaster at no extra cost.



#### 11.1.12 **Bands**

Wherever directed the plaster bands shall be provided by way of additional plaster thickness as specified. The surface of first layer shall be scratched/roughened with wire brush in the portion where additional thickness is to be applied.

The surface shall be cured for a minimum of 48 hours. The clean cement slurry shall be applied by brush before applying second coat of desired finish such as smooth, sand faced, stucco, pebble dash etc. the band edges shall be towelled finished and shall be in absolute line, level and plumb. The band edges shall be sharp and shall not be chamfered unless directed.

#### 11.1.13 Finish

The plaster shall be finished to a true and plumb surface and to the proper degree of smoothness as required with minimum average thickness as specified in clause 10.1.1.

The work shall be tested frequently as the work proceeds with a true straight edge not less than 2.5m long and with plumb bobs. All horizontal lines and surfaces shall be tested with a level and all jambs and corners with a plumb bob as the work proceeds.

## 11.1.14 Curing

Curing shall be started as soon as the plaster has hardened sufficiently not to be damaged when watered. The plaster shall be kept wet for a period of at least 7 days. During this period, it shall be suitably protected from all damages.

# 11.1.15 **Pre-function**

Any cracks, which appear in the surface, and all portions, which sound hollow when tapped or are found to be soft or otherwise defective, shall be cut out in rectangular shape and redone as directed by the Engineer.

# 11.1.16 Floating Coat of Neat Cement

Where finishing with a floating coat of neat cement is specified in the item of work, specifications for this item of work shall be same as described above except for the additional floating coat, which shall be carried out as below. When the plaster has been brought to a true surface with the wooden straight edge, it shall be uniformly treated over its entire area with a paste of neat cement and rubbed smooth, so that the whole surface is covered with neat cement coating. The quantity of cement applied for floating coat shall be 1 kg per sq.m. Smooth finishing shall be completed with trowel immediately and in no case later than half an hour of adding water to the plaster mix.

#### 11.1.17 Measurement

It shall be done in square meter of the surface over which the plaster has been done. The thickness of the plaster shall not be taken into account. Opening shall be deducted in full and jambs and soffits shall be allowed. Each opening less than 1 sq.m shall neither be deducted nor extra be paid for jambs, soffits or the

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sides of such opening. The rate shall include rounding of all corners, junctions, making grooves and forming drip course wherever required materials, scaffolding and curing. Unless otherwise specified nothing extra shall be allowed for plaster on independent columns and beams, any short width or on curved surfaces and difficult location. No extra payment for extra lift.

# 12 Coloured Anodised Aluminium Window and Partition

# 12.1.1 General

The aluminium work as scheduled and detailed shall be fabricated as per the Drawings. Fabricated aluminium work covered by this specification shall be supplied and installed by the well-known local aluminium fabricators as approved by the Engineer.

Before placing any orders the Contractor shall state the name of the window / partition manufacturer he has selected from the list of approved manufacturers. The nominated manufacturer shall not be changed without prior approval of the Engineer.

# 12.1.2 Materials

Extruded aluminium components shall be manufactured from aluminium alloy B 6063 - T5. It should be brown coloured anodised. The section of the aluminium frame shall be 101mmx45mmx1.5mm.

The lining to louver panels shall be 1.0 mm thick sheet aluminium anodised as specified. Hardware and hinges shall be as approved by the Engineer.

# 12.1.3 Manufacture

Aluminium work shall be fabricated in accordance with the prevalent practice among the local Manufacturer and as per the Drawings showing jointing details, hardware and extrusion profiles.

It will be the aluminium fabricator responsibility to ensure that all fabricated aluminium work is carried out in accordance with the Drawings.

# 12.1.4 Finish and Protection

Fabricated aluminium work shall be caustic etched, anodised and sealed as required by AS K 182 and finished with two coats of an approved lacquer.

All components shall be anodised 0.02 mm. thick.

# 12.1.5 Workshop Drawings

The contractor shall arrange for the preparation of complete workshop drawings of all fabricated aluminium work and shall submit same to the Engineer for approval.



## 12.1.6 **Fixing and Strength of Main Members**

Main members shall be of such strength that a wind pressure of 1.16 kPa shall cause a deflection of not more than 1/240 of the span of the member. No permanent deflection shall result from such conditions of loading.

Fixing to members shall be such that the above loading shall be generated in the members without sufficient stress to cause failure or movement to be evident at any joint.

The aluminium fabricator shall take full responsibility that all fabricated aluminium work shall comply with the above conditions.

Load bearing brackets shall be manufactured from 40 X 6 mm mild steel bent to shape, hot dipped galvanized, bitumen coated only on surfaces coming in contact with aluminium and spaced at not more than 500 mm centres.

Load bearing brackets shall be fabricated and fixed as shown on the drawings.

# 12.1.7 Expansion

Provision for vertical and horizontal expansion must be fully detailed on the aluminium fabrications workshop drawings.

Vertical and horizontal expansion joints shall be so designed as to cover all weather conditions likely to be encountered on the site.

#### 12.1.8 Flashing

All flashings required to be built in as the work proceeds shall be supplied by the Contractor and built in by the trade concerned.

All other flashings as detailed on the Drawings shall be supplied and fixed in position by the aluminium fabricator.

#### 12.1.9 Weather seals

Approved pile weather seals shall be metal backed, siliconised, of the size called for on the relevant Public Works Department Drawings.

#### 12.1.10 Measurement

It shall be done in square meter of the area done. Rate shall be for all labour and materials, accessories, all complete.

# 13 DOORS AND WINDOWS

## 13.1 Frames

#### 13.1.1 Scope

Providing and fixing seasoned dressed Salwood unless otherwise specified, wooden frames in doors, made of specified size and section as shown in the drawing.

a) Door Frames

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## 13.1.2 Materials

# 13.1.2.1 *Timber:*

Quality: Timber shall generally conform to NS 112-1994. The other items related to doors shall conform to NS 101-1994 or latest revision. The timber to be used for the work shall be from the heart entirely removed. It shall be uniform in substance, straight in fibre, free from large, loose, dead or cluster knot, flaws, shakes, warp, cup spring, twist, bends and defects of any kind. It should be spongy, flaky or brushy condition, sap wood and borer holes.

All the timber shall be seasoned and free from decay, harmful fungi and insect attacks and from any other damage of harmful nature which will affect the strength, durability, appearance or its usefulness for the purpose for which it is required.

**Kind:** The timber shall be best quality timber as specified in the item. The samples of the approved timber to be used shall be deposited in the office of Engineer for the purpose of comparison.

**Colour:** The Colour shall be uniform as far as possible, the darkness of colour amongst colour species of timber being generally a sign of strength and durability.

**Moisture Content:** The moisture content for timber shall not exceed 12 percent of dry weight of timber and shall weigh 56.0 lb per cft.

**Stacking:** As soon as the foundation of building are laid all necessary timber, scantling shall be brought to the site and stacked as laid down in IS 401 - 1967 till required. Timber for the work shall not be brought to the site of work until the sample and approved by the Engineer who may reject the defective timber/timber works. Any effort like plugging, painting, using any adhesive or resinous material to hide defect shall render the pieces, rejectable by the Engineer. Timber presented for inspection shall clean and free from dust, mud, paint or other material, which may conceal the defects. Cut-off ends for protection can be done after inspection with raw linseed oil or any other materials approved by the Engineer. No timber be painted, tarred or oiled primed without the previous permission of the Engineer.

**Sawing:** All Scantling shall be sawn in straight lines, planes and of uniform thickness with full measurement from end to end and shall be sawn in the direction of the grain. They shall be sawn with such sufficient margin as to secure specified dimensions, lines and planes after being brought and dressed.

Any timber rejected shall at once be removed from the site.

#### 13.1.3 Construction

Joints in the frame vertical style or horizontal rail shall not be allowed .The unrelated edges of the frame in the opening shall be rounded or beaded uniformly.



The rebate and the plaster key grooves shall be provided as shown in the drawing. Vertical part of the frame shall be embedded at least 30 mm in the masonry or concrete or flooring. Hold fasts shall be provide as specified and any adjustment of spacing necessary shall be erected in position and held in plumb with proper supports from both sides and built in masonry as it is being built.

The Work shall be as per the drawing .the timber shall be properly planned wrought and dressed in a workmanship manner.

All joinery work shall be securely mortised and tenoned and glued with best quality waterproof glue. All sections and dimensions are to be as shown on drawings. For all joinery work, use of nails shall not be permitted. Wood screws of appropriate size and of approved make shall be used. Wherever practicable, means of fastening the various parts together shall be concealed. All work (both carpentry and joinery) shall be to the dimensions shown on the drawings.

The rate of woodwork shall include the cost of all sawing, planning, joining, bolts, nails, spikes, keys wedges, pins, screw etc. necessary for the framing and fixing. Joints and portions inserted in masonry or floor shall be allowed for in the measurement. Plugging in of holes for hold fasts shall be done in neat manner. Any defects observed after installation shall be rejected.

# Sample of workmanship shall be submitted for approval.

## 13.1.4 Measurement

The measurement of the timber frame shall be taken in its net and section and worked out correct up to two of decimal in cubic metre. Total tolerance of 3mm is admissible in section of dressed timber.

# 13.2 Holdfast

# 13.2.1 Mild Steel Flat Holdfast

# 13.2.1.1 Scope

Providing and fixing 20mm x 6mm mild steel flat holdfast total 300 mm long as per drawing and fixed to frames with screw, embedded in concrete 1:2:4 (1 cement: 2 sand: 4 stone aggregate, 20mm and down gauge) block of 300mm x 100mm x 100mm.

These shall be of 20mm x 6mm and 300mm long MS flat one end split and fish tailed for anchorage and the other bent up for fixing as per the drawings. Holdfast shall be fixed to the door or window frames with 40 mm MS screws. The MS flat of the holdfast shall be fitted to the frame in the recess of required size and thickness.

There shall be 2 such holdfasts on each side of the frame for frames up to 1.25m height (four in all) and 3 on each side for frames beyond 1.25m height. The holdfasts shall be as shown on the drawing with minor adjustments for brick/stone Masonry .It shall be fixed as the work proceed not latter.



# 13.2.1.2 Measurement

It shall not be measured separately. Its rate shall be included in rate of frame with providing and fixing hinge in concrete block with necessary formwork.

# 13.2.2 Mild Steel holdfast for RCC Column

# 13.2.2.1 Scope

Providing and fixing standard holdfasts as shown in the drawing or as instructed by the engineer.

# 13.2.2.2 Material and Workmanship

The mild steel hold fasts for RCC columns shall be made of 12 mm. diameter rod fishtailed at one end and threaded at the other. The split length shall be 25 mm. and threading shall be at least 50 mm. where a nut for 12 mm. diameter shall be provided. It shall be total 175 mm. long. The MS bolt holdfast as shown in the drawing shall be provided in the RCC column structure at required places as the casting progresses. In absence of RCC column the MS bolt holdfast shall be provided in a concrete block of 300x100mm.

The timber frame shall be fitted with MS bolt holdfast through square holes provided at required places in the frame. The nut shall then be tightened properly. Care shall be taken that the threaded bolt is at least 12 mm. inside exposed frame face. Plugging of the bolt hole in the frame shall be done with timber matching the graining of the timber. The finished surface shall be smooth and matching after plugging the bolt hole.

# 13.2.2.3 Measurement

It shall not be measured separately. The rate of frames shall be inclusive of the bolt, nut, and concrete block with formwork. Nothing extra shall be paid for making holes in the frame and plugging with timber smoothly.

# 14 Door Shutter, Single or Double Leaf (Plain & Carved)

# 14.1.1 Scope

Providing and fixing in position 38mm. thick sal timber door shutter, single or double leaf fixed with 3 nos. of 150 mm. steel butt hinge to each shutter.

- a) Fully paneled door shutter as per Drawing ...... sq.m.
- b) Partly louvered and partly paneled as per Drawing ......sq.m.
- c) Fly wire mesh door shutter with 50 mm. mesh expanded metal as per drawing.....sq.m.



- e) 38-40mm **Double leaf Panel Door Shutter & Frame** with 1 nos. of 300mm brass aldrop, 2 nos. 200mm brass door handle, 4 nos. of 250mm tower bolt, 6 nos. 25x25x125mm brass hinges, nails, screws, with at least three coats of chopra polish, as per drawing and instruction of engineer, ......sqm.

## 14.1.2 Panelled Door Shutter (Plain & Carved)

The shutter may be panelled single or double leaf, which shall be as per Drawing and instruction of the Engineer. The styles shall be continuous from top to bottom. The top, munitions or mullion shall be jointed to the styles and their munitions shall be jointed to the rail. The thickness of the panel frame shall be 38mm., unless otherwise mentioned in the drawings, and widths shall be as shown in the Drawing and as directed by the Engineer. The timber panel board shall be 12 mm. thick or as instructed by the Engineer. 20 mm. deep groove shall be made on all the inside faces of the frame to receive panels. Before fixing the panels in the grooves of styles, rails etc. paste of white zinc shall be treated on the panel for proper adhesion.

All junctions of styles to rails or to munitions etc. shall be treated with white zinc before fixing to the shutter frame work 3 nos. of 150 mm, steel butt hinges shall be fixed with screws at proper places as shown on Drawing or directed by Engineer. The finished shutter shall be dressed and smoothly finished.

Fully glazed or partly glazed shall be as panelled Shutter but instead of panels glasses of various size, thickness, type, colour etc. as required shall be provided.

The glass shall be of best quality free from specks, bubbles, smokes veins air holes, blisters and other defects. The glass shall be of uniform thickness. The kind of glass supplied by the Contractor shall be as mentioned in the item or as shown in the Drawing.

#### 14.1.3 Construction

The item shall be carried out in conformity with IS 1003 Part 1-latest revision for door shutters. Construction and workmanship of finished dimension of the components being entirely as per shown in the Drawing and instruction of engineer. When ventilator is included it shall be provided by having full length one piece posts for door or window and ventilator extending the frame on the top to the head to the required extent. The shutters shall be of finished dimensions with ornamental mouldings or as directed by the Engineer for the particular type but adjusted for the absence of rebates in the frames and shutters by reducing the glaze. The clearance between the finished shutter and the door frame and between the shutters themselves shall not exceed.3 mm. unless otherwise specified in the Drawing. The fixing and size of the hinge shall be as specified by cutting the necessary recess corresponding to the thickness of the flaps in the sides of the shutter style and the door frame.



#### 14.1.4 Measurement

The measurement of the normal panel door shutter shall be taken in its net area of the full length and breadth from rebates. Tolerance in size shall be 6mm. and 3mm. in thickness. The rate shall include cost of materials and labor including the fixtures and fastenings, all complete.

# 15 Solid Core Flush Door Shutter

## 15.1.1 Scope

Providing and fixing in position 38 mm. thick factory made solid core flush door shutters single leaf fixed with 3 nos. of 100 mm. steel butt hinges to each shutter, with necessary accessories, all complete.

# 15.1.2 Material for Shutter

**Solid Core Flush Door Shutter** It shall be of commercial solid core flush door shutter (BST/OST), as per drawing and as approved by the Engineer. The shutters shall conform to the relevant specification for the type and grade to IS 2202 (latest revision) for wooden flush door shutters –solid core type.

**Bonding Medium:** Liquid phenol formaldehyde synthetic resin shall be the bonding medium.

The flush door shutters as specified shall be manufactured by a reputed brand name such as Duroply, Suryaply, or equivalent brand. The Indian Plywood manufacturing Co. Ltd., Bombay or equivalent having hot press and all modern equipment. Samples shall be produced to Engineer for approval.



#### 15.1.3 Construction

The solid core shall be cut to needed size and edges finished with 12mm thick wooden (sal) beads. The shutter shall be finished as per the Drawing to fit in the respective door / window frames. For disabled, the shutter shall be constructed with special swing type hinge and shall be provided with two sets of handrail, as per drawing and instruction of engineer.

#### 15.1.4 Workmanship/Finish

There shall be no clear joint junction of the plywood on the finished side. Chipped ply, cracked or other defective workmanship shall be rejected. The door shutters shall be hung in position with 3 nos. 100 mm. steel butt hinges. It shall be fitted with two numbers of 150mm Aluminium tower bolt and butterfly type door stopper of butterfly type, a set of (chrome plated/ powder coated) mortise lock.

The BST shutter shall be fitted with hydraulic door closer, where required. For disabled, the shutter shall be constructed with special swing type hinge and shall be provided with two sets of handrail, as per drawing.

#### 15.1.5 Measurements

It shall be measured in net area of overall shutter. The rate shall be inclusive of providing and fixing the shutter with 3 nos. of steel hinges, two tower bolts per shutter leaf. Different rates will be paid for door shutter with door closer and a hydraulic door closer.

### 16 Glazed or non glazed vitrified Porcelain/Ceramic tile flooring

#### 16.1.1 Scope

Providing and laying Tiles Bedded in 12mm thick Cement Plaster 1:4 (1 Cement: 4 Sand) on Floors and Walls, finished with white Cement Slurry at Joints as per drawing.

a) Glazed Ceramic Tiles

b) Non Glazed Ceramic Tiles

c) Glazed Porcelain Tiles

d) Non Glazed Porcelain Tiles

#### 16.1.2 Materials

The tile material for Glazed/Non-glazed Vitrified Porcelain, Glazed/Non-glazed Ceramic tiles (Somany, Kajaria or equivalent make), shall confirm to IS:779-1961 (respective IS standards) or Equivalent approved by the Engineer The tiles shall be of approved colour, size and shape and shall be laid to the pattern approved by the Engineer. The tiles shall be of uniform colour, true to size and shape and free from cracks, twists, uneven edges, crazing and other defects. The size and thickness of the tiles shall be as specified.


Prior to installing any tile, the Contractor shall inspect surface and conditions in areas to receive tile work and shall notify the Engineer of any serious defects or conditions that will interfere with or prevent a satisfactory tile installation and shall coordinate with other traders of work.

#### 16.1.3 **Preparation of Surface and Application**

The surface shall be brushed, cleaned and wetted. Glazed tile shall be soaked, completely immersed in clean water at least 30 minutes and drained. Individual tile that exhibits drying along edge shall be soaked and drained. No free moisture shall be allowed to remain on the backs of tile at the time of setting. Tiles shall be installed by applying a skim coat of a plastic mix of 1:4 (1 cement: 4 sand) cement mortar maximum 12mm thick on wall and tile and firmly pressing tile into the wall to true plane and position.

Joints in the tile work shall be accurately aligned with horizontal joints level and vertical joints plumb. Joints shall be maintained uniformly at 1mm width or as directed by aligning spacer lugs on tile edges if tiles are so manufactured or by use of wetted strings.

Tiles shall be laid out in such a way that no tile less than half size occurs. Where tile must be cut at edges or penetrated the cut edges shall be carefully filed and neatly ground. Chipped, cracked or broken tile shall not be used and all defective work shall be replaced and repaired to the satisfaction of the Engineer at the Contractor's expense.

After tiles have been set firm and strings from set tiles removed, tiles shall be dampened and joints grouted white with a synthetic, waterproof tile grout using a nozzle and plunger. During grouting all excess grout shall be cleaned off the tile surface with damp cloth or sponge.

The finished floor surface shall be true to required levels.

All tile work finishing shall be adequately protected from damage during the progress of construction till completion and any damage shall be repaired to the satisfaction of the Engineer at the Contractor's expense. Upon completion prior to final inspection and acceptance, the Contractor shall clean all tile work. Acids or agents liable to damage the work shall be avoided. If tile surface show mass scratches, crack or other imperfections, which cannot be removed by cleaning; the Contractor shall remove the defective material and replace with new material at no additional expense. Sample of workmanship and tile grout proposed (silicone) shall be approved prior to execution of work.

# 16.1.4 Measurement

The measurement shall be done in length and breadth square meters of the work done including the setting mortar. The rate shall be for the material and labour, all complete.

# 17 Marble stone flooring

#### 17.1.1 Scope

16 mm. thick marble stone in floors, wall, dado, skirting, etc. laid over cement sand mortar of 1:2 mix, in proper slope for draining water, including mixing, laying, grinding and polishing to smooth finished glazed floor surface, as per instruction of Engineer, all complete, in m<sup>2</sup>.

#### 17.1.2 Materials

- i) **Cement:** Portland cement as per specification under clause 6.2.2
- ii) Sand: as per as specified under specification item clause 6.2.5
- iii) Marble stone: Marble shall be of good quality having smooth, hard surface, regular in shape, size and of uniform thickness, of good appearance, and of sharp and square edges. It shall be free from cracks and other defects. Marble stone, with minimum size of 600mm x 600mm, may be from Godavari Marble factory (polished of minimum size 600mmx600mm) or Rajasthani (Indian) Marble equivalent conforming to IS 1130 latest Revision or BS specification or as approved by the engineer. The colour shall be as per the instruction of engineer or drawings. Sample of marble stone to be used shall be submitted to the Project manager and his approval should be taken before the bulk purchase. All the marble stone supplied shall conform to the approved sample in all respect.

#### 17.1.3 **Proportion**

Base Course: 1 part cement; 2 parts sand and mixing shall be done as per civil specification.

#### 17.1.4 Dressing

Each marble stone slab shall be machine cut to required size and shape as specified in the drawing and as instructed by engineer. All angles and edges of the marble slabs shall be true and square and free from chippings and the surface shall be true and plane. The thickness of the stone shall be as specified in the drawing. No tolerance shall be allowed for thickness.

For flooring, the marble slabs shall be machine cut with good finish at edges and corners. The contractor shall ensure that no chisel marks are visible on the surface of the stone before fixing. Marbles with chisel marks or broken edges shall be rejected.

#### 17.1.5 Laying

The base shall be made rough and watered and given a cement wash and then the mortar shall be laid in 20 mm. thick layers as per instruction of Engineer. After laying mortar, it should be levelled with wooden floats. Proper slope for draining wash water shall be provided as per instruction of the Engineer. And over this, marble stone should be laid; the joints should not be more than 3 mm. The joints should be painted with white cement slurry.



# 17.1.6 Curing

After about two hours of laying, the surface shall be covered with wet bags and kept wet and left undisturbed for two days.

# 17.1.7 Finish

Finally, when the surface is absolutely dry, oxalic acid powder shall be rubbed well on the surface with grinding machine with water, and this operation shall be repeated until the surface becomes perfectly smooth and glossy. The surface shall be rubbed with wax to give a glazing surface. White cement or colour cement shall be used in joint to have the required colour as per specified or as per instruction of Engineer. Care shall be taken that the floor is not left slippery and that ordinary wax is not used under any circumstances

If required by the Engineer, the grinding and polishing shall be done by grinding machine in 3 operations, first grinding with machine fitted with coarse Carborundum stone, second grinding with medium grade Carborundum stone and final grinding with fine grade Carborundum stone.

# 17.1.8 Measurement

Measurement shall be in square meter of exact length and breadth (length and height in dado) of the floor. Rate shall include materials, mixing, laying, curing, finishing, grinding, polishing and labour etc., all complete.

# 18 50 MM THICK PCC/SCREED ON FLOOR

#### 18.1.1 Scope

Providing and laying 50mm thick PCC/Screedscreeding with 1:2:4 (cement, sand,12mm aggregate) mix on proper slope after scraping, cleaning and watering old surface as per drawing and instruction of the Engineer.

# 18.1.2 Materials

- i) Cement: Portland cement as per specification under "Concrete Work".
- ii) Sand: Coarse Sand as per specification under "Concrete Work".
- iii) Aggregate: Coarse Sand as per specification under "Concrete Work".

# 18.1.3 **Preparation Surface**

The Surface shall be cleared of all loose rubbish, and other foreign matter. If necessary the surface shall be cleaned with wire brushes. Cleaned surface shall then be wetted with water thoroughly, but no water pool shall be allowed.

# 18.1.4 Mixing

Cement sand mortar shall be prepared by mixing the ingredients dry by measuring with boxes to have the required proportion. First cement and sand shall be mixed dry in specified proportion and then mixed by adding water slowly and gradually and mixed thoroughly to have a uniform mix.



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# 18.1.5 Placing and Finishing

The uniform mix of cement, sand, aggregate in 1:2:4 shall be laid to specified thickness. Proper slope for draining wash water shall be provided as per instruction as specified.

It shall be compacted first with wood float. The blows shall be fairly heavy but as consolidation takes place, light rapid strokes shall be given. Beating shall continue till all hollows in mortar are filled with mortar paste. Then the surface shall be trawled till the moisture disappears. Test the surface with straight edge. The surface must be uniform in colour.

# 18.1.6 Measurement

Measurement shall be in square meter of exact length and breadth of the floor. Rate shall include materials, mixing, laying, curing, finishing and labour etc. all complete.

# **19 CEMENT SAND PUNNING**

# 19.1.1 Scope

Cement sand punning on floor, skirting, dado, etc. wetting the surface, mixing, laying and rubbing with steel trowel to a hard, smooth and shining surface and curing for a quality finish net all complete, in square meter.

i) 3mm thick cement sand punning (1:1)

# 19.1.2 Materials

- i) Cement Portland cement as per specification under "Concrete Work"
- ii) Sand River sand as per specification under "Plastering Work" clause 10.1.3

# 19.1.3 Mix Proportion

The Mix Proportion shall be one part cement and one part sand.

#### 19.1.4 Mixing

In specified proportion as per specification of mortar mixing Clause 7.1.11.

# 19.1.5 **Punning Application**

Before applying cement sand punning, the first work should be swept clean of any dust or loose particles. The average thickness of punning shall not be less than 3 mm. The pattern of the surface should be as per instruction of the Engineer. The coat shall be finished by rubbing with a steel trowel and any depression shall be filled in and rubbed to a shining surface. All corners and edges shall be rounded. The Contractor shall prepare a sample square meter of the punning as per instruction of the Engineer until the quality, texture and finish required is obtained and approved by the Engineer, after which all punning executed shall confirm with the respective approved sample. All punning shall be finished smooth, even and truly level and as per instructions of the Engineer. The punning shall be kept wet for 7 days.



#### 19.1.6 Measurement

The measurement shall be taken in square meter for the finished surface. The rate shall include all the materials and labour, all complete.

# 20 Staircase Railing

#### 20.1 Scope

Seasoned 'sishum / sal' wooden hand rail of approved pattern and quality including  $25 \text{mm} \times 25 \text{ mm}$  square MS Railing (2'-6" - 3'-0" High) with 75mm x 125 mm, MS flat, MS pipe baluster of appropriate height, as per drawings and approval of engineer, all complete.

# 20.2 Material

Timber shall be wild shishum / sal and MS Flat and 25x25mm square.

# 20.3

# **Construction**

The handrail shall be fixed parallel to the slope of the stair. The work shall be finished as per drawing and instruction of the engineer. Special moulding giving a good appearance shall be used to the hand rail as per drawings and instructions of the Engineer. The handrail is properly housed, tennoned, doweled to the newel posts.

# 20.4 Measurement

The measurement shall be taken in square meter of exact length and height of the finished work. The rate includes all the materials, fitting works and labour, all complete.

# 21 MILD STEEL SECURITY GRILLE / RAILINGS / METAL GATES:

#### 21.1.1 Scope

The structural steel shall be as per the standard specification or shall confirm to I.S. 226-1969. General fabrication, erection shall comply with the standard specification of metal work. The M.S. grille / railings / gates shall be as specified and conforming to the drawings with dia. stainless steel screws, countersunk. The security grille / railings, if applicable, shall be of mild steel strips at least 4.5 mm thick 22 mm wide metal strip or mild steel tubes or otherwise specified. The safety railings at corridors, lobbies, staircases and other areas shall be as shown in the drawing and free of any irregularities.

# 21.1.2 Placing and Fixing

The railings shall be fixed to the slab with anchor bolts (HILTY or equivalent) as shown in the drawing unless otherwise instructed. Before fabrication the contractor shall submit shop drawings for approval. The Contractor shall be fully responsible for rectifying any damage that may occur during erection.

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Welding of all metal fabrications shall be smooth and durable and free from cracks and all other details. All welding shall be well ground. Painting shall conform to all standards and practices declared in the painting section of specifications. The grilles / railings / gates shall be installed as specified in the drawings unless otherwise specified. For the installation on the parapet wall, other areas etc., the contractor shall anchor by using metal angles and metal connections as specified in the drawings and instruction of the engineer. If the pocket concreting is to be used the ratio of the concrete shall be M 20 and need to be well finished to the existing condition. The general materials for the pocket concrete shall be as per the standard specification. If the railing / grille / gates to be fixed on the floor, minimum 25 mm thick base plate need to be inserted flushed with the floor finish with the appropriate screws. The contractor shall be fully responsible for rectifying any damage that may occur during the fitting of the grilles / railings / gates. If the floors and the walls are hampered during the installation, the contractor needs to rectify. All the joints shall be fully welded. Puttying of welded joints to seal and make smooth is not an acceptable practicesolid welds, well ground to a smooth finish ready for paint shall be the standard. The painting on the grille / railing / gate shall be a one coat of anticorrosive primer. For the installation of the grille / railing / gate, the contractor need to install all the required holdfasts or the anchor bolts as per the drawings or instruction of the engineer. All the works need to be carried out for the proper installation of the holdfasts, concrete pocketing as per the requirements. The contractor needs to install expansion bolts wherever necessary, i.e. all the metal sections need to be fixed to the structural elements with the help of the expansion bolt. Hilty expansion bolts are preferred and the length of the bolts shall be minimal of 10 m dia. and 300 mm length.

# 21.1.3 Measurement

The measurement shall be done in square metres of the actual finished work. Nothing extra shall be paid for wastage. The rate shall be for all materials and labour including screws, timber strips, welding, painting to the final coat, etc. The rate also includes the fixing additional materials such as pocket concrete, metal base plate, holdfasts etc that are required to fix the railings / grilles / gate in position. The metal sections shall be fixed to the structural elements with the help of expansion bolts only. Nothing extra shall be provided for the expansion bolts.

# **22 PAINTING WORK**

# 22.1 General

#### 22.1.1 Extent and Intent

The Contractor shall supply all materials, labour, tools, ladders, scaffolding and other equipment necessary for the completion and protection of all painting work. Painting, as herein specified shall be applied to all surfaces requiring painting throughout the interior and exterior of the buildings as given in the schedule of finishes or elsewhere. The painting shall be carried out by a specialist sub-



contractor or as instructed and approved by the Engineer. Care is to be taken that all surfaces to be painted are thoroughly cleaned and dry. The painting materials shall conform to NS 101-1994.

#### 22.1.2 Storage

Storage of materials to be used on the job shall be only in a single place approved by the Engineer. Such storage place shall not be located within any of the buildings included in the Contract.

#### 22.1.3 Materials

Materials used in the work shall be of manufacture approved by the Engineer. Ready mixed paints, varnishes, enamel, lacquers, stains, paste fillers, distempers and other materials must be delivered to the job site in the original containers, with the seals unbroken and labels intact. Each container shall give the manufacturer's name, type of paint, colour of paint and instruction for reducing. Thinning shall be done as instructed by the Engineer. The rejected materials shall be immediately from the building premises.

# 22.1.4 Colour

All colours, as provided in the colour schedule, shall be approved by the Engineer. The Contractor shall mix manufacturer's colours as per Engineer's requirements and shall prepare painted samples of the colours selected and submit it for approval by the Engineer. No work is to be proceeded until the Engineer has given his approval, preferably in writing, of the colour samples.

# 22.1.5 Commencement of Work

Painting shall not be started until the surfaces to be painted are in condition fit to receive painting and so certified by the Engineer. Painting work shall be taken in hand only after all other Contractor's work is completed. Building where painting work is to be commenced shall be thoroughly swept and cleaned up before commencement of painting.

#### 22.1.6 Scaffolding

Only double scaffolding having two sets of vertical supports shall be provided for all painting work. The supports shall be tied together with horizontal pieces over which the scaffolding planks shall be fixed.

All the vertical and horizontal members of the scaffolding shall be placed sufficiently away from the surfaces to be painted to ensure proper and uninterrupted application.

# 22.1.7 Workmanship

The workmanship shall be of the very best; all materials evenly spread and smoothly flowed using good quality tools, brushes, etc., as required. Only skilled painters shall be employed. A properly qualified foreman shall be constantly on the job whilst the work is proceeding. All surfaces to be painted shall be cleaned free of all loose dirt and dust before painting is started. All work where a coat of paint or primer has been applied must be inspected and approved by the engineer,



before application of the succeeding specified coat. Each under coat shall be distinct shade of the approved colour. The painted surface shall present uniform appearance and glossy finish, free from steaks, blisters etc.

Before painting, remove hardware, accessories, plates and similar items or provide suitable protection to all such items. Upon completion of each space, replace all fixtures removed. Remove doors if necessary to paint bottom edge. Use only skilled mechanics for the removal and replacement of above items.

# 22.1.8 Concealed surfaces

All interior and exterior trim, door frames, doors, shelving, cabinet work shall be thoroughly and carefully back painted as all surfaces and edges, which will be concealed when installed. Such surfaces shall be cleaned, dried, sanded and properly prepared to receive the paint. Top, bottom and edges of doors shall be finished same as the rest of the door.

# 22.1.9 **Protect and Clean**

Contractor shall protect not only his own work at all times, but shall also protect all adjacent work and materials by suitable covering during progress of his work. Upon completion of his work, he shall remove all paint and varnish spots from floors, glass and other surfaces. Any defaced surfaces shall be cleaned and the original finish restored. He shall remove from the premises all rubbish and accumulated material and shall leave the work in clean, orderly and acceptable conditions.

# 22.1.10 **Preparation of Surfaces**

**Wood:** Sand paper to smooth even surface and then dust off and wipe clean, touch up all knots and pit pockets with shellac on interior wood. After priming coat has been applied thoroughly fill all nails moles, irregularities and cracks. Use plaster wood filler for stained or natural finish and putty glazier putty or wood for painted work.

**Plaster Work:** Fill all holes, cracks and abrasions with plaster of Paris, properly prepared and applied and smoothed off to match adjoining surfaces. Do not use sand paper on plaster surfaces. Plaster shall be allowed to dry for at least 12 (twelve) weeks before the application of paint.

**Steel and Iron:** All surfaces shall be washed with mineral spirits to remove any dirt or grease before applying paint. Where rust or scale is present, it shall be wire brushed and sand papered clean. All cleaned surfaces shall be given one coat of approved phosphate before prime coat in accordance with the manufacturer's instructions. Shop coats of paint that have become marred shall be cleaned off, wire brushed, and spot primer over the affected areas.

**Galvanized Metal:** Galvanized metal, when new, shall be thoroughly cleaned with naphtha and treated with a moderate solution prepared by mixing 38gms of copper acetate in a litre of soft water or 39 gm of copper nitrate and 13 gm ammonium chloride in a litre of soft water, prepared in a wooden container and applied with a brush. Allow to dry thoroughly and brush off before applying paint.



# 22.1.11 Application

The paint shall be continuously stirred in the container so that its consistency is kept uniform throughout.

The painting shall be laid on evenly smoothly by means of crossing and laying - off, the latter in the direction of the grain of wood. The crossing and laying off consists of covering the area with paint, brushing the surface hard for the first time and then brushing alternatively in opposite directions, two or three times and then finally brushing lightly in a direction at right angles to the same. In this process no brush marks shall be left after the laying – off if finished. The full process of crossing and laying - off will constitute one coat.

Where so stipulated, the painting shall be carried out using spray machines suited for the nature and location of the work to be carried out. Only skilled and experienced workmen shall be employed for this class of work. Paints used shall be brought to the requisite consistency by adding suitable thinner. Spraying shall be carried out only in dry conditions. No exterior painting shall be done in damp foggy or rainy weather. Surface to be painted shall be clean, dry, smooth, and adequately protected from dampness. Each coat shall be applied in sufficient quantity to obtain complete coverage, shall be well brushed and evenly worked out over the entire surface and into all corners, angles and crevices allowed to thoroughly dry. Second coat shall be of suitable shade to match final colour, and shall be approved by the Engineer before final coat is started. Allow at least 48 hours drying time between coats for interior and 7 days for exterior work, and if in the judgement of the Engineer more time is required it shall be allowed. Finished surfaces shall be protected from dampness and dust until completely dry. Finished work shall be uniform, of approved colour, smooth and free for runs, sags, defective brushing and clogging. Make edges of paints adjoining other materials of colours sharp and clean, without overlapping.

In order to achieve superior finished surface, putty paste fillers shall be used on all surfaces to be painted, to fill pores, dents, etc. The putty/paste fillers shall be of approved quality and manufacture and shall be applied to the surface with a knife or other sharp edged tools after the priming coat as well as after each undercoat. The surface, after filling with putty/paste filler, shall be rubbed down with fine sand paper and dusted off before the application of the subsequent coat.

Paste wood filler, when set shall be wiped across the grains of the wood. Then shall be let the grain to secure a clean surface. Surface to be stained shall be covered with a uniform coat of stain wiped off if required.

**Finish:** The painted surfaces shall present uniform appearance and semi – glass finish free from steaks, blisters etc.

# 22.2 Prime Coat

22.2.1 Scope

Applying priming coat of approved brand (Cement primer, Wood primer or Metal primer)



# 22.2.2 Material

The primers shall be in sealed tins. These shall be of SKK (Japanese), Berger Brand, Johnson and Nicholson Ltd., Snowcem (India) Ltd., or equivalent as approved by the Engineer.

#### 22.2.3 **Preparation of Surface**

In case of cement plaster all holes, cracks and abrasion shall be fill with plaster of Paris, properly prepared and applied and smoothed off to match adjoining surfaces. The surface for cement plaster shall be patched up with thick paste of the same primer and smoothed after drying. Any loose or uneven areas or any major cracks or defects in the concrete or plaster back ground shall be cut out and made good and the repairs allowed to dry thoroughly. Any efflorescence shall be removed by dry brushing.

In case of timber all surfaces shall be sand papered and cleaned. Surface of timber having knots and nail holes, they should be filled with stopping and knotting materials. The knotting material shall consist of pure shellac dissolved in methylated spirit. For stopping, Russian talc or putty shall be used.

The stopping shall consist of two parts of whiting (powder chalk), one part of white lead mixed together in double boiled linseed oil and well kneaded. The surface thus treated shall be allowed to dry up and then sand papered or ready made approved putty may be used.

All metal surfaces shall be thoroughly cleaned and papered. In case of surface having welds, the joints shall be properly filed and smoothened. De-rusting shall be done and properly cleaned after sand papering. if required ,Putting of approved make shall be used to fill any joints.

#### 22.2.4 Application

After preparing the surface, the priming coat shall be applied with hairbrushes and as per manufacture's printed instructions.

#### 22.3 Dry Distemper

22.3.1 Scope

Painting the Plastered Surface with Washable Distemper of approved brand and colour with two or more coats to give an even and uniform Shade. The paints used shall be suitable for internal use and its appearance should not fade with time. Paints shall adhere to any type of surface finish.

#### 22.3.2 Materials

Dry distemper of required colour as approved by the Engineer shall be used, conform to IS: 427-latest revision. Before application of the distemper the shade shall be approved by the Engineer. The paint (SKK-Japanese, Nerolac, Berger or equivalent) shall be water based washable distemper as per NS, IS specification.

# 22.3.3 **Preparation of Paint**

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The dry distemper powder shall be stirred slowly in clean water using 0.6 litre of water per kg of distemper or as specified by the manufacturer. Warm water shall preferably be used. It shall be allowed to stand for at least 30 minutes (or if practicable over night) before used. The mixture shall be well stirred before and during use to maintain an even consistency.

Distemper shall not be mixed in larger quantity than is actually required for one day's work.

# 22.3.4 **Preparation of Surface**

Before new work is distempered, the surface shall be thoroughly brushed free from mortar dropping and other foreign matter and sand papered smooth. New plaster surfaces shall be allowed to dry for at least six weeks before applying distemper.

Pitting in plaster shall be made good with plaster of Paris mixed with the colour to be used. The surface shall then be rubbed down again with fine grade sandpaper and made smooth. A coat of distemper shall be applied over the patches. The patched surface shall be allowed to dry thoroughly before the regular coat of distemper is applied.

# 22.3.5 Application

For new work, the treatment shall consist of a priming coat of whiting followed by the application of two or more coats of distemper till the surface shows and even colour. For each coat, the entire surface shall be coated with the mixture uniformly with proper distemper brushes in horizontal strokes followed immediately by vertical ones, which together shall constitute one coat.

The subsequent coats shall be applied only after the previous coat has dried. The finished surface shall be even and uniform and shall show no brush marks.

Enough distemper shall be mixed to finish one room at a time. The application of a coat in each room shall be finished in one operation and no work shall be started in any room, which cannot be completed the same day. After each day work, the brushes shall be washed in hot water and hung down to dry. Old brushes, which are dirty or caked with distemper, shall not be used.

On plastered, POP surface (paint shall be prepared with sand papering), putting, and two coats of primer. The paint is applied in two coats of washable distemper with roller or brush. The surface should be properly cleaned and treated with water based primer as per manufacturer's specifications. Rectification of defects in plaster/POP with broken edges should be done by using a proper colour putty, paste as per manufactures specifications.

The surface on which paint is applied shall become hard dry in 16 hours. The necessary single / multistage scaffoldings required for the work shall be provided as detailed out under coatings. The equipment, roller or brush used on the work should be immediately washed with water to facilitate future use.



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#### 22.3.6 Measurement

Measurement shall be in square meters of the actual covered area of the paints. Nothing extra shall be allowed for painting any rough surface e.g. external sand faced plaster or work in short width or surface in any shape. The rate shall include for two or more coats inclusive of materials, labour, scaffolding all complete.

# 22.4 Weather Guard Paint

#### 22.4.1 Scope

Painting the Plastered Surface with Weather Guard Paint of approved brand and of colour with two or more Coats to give an even and Uniform Shade.

#### 22.4.2 Material

Cement paint of required colour and of weather guard of approved brand or manufacturer conforming to IS: 5410 - latest revision, approved by the engineer in sealed tins, shall be used. Before application of the cement paint the shade shall be approved the Engineer.

# 22.4.3 **Preparation of Surface**

Before painting is commenced on surface, all dirt and foreign matter shall be completely removed. All holes, cracks and abrasion shall be fill with plaster of Paris, properly prepared and applied and smoothed off to match adjoining surfaces. Any loose or uneven areas or any major cracks or defects in the concrete or plaster back ground shall be cut out and made good and the repairs allowed to dry thoroughly. Any efflorescence shall be removed by dry brushing.

The surface shall be wetted by sprinkling of water with fine spray. The surface shall be sprayed several times with a few minutes interval between each spraying to allow the moisture to soak into the surface.

#### 22.4.4 Application

A vertical stroke with another horizontal stroke shall be termed one coat. Paint solution shall be applied to the surface with hair brushed/roller in a number of coats to get uniform finish. After the first coat of the paint has hardened, it shall be cured with water at least for 24 hours before the second coat is applied. Similarly required number of coats shall be given to get an even and uniform shade. It shall be kept damp at least for seven days. Sample of workmanship shall be approved by the Engineer prior to commencement of work.

#### 22.4.5 Measurement

Measurement shall be in square meters of the actual covered area of the paint. Nothing extra shall be allowed for painting any rough surface e.g. external sand - faced plaster or work in short width or surface in any shape. The rate shall include for two or more coats inclusive of materials, labour, scaffolding all complete.

# 22.5 Synthetic Enamel Paints on wood

# 22.5.1 Scope

Painting on wood two or more coats with synthetic enamel paint of approved brand and colour to give an even and uniform shade

# 22.5.2 Materials

The primer and paint shall be of British Paints India Ltd., Johnson and Nicholson, India or equivalent brand approved by the Engineer, in sealed tins.

# 22.5.3 **Preparation of Surface**

The Surface shall be prepared and priming coat shall be applied **as per clause** 20.1.10

# 22.5.4 Application

After preparing and after the priming coat has been applied a topcoat shall be applied. Another coat shall be applied after the previous coat is dry. Care should be taken that dust or other foreign materials do not settle or otherwise disfigure the various coats. The same brand of materials will be used for various coats. The paint shall be used and applied as per manufacture's printed instruction. The paints shall be applied with bristle brushes and not horse hair ones. The paints shall be applied in the thinnest possible layers with parallel drawings, no flowing down shall be allowed. Painting to false ceiling and acoustic materials such as thermo Cole, perforated acoustic tile, soft board etc. shall be done by spray painting only. The Engineer prior to commencement of work shall approve sample of workmanship.

# 22.5.5 Measurement

Measurement shall be in square meters of the actual covered area. Nothing extra shall be allowed for painting any rough surface e.g. external sand - faced plaster or work in short width or surface in any shape. The measurement shall be as follows:

	SN	Description of Work	Measurement Method	Overlapping Factor
	i)	Paneled or Framed	to frame.	side
	ii	Ledged & Battened	do -	1(1/8) for each side.
	iii)	Flush	do -	1 for each side.
	iv)	Fully glazed or gauged	do -	0.5 for each side.
2	v)	Part paneled and part	do -	1 for each side.
	vi)	Fully ventilated or Louvered	do -	1.5 for each side.
	<b>v</b> ;;)	Boarding with covered fillet	do -	1.5 for each
	vii)	and match boarding	40-2	side.
	viii)	Tile & slate battening	Measured flat	3/4 for overall

	1			
Technica	ıl Specifi	cations of Civil Works		
			(no deduction for open spaces)	
	ix)	Trellis or Jaffri	Measured flat Overall (no deduction for open spaces)	1 for Painting all over
	x)	Gates and open palisade fencing including standard	The height shall be taken from lower the lower end of the palisade up to the top of	1 for Painting
		braces, rails, stays	the pailsade but not to the standards if they are higher.	all over
	xi)	Carved or enriched work	Measured flat	- 1.5 for each

The rate shall include for two or more coats inclusive of materials, labour,face. scaffolding, all crompletesheet. Measured flat 114% of flat area

# 22.6 Enamel Painting on Metal Surface

#### 22.6.1 Scope

Painting on metal surface with enamel (ready made) pint of approved colour in two coats over one coat of primer, in properly sanded surface for high class finish all complete, in m<sup>2</sup>.

#### 22.6.2 Material

**Primers and paints:** primers and paints shall be of approved quality and of approved manufacture like Asian Paints, Nerolac, Jensolin, Berger or Equivalent. These materials shall be ready mixed and in sealed thin with required quantity stock at site.

#### 22.6.3 **Preparation of surface**

The Surface shall be prepared and priming coat shall be applied as per clause 20.2.3

#### 22.6.4 Application:

As per clause 20.1.11

#### 22.6.5 Measurement:

As per clause 20.5.5



# **23 GENERAL NOTES**

# A. General

- 1. Structural drawings are to be read in conjunction with Engineers' Architectural, Sanitation and Electrical drawings. Report any discrepancies are to be recorded to the Engineer prior to fabrication or construction. Any conflict between specifications and
- 2. Contractor shall be likewise reported. Contractor shall be responsible for checking field dimensions and site conditions.
- 3. Unless otherwise indicated all construction joints shall be roughened joints with 5mm Amplitude minimum.
- 4. No measurement shall be directly taken from the print. Only written dimensions shall be followed.

# **B.** Foundations

- 1. Foundations shall be on undisturbed soil.
- 2. Soil bearing capacities shall be verified in the field. Engineer is to be notified immediately of any soft pockets or other adverse soil conditions encountered.
- 3. The line of slope between adjacent excavations for footings or along stepped footing shall not exceed a rise of 1 in a run of 2.
- 4. Placing of foundation concrete shall be done as soon as excavations have been completed and approved by the Engineer.

#### C. Backfilling

- 1. Backfilling to foundation shall be done simultaneously on both sides.
- 2. Backfilling shall be done in layers of not more than 150 mm, each layer being properly compacted to at least 95% Modified Proctor Density.

# **D.** Concrete and Reinforcing Steel

1. Cast-in-situ concrete shall have minimum 28 days compressive cube strength of 10  $\frac{2}{2}$ 

N/mm unless otherwise specified in the Specifications. Minimum cylinder strength

- shall be 85% of cube strength.
   Reinforcing steel shall be fiew TMT bars Fe500 conforming to NS 501-2058NS 191-2046 marked.
- 3. Minimum reinforcing laps shall be in accordance with IS 456 1978 (latest revision) and as specified on structural drawings.
- 4. Cover to reinforcing steel shall be in accordance with IS 456 1978 (latest revision) and as specified in structural drawings.
- 5. Welded wire mesh for reinforcement shall conform to IS 4948 1974 (latest revision).
- 6. Corner bars shall be provided to match horizontal reinforcing steel in walls and footings.

Technical Specifications of Civil



- 7. Plumbing slots, holes around pipes, ducts or other items, which pass through concrete slab or wall, shall be filled and patched to the same depths as the slab or wall.
- 8. Unless otherwise indicated, al horizontal and vertical construction joints shall be roughened joints with 5mm minimum Amplitude.
- 9. Hanging devices for piping shall be embedded during casting. Breading out concrete for hanging from reinforcing bars will not be permitted.

# E. List of Approved Make of Materials (For Civil Works)

Specifications brands names of materials (refer materials, whichever are applicable for the scope of work) and finishes approved by the Engineer are listed below. However approved equivalent materials and finishes of any other specialized firms may be used, in case it is established that the brands specified below are not available in the market and subject to approval of the alternate brand by the Engineer.

S.NO.	MATERIALS	APPROVED MAKE
1.	Reinforcement Steel	Himal Iron, Hama Iron,
		Pancha Kanya, Jagadamba Steel
2.	Shuttering Plywood	Anchor, Kitply, Duroply, Sagun, Surya
3.	Ordinary Portland Cement 43/53) Cement,	Udaypur, Hetauda (Grade – Jagadamba,Maruti, Ambuja





# Preamble of Bill of Quantities

# A. General

- 1. The Bill of Quantities shall be read in conjunction with the Instructions to Bidders, General and Special 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 Project Manager and valued at the rates and prices bid in the priced Bill of Quantities, where applicable, and otherwise at such rates and prices as the Project Manager may fix within the terms of the Contract.
- 3. For any item for which measurement is based on records made before or during construction the records shall be prepared and agreed between the Engineer and the Contractor. Should the Contractor carry out such work without the prior agreement of the Engineer, the Engineer may request the Contractor to carry out investigations to confirm the extent of the work and the quantity of work certified for payment shall be solely at the Engineer's discretion. The cost of any such investigation shall be borne by the Contractor.
- 4. The rates and prices bid in the priced Bill of Quantities shall, except as otherwise provided under the Contract, include all construction equipment, labor, supervision, materials, erection, maintenance, insurance, profit, taxes, and duties, together with all general risks, liabilities, and obligations set out or implied in the Contract.
- 5. A rate or price shall be entered against each item in the priced 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 nor summarized in the Bill of Quantities. References to the relevant sections of the Contract documentation shall be made before entering prices against each item in the priced Bill of Quantities. The Specification Clause references where given in the item description of the Bills of Quantities are for the convenience of bidders and generally refer to the principal relevant- specification clause but do not necessarily represent the whole of the specification requirements for the work required within the item. The presence of a Specification clause reference shall not in any way reduce the Bidders obligation to complete work in accordance with all the requirements of the Specification.
- 8. Provisional Sums included and so designated in the Bill of Quantities shall be expended in whole or in part at the direction and discretion of the Project Manager in accordance with the Conditions of Contract.
- 9. The method of measurement of completed work for payment shall be in accordance with the Specifications.
- 10. The abbreviations and symbols used in this Bill of Quantities are: [Insert as applicable]

# B. Day work Schedule

a)General



1. Work shall not be executed on a day work basis except by written order of the Project Manager. Bidders shall enter basic rates for day work items in the Schedules. These rates shall apply to any quantity of day work ordered by the Project Manager. Nominal quantities have been indicated against each item of day work, and the extended total for day work shall, be carried forward as a Provisional Sum to the Summary Total Bid Amount. Unless otherwise adjusted, payments for day work shall be subject to price adjustment in accordance with the provisions in the Conditions of Contract.

#### b) Day work Labor

- 1. In calculating payments due to the Contractor for the execution of day works, the hours for labor will be reckoned from the time of arrival of the labor at the job site to execute the particular item of day work to the time of departure from the job site, but excluding meal breaks and rest periods. Only the time of classes of labor directly doing work ordered by the Project Manager and are competent to perform such work will be measured. The time of gangers (charge hands) actually doing work with the gangs will also be measured but not the time of foremen or other supervisory personnel.
- 2. The Contractor shall be entitled to payment in respect of the total time that labor is employed on day work, calculated at the basis rates entered by it in the "SCHEDULE OF DAY WORK RATES: 1. LABOR". The rates for labor shall be deemed to cover all costs to the Contractor including (but not limited to) i) the amount of wages paid to such labor, transportation time, overtime, subsistence allowances, ii) any sums paid to or on behalf of such labor for social benefits in accordance with Nepal law, iii) Contractor's profit, overheads, superintendence, liabilities and insurance and iv) charges incidental to the foregoing.

#### c) Day work Equipment

- 1. The Contractor shall be entitled to payments in respect of Constructional Plant already on site and employed on day work at the basis rental rates entered by him in the "SCHEDULE OF DAY WORK RATES:2 EQUIPMENT". The said rates shall be deemed to include due and complete allowance for depreciation, interest, indemnity and insurance, repairs, maintenance, supplies, fuel, lubricant, and other consumables and all overhead, profit and administrative costs related to the use of such equipment. The cost of drivers, operators and assistants also shall be included in the rate of the equipment and no separately payment shall be made for it.
- 2. In calculating the payment due to the Contractor for Constructional Plant employed on day work, only the actual number of working hours will be eligible for payment, except that where applicable and agreed with the Project Manager, the travelling time from the part of the Site where the Construction Plant was located when ordered by the Project Manager to be employed on day work and the time for return journey there to shall be included for payment.

#### d) Day work Materials

- The Contractor shall be entitled to payment in respect of materials used for day work (except for materials for which the cost is included in the percentage addition to labor costs as detailed heretofore), at the rates entered by him in the "SCHEDULE OF DAY WORK RATES: 3 MATERIALS" and shall be deemed to include overhead charges and profit as follows;
  - (i) the rates for materials shall be calculated on the basis of the invoiced price, freight, insurance, handling expenses, damage, losses, etc. and shall provide for delivery to store for stockpiling at the Site.
  - (ii) the cost of hauling materials for use on work ordered to be carried out as day work, from the store or stockpile on the Site to the place where it is to be used also shall be include in the same rate.



# **Provisional Sums**

A general provision for physical contingencies (quantity overruns) may be made by including a provisional sum in the Summary Bill of Quantities. Similarly, a contingency allowance for possible price increases should be provided as a provisional sum in the Summary Bill of Quantities. The inclusion of such provisional sums often facilitates budgetary approval by avoiding the need to request periodic supplementary approvals as the future need arises. Where such provisional sums or contingency allowances are used, the SCC should state the manner in which they will be used, and under whose authority (usually the Project Manager's).

The estimated cost of specialized work to be carried out, or of special goods to be supplied, by other contractors should be indicated in the relevant part of the Bill of Quantities as a particular provisional sum with an appropriate brief description. A separate procurement procedure is normally carried out by the Employer to select such specialized contractors. To provide an element of competition among the Bidders in respect of any facilities, amenities, attendance, etc., to be provided by the successful Bidder as prime Contractor for the use and convenience of the specialist contractors, each related provisional sum should be followed by an item in the Bill of Quantities inviting the Bidder to quote a sum for such amenities, facilities, attendance, etc.



# **Bill of Quantities**

[Insert Bill of Quantities]





# Part III: CONDITIONS OF CONTRACT AND CONTRACT FORMS



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[Name of Employer]

[Name of Contract]



# **General Conditions of Contract**

A. General 1. Definitions 1.1 Boldface type is used to identify defined terms. (a) The Accepted Contract Amount means the amount accepted in the Letter of Acceptance for the execution and completion of the Works and the remedying of any defects. (b) The Activity Schedule is a schedule of the activities comprising the construction, installation, testing, and commissioning of the Works in a lump sum contract. It includes a lump sum price for each activity, which is used for valuations and for assessing the effects of Variations and Compensation Events. (c) The Adjudicator is the person appointed jointly by the Employer and the Contractor to resolve disputes in the first instance, as provided for in GCC 23.2 hereunder. (d) Bill of Quantities means the priced and completed Bill of Quantities forming part of the Bid. (e) **Compensation Events** are those defined in GCC 50 hereunder. (f) The **Completion Date** is the date of completion of the Works as certified by the Project Manager, in accordance with GCC 68.1. (g) The **Contract** is the Contract between the Employer and the Contractor to execute, complete, and maintain the Works. It consists of the documents listed in GCC 2.3 below. (h) The **Contractor** is the party whose Bid to carry out the Works has been accepted by the Employer. (i) The Contractor's Bid is the completed bidding document submitted by the Contractor to the Employer. (i) The Contract Price is the Accepted Contract Amount stated in the Letter of Acceptance and thereafter as adjusted in accordance with the Contract. (k) Days are calendar days; months are calendar-months. (I) Dayworks are varied work inputs subject to payment on a time basis for the Contractor's employees and Equipment, in addition to payments for associated Materials and Plant. (m) A **Defect** is any part of the Works not completed in accordance with the Contract. (n) The Defects Liability Certificate is the certificate issued by Project Manager upon correction of defects by the Contractor. (o) The Defects Liability Period is the period calculated from the Completion Date where the Contractor remains responsible for remedying defects. (p) Drawings include calculations and other information provided or approved by the Project Manager for the execution of the Contract. (q) The **Employer** is the party who employs the Contractor to carry out the Works, as specified in the SCC. (r) Equipment is the Contractor's machinery and vehicles brought



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temporarily to the Site to construct the Works.
(s) Force Majeure means an exceptional event or circumstance: which is
beyond a Party's control; which such Party could not reasonably have
provided against before entering into the Contract; which, having arisen,
such Party could not reasonably have avoided or overcome; and, which is
not substantially attributable to the other Party.
(t) The <b>Initial Contract Price</b> is the Contract Price listed in the Employer's
Letter of Acceptance.
(u) In writing or written means hand written, type written, printed or
electronically made, and resulting in permanent record.
(v) The <b>Intended Completion Date</b> is the date on which it is intended
that the Contractor shall complete the Works. The Intended
Completion Date is specified in the SCC. The Intended Completion
Date may be revised only by the Project Manager by issuing an extension
of time or an acceleration order.
(w) Letter of Acceptance means the formal acceptance by the Employer
of the Bid and denotes the formation of the contract at the date of
acceptance.
(x) Materials are all supplies, including consumables, used by the
Contractor for incorporation in the Works.
(v) <b>Party</b> means the Employer or the Contractor, as the context requires.
(z) <b>SCC</b> means Special Conditions of Contract
(a) <b>Plant</b> is any integral part of the Works that shall have a mechanical.
electrical, chemical, or biological function.
(bb) The <b>Project Manager</b> is the person <b>named in the SCC</b> (or any other
competent person appointed by the Employer and notified to the
Contractor, to act in replacement of the Project Manager) who is
responsible for supervising the execution of the Works and administering
the Contract.
(cc) Retention Money means the aggregate of all monies retained by the
Employer pursuant to GCC 54.1.
(dd) Schedules means the document(s) entitled schedules, completed by
the Contractor and submitted with the Letter of Bids, as included in the
Contract. Such document may include the Bill of Quantities, data, lists, and
schedules of rates and/or prices.
(ee) The Site is the area defined as such in the SCC
(ff) Site Investigation Reports are those that were included in the bidding
documents and are factual and interpretative reports about the surface and
subsurface conditions at the Site.
(gg) Specification means the Specification of the Works included in the
Contract and any modification or addition made or approved by the Project
Manager.
(hh) The Start Date is given in the SCC. It is the latest date when the
Contractor shall commence execution of the Works. It does not
necessarily coincide with any of the Site Possession Dates.
(ii) A <b>Subcontractor</b> is a person or corporate body who has a Contract



	<ul> <li>with the Contractor to carry out a part of the work in the Contract, which includes work on the Site.</li> <li>(jj) <b>Temporary Works</b> are works designed, constructed, installed, and removed by the Contractor that are needed for construction or installation of the Works.</li> <li>(kk) A <b>Variation</b> is an instruction given by the Project Manager which varies the Works</li> <li>(II) The <b>Works</b> are what the Contract requires the Contractor to construct, which the project Manager whet the Contract requires the Contractor to construct,</li> </ul>
	Install, and turn over to the Employer, as <b>defined in the SCC</b> .
	2.1 In interpreting these GCC, singular also means plural, male also means female or neuter, and the other way around.Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Project Manager shall provide instructions clarifying queries about these GCC.
	2.2 If sectional completion is <b>specified in the SCC</b> , references in the GCC 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) Contract Agreement,
	(b) Letter of Acceptance,
	(c) Letters of Technical Bid and Price Bid,
	(d) Special Conditions of Contract,
	(e) General Conditions of Contract,
	(f) Specifications,
	(g) Drawings,
	(h) Bill of Quantities (or Schedules of Prices for lump sum contracts), and
	(i) Any other document <b>listed in the SCC</b> as forming part of the Contract.
3. Language and Law	3.1 The language of the Contract and the law governing the Contract are <b>stated in the SCC</b> .
	3.2. Throughout the execution of the Contract, the Contractor shall comply with the import of goods and services prohibitions in the Employer's country when
	<ul> <li>(a) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower's Country prohibits any import of goods from, or any payments to, a particular country, person, or entity. Where the borrower's country prohibits payments to a particular firm or for particular goods by such an act of compliance, that firm may be excluded.</li> </ul>
4. Contract Agreement	4.1 The Parties shall enter into a Contract Agreement within 15 days after the Contractor receives the Letter of Acceptance, unless the Special Conditions establish otherwise. The Contract Agreement shall be based upon the attached





	Contract forms in Section X.
5. Assignment	5.1 Neither Party shall assign the whole or any part of the Contract or any benefit or interest in or under the Contract. However, either Party
	<ul> <li>(a) may assign the whole or any part with the prior agreement of the other Party, at the sole discretion of such other Party; and</li> </ul>
	(b) may, as security in favor of a bank or financial institution, assign its right to any moneys due, or to become due, under the Contract.
6. Care and Supply of Documents	6.1 The Specification and Drawings shall be in the custody and care of the Employer. Unless otherwise stated in the Contract, one copy of the Contract and of each subsequent Drawing shall be supplied to the Contractor, who may make or request further copies at the cost of the Contractor.
	6.2 Each of the Contractor's Documents shall be in the custody and care of the Contractor, unless and until taken over by the Employer. Unless otherwise stated in the Contract, the Contractor shall supply to the Engineer six copies of each of the Contractor's Documents.
	6.3 The Contractor shall keep, on the Site, a copy of the Contract, publications named in the Specification, the Contractor's Documents (if any), the Drawings and Variations and other communications given under the Contract. The Employer's Personnel shall have the right of access to all these documents at all reasonable times.
	6.4 If a Party becomes aware of an error or defect in a document which was prepared for use in executing the Works, the Party shall promptly give notice to the other Party of such error or defect.
7. Confidential Details	7.1 The Contractor's and the Employer's Personnel shall disclose all such confidential and other information as may be reasonably required in order to verify the Contractor's compliance with the Contract and allow its proper implementation.
	7.2 Each of them shall treat the details of the Contract as private and confidential, except to the extent necessary to carry out their respective obligations under the Contract or to comply with applicable Laws. Each of them shall not publish or disclose any particulars of the Works prepared by the other Party without the previous agreement of the other Party. However, the Contractor shall be permitted to disclose any publicly available information, or information otherwise required to establish his qualifications to compete for other projects.
	7.3 Notwithstanding the above, the Contractor may furnish to its Subcontractor(s) such documents, data and other information it receives from the Employer to the extent required for the Subcontractor(s) to perform its work under the Contract, in which event the Contractor shall obtain from such Subcontractor(s) an undertaking of confidentiality similar to that imposed on the Contractor under this Clause.
8. Compliance with Laws	8.1 The Contractor shall, in performing the Contract, comply with applicable Laws.



9. Joint and Several Liability	9.1 If the Contractor is a joint venture of two or more entities , all such entities shall be jointly and severally liable to the Employer for the fulfillment of the provisions of the Contract, and shall designate one of such persons to act as a leader with authority to bind the joint venture. The contractor shall not handover the responsibility of the contract to any one member or some members of Joint Venture or any other parties, not involved in the contract. The composition or the constitution of the joint venture shall not be altered without the prior consent of the Employer.
10. Project Manager's Decisions	10.1 Except where otherwise specifically stated, the Project Manager shall decide contractual matters between the Employer and the Contractor in the role representing the Employer.
11. Delegation	11.1 The Project Manager may delegate any of his duties andresponsibilities to other people after notifying the Contractor, and may cancel any delegation after notifying the Contractor.
12. Communications	12.1 Communications between parties that are referred to in the Conditions shall be effective only when in writing. A notice shall be effective only when it is delivered.
13. Subcontracting	13.1 For GoN Funded:
	A list of approved Subcontractorsincluding its value/works is includedasArticle 2 (k) of contract Agreement. Approval by the Employer for any of the Subcontractors shall not relieve the Contractor from any of its obligations, duties, or responsibilities under the contract.
	For DP Funded :
	The Contractor may subcontract with the approval of the Project Manager, but may not assign the Contract without the approval of the Employer in writing. Subcontracting shall not alter the Contractor's obligations. Bidders may propose subcontracting up to the percentage of total value of contracts as <b>specified</b> <b>in the SCC</b> . The Sub contractor shall meet the qualification requirement as specified in SCC.
14. Other Contractors	14.1 The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and the Employerbetween the dates given in the Schedule of Other Contractors, <b>as referred to in the SCC</b> . The Contractor shall also provide facilities and services for them as described in the Schedule. The Employer may modify the Schedule of Other Contractors, and shall notify the Contractor of any such modification
15 Personnel and Equipment	15.1 The Contractor shall employ the key personnel and use the equipment identified in its Bid to carry out the Works, or other personnel and equipment approved by the Project Manager. The Project Manager shall approve any proposed replacement of key personnel and equipment only if their relevant qualifications or characteristics are substantially equal to or better than those proposed in the Bid.
	15.2 If the Project Manager asks the Contractor to remove a person who is a member of the Contractor's staff or 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.



<ul> <li>15.3 If the Employer, Project Manager, or Contractor determines, that any employee of the Contractor be determined to have engaged in corrupt, fraudulent, collusive, coercive, or other prohibited practices during the execution of the Works, then that employee shall be removed in accordance with Clause 15.2 above.</li> <li>16. Employer's and Contractor's Risk</li> <li>17. Employer's Risks</li> <li>17. From the Start Date until the Defects Liability Certificate has been issued, the following are Employer's risks:         <ul> <li>(a) The risk of personal injury, death, or loss of or damage</li> <li>to property (excluding the Works, Plant, Materials, and Equipment), which are due to</li> <li>(i) use or occupation of the Site by the Works or for the purpose of the Works, which is the unavoidable result of the Works or</li> <li>(ii) use or occupation of the Site by the Works or for the purpose of the Works, which is the unavoidable result of the Works or</li> <li>(ii) use or occupation of the Site by the Works or for the purpose of the Works, or darage to be Works, Plant, Materials, and Equipment to the extent that it is due to a fault of the Works, and Equipment to the extent that it is due to a fault of the Works, and Equipment to the extent that it is due to a fault of the Works, Plant, and Materials is an Employer's risk except loss or damage to the Works, Plant, and Materials is an Employer's risk except loss or damage to the Completion Date, the risk of loss of or damage to the Completion Date.</li> </ul> </li> <li>18. Contractor's Risks</li> <li>19. Insurance</li> <li>19. Insurance<th></th><th>Procurement of Works- Single Stage Two Envelope Procedure   175</th></li></ul>		Procurement of Works- Single Stage Two Envelope Procedure   175
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(d) Personal injury or death.		(c) loss of or damage to property (except the Works, Plant, Materials, and Equipment) in connection with the Contract; and
		(d) Personal injury or death.



	19.2 Policies and certificates for insurance shall be delivered by the Contractor to the Project Manager for the Project Manager's approval before the Start Date. All such insurance shall provide for compensation to be payable in the proportions of Nepalese Rupees required to rectify the loss or damage incurred.
	19.3 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.
	19.4 Alterations to the terms of insurance shall not be made without the approval of the Project Manager.
	19.5 Both parties shall comply with any conditions of the insurance policies.
20. Site Investigation Reports	20.1 The Contractor, in preparing the Bid, shall rely on any Site Investigation Reports referred to <b>in the SCC</b> , supplemented by any information available to the Contractor.
21. Contractor to Construct the Works	21.1 The Contractor shall construct and install the Works in accordance with the Specifications and Drawings.
22. The Works to Be Completed within intended Completion Date	22.1 The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the Program submitted by the Contractor, as updated with the approval of the Project Manager, and complete them within the intended Completion Date.
23. Design by contractor and	23.1 The contractor shall be responsible for the design of permanent works as <b>specified in SCC</b> .
Project Manager	23.2 Contractor shall be responsible for design of the Temporary Works. The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the Project Manager, for his approval.
	23.3 All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, shall be subject to prior approval by the Project Manager before their use.
	23.4 The Project Manager's approval shall not alter the Contractor's responsibility for design of temporary works.
24. Safety, Security and Protection of the	24.1 The Contractor shall, throughout the execution, and completion of the works and remedying of any defects therein:
	a. Have full regard for the safety of all persons entitled to be upon the site and keep the site (so as the same is under his control) and the works (so far as the same are not completed or occupied by the Employer) in an orderly state appropriate to the avoidance of danger to such persons.
	b. Provide and maintain at his own cost all lights, guards, fencing, warning signs and watching, when necessary or required by the Project Manager or by any duly constituted authority, for the protection of the Works of for the safety and convenience of the public or others.
	c. Take all reasonable steps to protect the environment on and off the site and

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	to avoid damage or nuisance to persons
	or to property of the public or others resulting from pollution, noise or other causes arising as a consequence of his methods of operation.
	d. Ensure that any cut or fill slopes are planted in grass or other plant cover as soon as possible to protect them from erosion.
	e. Any spoil or material removed from drains shall be disposed of to designated stable tipping areas as directed by the Project Manager.
	f. Shall not use fuel wood as a means of heating during the processing or preparation of any materials forming part of the works.
	g. The Project Manager shall have the power to disallow any working practice or activity of the Contractor or direct that such practices or activities be modified should the Project Manager consider, on the advice of the relevant Government Departments, that the practices or activities will be harmful to wildlife.
	h. Provide on the Site such lifesaving apparatus as may be appropriate and an adequate and easily accessible first aid outfit or such outfits as may be required by any government ordinance, factory act, etc., subsequently published and amended from time to time.
25. Discoveries	25.1 Anything of historical or other interest or of significant value unexpectedly discovered on the Site shall be the property of the employer. The Contractor shall notify the Project Manager of such discoveries and carry out the Project Manager's instructions for dealing with them.
26. Possession of theSite	26.1 The Employer shall give possession of all parts of the Site to the Contractor. If possession of a part is not given by the date <b>stated in the SCC</b> , the Employer shall be deemed to have delayed the start of the relevant activities, and this shall be a Compensation Event.
27. Access to the Site	27.1 The Contractor shall allow the Project Manager and any person authorized by the Project Manager access to the Site and to any place where work in connection with the Contract is being carried out or is intended to be carried out.
28. Instructions, Inspections and	28.1 The Contractor shall carry out all instructions of the Project Manager which comply with the applicable laws where the Site is located.
Audits	28.2 The Contractor shall keep, and shall make all reasonable efforts to cause its Subcontractors and sub consultants to keep accurate and systematic accounts and records in respect of the Works in such form and details as will clearly identify relevant time changes and costs.
	28.3 The Contractor shall permit the GoN/DP and/or persons appointed by the GoN/DP to inspect the Site and/or the accounts and records of the Contractor and its sub-contractors relating to the performance of the Contract, and to have such accounts and records audited by auditors appointed by the GoN/DP if required by the GoN/DP. The Contractor's attention is drawn to Sub-Clause 73.2 which provides, inter alia, that acts intended to materially impede the exercise of the GoN's/DP's inspection and audit rights provided for under this Sub-Clause constitute a obstructive practice subject to contract termination.



29. Dispute Settlement	29.1 The Employer and the Contractor shall attempt to settle amicably by direct negotiation any disagreement or dispute arising between them under or in connection with the Contract.	
	29.2 Any dispute between the Parties as to matters arising pursuant to this Contract which cannot be settled amicably within thirty (30) days after receipt by one Party of the other Party's request for such amicable settlement may be referred to Arbitration within 30 days after the expiration of amicable settlement period.	
30. Procedures for Disputes	30.1 In case of arbitration, the arbitration shall be conducted in accordance with the arbitration procedures published by the Nepal Council of Arbitration (NEPCA) at the place <b>given in the SCC</b> .	
B. Staff and Labor		
31. Forced Labor	31.1 The Contractor shall not employ forced labor, which consists of any work or service, not voluntarily performed, that is exacted from an individual under threat of force or penalty. This covers any kind of involuntary or compulsory labor, such as indentured labor, bonded labor, or similar labor–contracting arrangements.	
32. Child Labor	32.1 The Contractor shall not employ children in a manner that is economically exploitative, or is likely to be hazardous, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development. Where national laws have provisions for employment of minors, the Contractor shall follow those laws applicable to the Contractor. Children below the age of 18 years shall not be employed in dangerous work.	
33.Non-discrimination and Equal Opportunity	34.1 The Contractor shall not make employment decisions on the basis of personal characteristics unrelated to inherent job requirements. The Contractor shall base the employment relationship on the principle of equal opportunity and fair treatment, and shall not discriminate with respect to aspects of the employment relationship, including recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, promotion, termination of employment or retirement, and discipline. In countries where national law provides for non-discrimination in employment, the Contractor shall comply with national law. When national laws are silent on nondiscrimination in employment, the Contractor shall meet this Sub clause's requirements. Special measures of protection or assistance to remedy past discrimination or selection for a particular job based on the inherent requirements of the job shall not be deemed discrimination.	
B. Time Control		
34. Program	34.1 Within the time <b>stated in the SCC</b> , after the date of the Letter of Acceptance, the Contractor shall submit to the Project Manager for approval a Program showing the general methods, arrangements, order, and timing for all the activities in the Works. In the case of a lump sum contract, the activities in the Program shall be consistent with those in the Activity Schedule.	
	34.2 An update of the Program shall be a program 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.	



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	34.3 The Contractor shall submit to the Project Manager for approval an updated Program at intervals no longer than the period <b>stated in the SCC</b> . If the Contractor does not submit an updated Program within this period, the Project Manager may withhold the amount stated in the SCC from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program has been submitted. In the case of a lump sum contract, the Contractor shall Provide an updated Activity Schedule within 15 days of being instructed to by the Project Manager.
	34.4 The Project Manager's approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the Project Manager again at any time. A revised Program shall show the effect of Variations and Compensation Events.
35. Extension ofthe IntendedCompletion Date	35.1 The Project Manager shall extend the Intended Completion Date if a Compensation Event occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work, which would cause the Contractor to incur additional cost.
	35.2 The Project Manager shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Project Manager for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information at least 21 days prior to the intended completion date. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.
36. Acceleration	36.1 When the Employer wants the Contractor to finish before the Intended Completion Date, the Project Manager shall obtain priced proposals for achieving the necessary acceleration from the Contractor. If the Employer accepts these proposals, the Intended Completion Date shall be adjusted accordingly and confirmed by both the Employer and the Contractor.
	36.2 If the Contractor's priced proposals for acceleration are accepted by the Employer, they are incorporated in the Contract Price and treated as a Variation.
37. Delays Ordered by the Project Manager	37.1 The Project Manager may instruct the Contractor to delay the start or progress of any activity within the Works.
38. Management Meetings	38.1 Either the Project Manager or the Contractor may require the other 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.
	38.2 The Project Manager shall record the business of management meetings and provide copies of the record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken shall be decided by the Project Manager either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.
39. Early Warning	39.1 The Contractor shall warn the Project Manager at the earliest opportunity of specific likely future events or circumstances that may adversely affect the



	quality of the work, increase the Contract Price, or delay the execution of the Works. The Project Manager 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 shall be provided by the Contractor as soon as reasonably possible.	
	39.2 The Contractor shall cooperate with the Project Manager 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 Project Manager.	
C. Quality Control		
40.Identifying Defects	40.1 The Project Manager shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Project Manager may instruct the Contractor to search for a Defect and to uncover and test any work that the Project Manager considers may have a Defect.	
41. Tests	41.1 If the Project Manager 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.	
42. Correction of Defects	42.1 The Project Manager shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion, and is <b>defined in the SCC</b> . The Defects Liability Period shall be extended for as long as Defects remain to be corrected.	
	42.2 Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Project Manager's notice.	
43.Uncorrected Defects	43.1 If the Contractor has not corrected a Defect within the time specified in the Project Manager's notice, the Project Manager shall assess the cost of having the Defect corrected, and the Contractor shall pay this amount.	
D. Cost Control		
44. Contract Price	44.1 In the case of a Unit Rate contract, the Bill of Quantities shall contain priced items for the Works to be performed by the Contractor. The Bill of Quantities is used to calculate the Contract Price. The Contractor will be paid for the quantity of the work accomplished at the rate in the Bill of Quantities for each item.	
	44.2 In the case of a lump sum contract, the Activity Schedule shall contain the priced activities for the Works to be performed by the Contractor. The Activity Schedule is used to monitor and control the performance of activities on which basis the Contractor will be paid. If payment for Materials on Site shall be made separately, the Contractor shall show delivery of Materials to the Site separately on the Activity Schedule.	
45. Changes in the	45.1 In the case of an Unit Rate contract:	
Contract Price	(a) If the final quantity of the work done differs from the quantity in the Bill of Quantities for the particular item by more than 25 percent, provided the change exceeds 2 percent of the Initial Contract Price, the Project Manager	




	shall adjust the rate to allow for the change.
	(b) The Project Manager shall not adjust rates from changes in quantities if thereby the Initial Contract Price is exceeded by more than 10 percent, except with the prior approval of the Employer.
	(c) If requested by the Project Manager, the Contractor shall provide the Project Manager with a detailed cost breakdown of any rate in the Bill of Quantities.
	45.2 In the case of a lump sum contract, the Activity Schedule shall be amended by the Contractor to accommodate changes of Program or method of working made at the Contractor's own discretion. Prices in the Activity Schedule shall not be altered when the Contractor makes such changes to the Activity Schedule.
46. Variations	46.1 All Variations shall be included in updated Programs, and, in the case of a lump sum contract, also in the Activity Schedule, produced by the Contractor.
	46.2 The Contractor shall provide the Project Manager with a quotation for carrying out the Variation when requested to do so by the Project Manager. The Project Manager shall assess the quotation, which shall be given within seven (7) days of the request or within any longer period stated by the Project Manager and before the Variation is ordered.
	46.3 If the Contractor's quotation is unreasonable, the Project Manager may order the Variation and make a change to the Contract Price, which shall be based on the Project Manager's own forecast of the effects of the Variation on the Contractor's costs.
	46.4 If the Project Manager 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.
	46.5 The Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning.
	46.6 In the case of an Unit Rate contract, if the work in the Variation corresponds to an item description in the Bill of Quantities and if, in the opinion of the Project Manager, the quantity of work above the limit stated in <b>GCC 45.1</b> 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.
47. Cash Flow Forecasts	47.1 When the Program, or, in the case of a lump sum contract, the Activity Schedule, is updated, the Contractor shall provide the Project Manager with an updated cash flow forecast.



48. Payment Certificates	48.1 The Contractor shall submit to the Project Manager monthly statements of the estimated value of the work executed less the cumulative amount certified previously.
	48.2 The Project Manager shall check the Contractor's monthly statement and certify the amount to be paid to the Contractor within 30 days of submission by contractor.
	48.3 The value of work executed shall be determined by the Project Manager.
	48.4 The value of work executed shall comprise:
	(a) In the case of an Unit Rate contract, the value of the quantities of work in the Bill of Quantities that have been completed; or
	(b) In the case of a lump sum contract, the value of work executed shall comprise the value of completed activities in the Activity Schedule.
	48.5 The value of work executed shall include the valuation of Variations and Compensation Events.
	48.6 The Project Manager may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.
49. Payments	<ul> <li>49.1 Payments shall be adjusted for deductions for advance payments and retention. The Employer shall pay the Contractor the amounts certified by the Project Manager within 30 days of the date of each certificate. If the Employer makes a late payment, the Contractor shall be paid interest as <b>indicated in the SCC</b> on the late payment in the next payment. Interest shall be calculated from the date by which the payment should have been made up to the date when the late payment is made.</li> <li>49.2 If an amount certified is increased in a later certificate or as a result of an award by an Arbitrator, the Contractor shall be paid interest upon the delayed payment as set out in this clause. Interest shall be calculated from the date upon which the increased amount would have been certified in the absence of dispute.</li> <li>49.3 Items of the Works for which no rate or price has been entered in BOQ shall not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.</li> </ul>
50. Compensation Events	50.1 The following shall be Compensation Events:
	(a) The Employer does not give access to a part of the Site by the Site Possession Date pursuant to GCC 26.1.
	(b) The Employer modifies the Schedule of Other Contractors in a way that affects the work of the Contractor under the Contract.
	(c) The Project Manager orders a delay or does not issue Drawings, Specifications, or instructions required for execution of the Works on time.
	(d) The Project Manager instructs the Contractor to uncover or to carry out



	additional tests upon work, which is then found to have no Defects.
	(e) The Project Manager unreasonably does not approve a subcontract to be let.
	(f) Ground conditions are substantially more adverse than could reasonably have been assumed before issuance of the Letter of Acceptance from the information issued to bidders (including the Site Investigation Reports), from information available publicly and from a visual inspection of the Site.
	(g) The Project Manager gives an instruction for dealing with an unforeseen condition, caused by the Employer, or additional work required for safety or other reasons.
	(h) Other contractors, public authorities, utilities, or the Employer does not work within the dates and other constraints stated in the Contract, and they cause delay or extra cost to the Contractor.
	(i) The advance payment is delayed.
	(j) The effects on the Contractor of any of the Employer's Risks.
	(k) The Project Manager unreasonably delays issuing a Certificate of Completion.
	50.2 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 shall be extended. The Project Manager 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.
	50.3 As soon as information demonstrating effect of each Compensation Event upon the Contractor's forecast cost has been provided by the Contractor, it shall be assessed by the Project Manager, and the Contract Price shall be adjusted accordingly. If the Contractor's forecast is deemed unreasonable, the Project Manager shall adjust the Contract Price based on the Project Manager's own forecast. The Project Manager shall assume that the Contractor shall react competently and promptly to the event.
	50.4 The Contractor shall not be entitled to compensation to the extent that the Employer's interests are adversely affected by the Contractor's not having given early warning or not having cooperated with the Project Manager.
51. Tax	51.1 The Project Manager shall adjust the Contract Price if taxes, duties, and other levies are changed between the date 30 days before the submission of bids for the Contract and the date of the last Completion certificate. The adjustment shall be the change in the amount of tax payable by the Contractor, provided such changes are not already reflected in the Contract Price or are a result of GCC 53.
52. Currency	52.1 The currency of Contracts shall be Nepalese Rupees.
53. Price Adjustment	53.1 Prices shall be adjusted for fluctuations in the cost of inputs only if provided for <b>in the SCC</b> . If so provided, the amounts certified in each payment certificate, before deducting for Advance Payment, shall be adjusted by applying the respective price adjustment factor to the payment amounts due.



53.2 Adjustment Formulae <sup>3</sup> : The formulae will be of the following general type:
$pn = A + b\frac{Ln}{Lo} + c\frac{Mn}{Mo} + d\frac{En}{Eo} + etc.$
Where:
<i>pn</i> is a price adjustment factor to be applied to the amount for the payment of the work carried out in the subject month, determined in accordance with Clause 49;
A is a constant, specified in the Bidding Forms- Table of Price Adjustment data, representing the nonadjustable portion in contractual payments; <sup>4</sup> b, c, d, etc., coefficients representing the estimated proportion of each cost element (labor, materials, equipment usage, etc.) in the Works or sections thereof, net of Provisional Sums, <b>as specified in the SCC;</b>
<i>Ln, Mn, En,</i> etc., are the current cost indices or reference prices of the cost elements for month "n," determined pursuant to Sub-Clause 53.4, applicable to each cost element; and
<i>Lo, Mo, Eo,</i> etc., are the base cost indices or reference prices corresponding to the above cost elements at the date specified in Sub-Clause 53.4
53.3 Sources of Indices and Weightings: The sources of indices shall be those listed in the Bidding Forms- Table of Price Adjustment data, as approved by the Project Manager and stated in SCC. Indices shall be appropriate for their purpose and shall relate to the Contractor's proposed source of supply of inputs on the basis of which his Contract shall have been computed. As the proposed basis for price adjustment, the Contractor shall have submitted with his bid the tabulation of Weightings and Source of Indices in the Bidding Forms, which shall be subject to approval by the Project Manager.
53.4 Base, Current and Provisional Indices: The base cost indices or prices shall be those prevailing on the day 30 days prior to the latest date for submission of bids. Current indices or prices shall be those prevailing on the day 30 days prior to the last day of the period to which a particular Interim Payment Certificate is related. If at any time the current indices are not available, provisional indices as determined by the Project Manager will be used, subject to subsequent correction of the amounts paid to the Contractor when the current indices become available.
53.5 Weightings: The weightings for each of the factors of cost given in the Bidding Forms shall be adjusted if, in the opinion of the Project Manager, they have been rendered unreasonable, unbalanced or inapplicable as a result of varied or additional work already executed or instructed under Clause 46 or for any

<sup>&</sup>lt;sup>3</sup> For complex Works involving several types of construction work with different inputs, a family of Formulae will be necessary. The various items of Day work may also require different formulae, depending on the nature and source of the inputs

<sup>&</sup>lt;sup>4</sup> Insert a figure for factor A only where there is a part of the Contractors' expenditures which will not be subject to fluctuation in cost or to compensate for the unreliability of some indices. A should normally be 0.15. The sum of A, b, c, d, etc., should be one.



	other reason.
	53.6 Where, price adjustment provision is not applicable pursuant to Sub-clause 53.1 then the Contract is subject to price adjustment only for construction material in accordance with this clause. If the prices of the construction materials stated in the contract is increased or decreased in an unexpected manner in excess of ten (10%) percent in comparison to the base price construction material stated in Section –IV, Bidding Forms-Table of Price Adjustment Data, then the price adjustment for the increase or decrease of price of the construction material beyond 10% shall be made by applying the following formulas:
	For unexpected increase in price
	$P = [R_1 - (R_0 \times 1.10)] \times Q$
	For unexpected decrease in price P
	$= [R_1 - (R_0 \times 0.90)] \times Q$
	Where:
	"P" is price adjustment amount
	" $R_1$ " is the present price of the construction material (Source of indices shall be those listed in the Bidding forms)
	" $R_0$ " is the base price of the construction material
	"Q" is quantity of the construction material consumed in construction during the period of price adjustment consideration If the Base price and source is to be proposed by the Bidder as per the provision made in Section –IV, Bidding Forms-Table of Price Adjustment Data then the Base price and source filled by Bidder for the construction material stated in the Bidding Form shall be subject to the approval of the Project manager and shall be as <b>stated in SCC</b>
	53.7 The Price Adjustment amount shall be limited to a maximum of the initial Contract Amount <b>as specified in the SCC</b> .
	53.8 The Price Adjustment provision shall not be applicable for delayed period if the contract is not completed in time due to the delay caused by the contractor or the contract is a Lump sum Contract
54. Retention	54.1 The Employer shall retain from each payment due to theContractor the proportion stated in the SCC until Completion of the whole of the Works.
	54.2 Upon the issue of a Defects Liability Certificate by the Project Manager, in accordance with GCC 70.1, half the total amount retained shall be repaid to the Contractor and half when the Contractor has submitted the evidence of submission of tax return to the concerned Internal Revenue Office. On completion of the whole works,the Contractor may substitute retention money with an "on demand" bank guarantee.
55. Liquidated Damages	55.1 The Contractor shall pay liquidated damages to the Employer at the rate per day <b>stated in the SCC</b> for each day that the Completion Date is later than the Intended Completion Date. The total amount of liquidated damages shall not exceed the

	भावनिकामा गाउँपालिकाम्ब भावनिकामा गाउँपालिकाम्ब भावनिकामा तताह भावनिकामा तताह भावनिकामा तताह भावनिकामा तताह भावनिकामा तताह भावनिकामा तताह भावनिकामा तताह
	amount <b>defined in the SCC</b> . The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor's liabilities.
	55.2 If the Intended Completion Date is extended after liquidated damages have been paid, the Project Manager shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rates specified in GCC.49
56. Bonus	56.1 The Contractor shall be paid a Bonus calculated at the rate per calendar day <b>stated in the SCC</b> for each day (less any days for which the Contractor is paid for acceleration) that the Completion is earlier than the Intended Completion Date. The Project Manager shall certify that the Works are complete, although they may not be due to be complete.
57. Advance Payment	57.1 The Employer shall make advance payment to the Contractor of the amounts stated in the SCC in two equal installments by the date <b>stated in the SCC</b> , against provision by the Contractor of an unconditional bank guarantee from Commercial Bank or Financial Institution eligible to issue Bank Guarantee as per prevailing Law in Nepal. in a form acceptable to the Employer in amounts 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 not be charged on the advance payment.
	57.2 The Contractor is to use the advance payment only to pay for Equipment, Plant, Materials, and mobilization expenses required specifically for execution of the Contract. The Contractor shall demonstrate that advance payment has been used in this way by supplying copies of invoices or other documents to the Project Manager.
	57.3 The advance payment shall be repaid by deducting proportionate amounts, <b>as stated in SCC</b> , from payments otherwise due 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, Bonuses, or Liquidated Damages.
58. Securities	58.1 The Performance Security, including any additional security required as per ITB 35.5 and ITB 40.1, shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in an amount



<ul> <li>specified in the SCC, by a Commercial Bank or Financial Institution eligible to the semployer, and denominated in Nepalese Rupees. The Performance Security shall be valid until a date 30 days from the date of issue of the Defect Liability Certificate in the case of a bank guarantee.</li> <li>Any additional performance security required as per ITB 35 shall be valid until a date 30 days from the date of issue of the certificate of Completion in the case of a bank guarantee.</li> <li>Any additional performance security required as per ITB 40.1 shall be valid until a date 30 days from the date of issue of the certificate of DLP in the case of a bank guarantee.</li> <li>S8.2 The performance security issued by any foreign Bank outside Nepal must be counter guaranteeed by Commercial Bank or Financial Institution eligible to issue Bank Cuarantee as per prevailing Law in Nepal.</li> <li>59. Dayworks</li> <li>59. 1 If applicable, the Dayworks rates in the Contractor's Bid shall be used for small additional amounts of work only when the Project Manager has given written instructions in advance for additional work to be paid for in that way.</li> <li>59. 2 All work to be paid for as Dayworks shall be recorded by the Contractor on forms approved by the Project Manager. Each completed form shall be verified and signed by the Project Manager. Each completed form shall be verified and signed by the Project Manager. Each completed form shall be verified and signed by the Ontractor or contractor shall be verified and signed by the Contractor at the Contractor shall be verified and signed by the Contractor or so if the loss or damage arises from the Contractor at the Contractor so if the loss or damage arises from the Contractor at the Contractor so if the loss or damage arises from the Contractor at the Contractor or so if the loss or damage arises from the Contractor at a contractor soci if the loss or damage arises from the Contractor at a contractor soci if the loss or damage arises from t</li></ul>		Procurement of Works- Single Stage Two Envelope Procedure   187
Any additional performance security required as per ITB 36.5 shall be valid until a date 30 days from the date of issue of the certificate of Completion in the case of a bank guarantee.         Any additional performance security required as per ITB 40.1 shall be valid until a date 30 days from the date of issue of the certificate of DLP in the case of a bank guarantee.         58.2 The performance security issued by any foreign Bank outside Nepal must be counter guaranteed by Commercial Bank or Financial Institution eligible to issue Bank Guarantee as per prevailing Law in Nepal.         59. Dayworks       59.1 If applicable, the Dayworks rates in the Contractor's Bid shall be used for small additional amounts of work only when the Project Manager has given written instructions in advance for additional work to be paid for in that way.         59. Dayworks       59.1 If applicable, the Dayworks rates in the Contractor's Bid shall be used for small additional amounts of work only when the Project Manager has given written instructions in advance for additional work to be paid for in that way.         59.2 All work to be paid for as Dayworks shall be recorded by the Contractor on forms approved by the Project Manager. Each completed form shall be verified and signed by the Project Manager. Each completed form shall be verified and signed by the Project Manager. So at a may achieve the Start Date and the end of the Defects Correction periods shall be remedied by the Contractor's acts or omissions.         60. Cost of Repairs       60.1 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's acts or omissions.         61. Definition of Force Majeure		<b>specified in the SCC</b> , by a Commercial Bank or Financial Institution eligible to issue Bank Guarantee as per prevailing Law in Nepal.acceptable to the Employer, and denominated in Nepalese Rupees. The Performance Security shall be valid until a date 30 days from the date of issue of the Defect Liability Certificate in the case of a bank guarantee.
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59.2 All work to be paid for as Dayworks shall be recorded by the Contractor on forms approved by the Project Manager. Each completed form shall be verified and signed by the Project Manager within two days of the work being done.         59.3 The Contractor shall be paid for Dayworks subject to obtaining signed Dayworks forms.         60. Cost of Repairs       60.1 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's acts or omissions.         61. Definition of Force Majeure       61.1 In this Clause, "Force Majeure" means an exceptional event or circumstance, (a) which is beyond a Party's control;         (b) which such Party could not reasonably have provided against before entering into the Contract;       (c) which, having arisen, such Party could not reasonably have avoided or overcome; and         (d) which is not substantially attributable to the other Party.       61.2 Force Majeure may include, but is not limited to, exceptional events or circumstances of the kind listed below, so long as conditions (a) to (d) above are satisfied: <ul> <li>(a) war, hostilities (whether war be declared or not), invasion, act of foreign enemies;</li> <li>(b) rebellion, terrorism, sabotage by persons other than the Contractor's</li> </ul>	59. Dayworks	59.1 If applicable, the Dayworks rates in the Contractor's Bid shall be used for small additional amounts of work only when the Project Manager has given written instructions in advance for additional work to be paid for in that way.
59.3 The Contractor shall be paid for Dayworks subject to obtaining signed Dayworks forms.         60. Cost of Repairs       60.1 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 the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.         F. Force Majeure         61. Definition of Force Majeure         61.1 In this Clause, "Force Majeure" means an exceptional event or circumstance, (a) which is beyond a Party's control;         (b) which such Party could not reasonably have provided against before entering into the Contract;         (c) which, having arisen, such Party could not reasonably have avoided or overcome; and         (d) which is not substantially attributable to the other Party.         61.2 Force Majeure may include, but is not limited to, exceptional events or circumstances of the kind listed below, so long as conditions (a) to (d) above are satisfied:         (a) war, hostilities (whether war be declared or not), invasion, act of foreign enemies;         (b) rebellion, terrorism, sabotage by persons other than the Contractor's		59.2 All work to be paid for as Dayworks shall be recorded by the Contractor on forms approved by the Project Manager. Each completed form shall be verified and signed by the Project Manager within two days of the work being done.
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<ul> <li>(c) which, having arisen, such Party could not reasonably have avoided or overcome; and</li> <li>(d) which is not substantially attributable to the other Party.</li> <li>61.2 Force Majeure may include, but is not limited to, exceptional events or circumstances of the kind listed below, so long as conditions (a) to (d) above are satisfied:         <ul> <li>(a) war, hostilities (whether war be declared or not), invasion, act of foreign enemies;</li> <li>(b) rebellion, terrorism, sabotage by persons other than the Contractor's</li> </ul> </li> </ul>		<ul> <li>(b) which such Party could not reasonably have provided against before entering into the Contract;</li> </ul>
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(b) rebellion, terrorism, sabotage by persons other than the Contractor's		<ul> <li>(a) war, hostilities (whether war be declared or not), invasion, act of foreign enemies;</li> </ul>
		(b) rebellion, terrorism, sabotage by persons other than the Contractor's



	Personnel, revolution, insurrection, military or usurped power, or civil war;
	<ul> <li>(c) riot, commotion, disorder, strike or lockout by persons other than the Contractor's Personnel;</li> </ul>
	<ul> <li>(d) munitions of war, explosive materials, ionizing radiation or contamination by radio-activity, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radio-activity; and</li> </ul>
	<ul> <li>(e) natural catastrophes such as earthquake, hurricane, typhoon or volcanic activity.</li> </ul>
62. Notice of Force Majeure	62.1 If a Party is or will be prevented from performing its substantial obligations under the Contract by Force Majeure, then it shall give notice to the other Party of the event or circumstances constituting the Force Majeure and shall specify the obligations, the performance of which is or will be prevented. The notice shall be given within 14 days after the Party became aware, or should have become aware, of the relevant event or circumstance constituting Force Majeure.
	62.2 The Party shall, having given notice, be excused performance of its obligations for so long as such Force Majeure prevents it from performing them.
	62.3 Notwithstanding any other provision of this Clause, Force Majeure shall not apply to obligations of either Party to make payments to the other Party under the Contract.
63. Duty to Minimize Delay	63.1 Each Party shall at all times use all reasonable endeavors to minimize any delay in the performance of the Contract as a result of Force Majeure.
	63.2 A Party shall give notice to the other Party when it ceases to be affected by the Force Majeure.
64. Consequences of Force Majeure	64.1 If the Contractor is prevented from performing its substantial obligations under the Contract by Force Majeure of which notice has been given under GCC 62, and suffers delay and/or incurs Cost by reason of such Force Majeure, the Contractor shall be entitled subject to GCC 30 to
	(a) an extension of time for any such delay, if completion is or will be delayed, under GCC35 ; and
	(b) if the event or circumstance is of the kind described in sub-paragraphs (a) to (d) of GCC 61.2 and, in the case of subparagraphs (b) to (d), occurs in the Country, payment of any such Cost, including the costs of rectifying or replacing the Works and/or Goods damaged or destructed by Force Majeure, to the extent they are not indemnified through the insurance policy referred to in GCC 19.
	64.2 After receiving this notice, the Project Manager shall proceed in accordance with GCC 10 to agree or determine these matters.



65. Force Majeure

Subcontractor

66. Optional

and Release

Affecting

specified in this Clause, such additional or broader force majeure events or circumstances shall not excuse the Contractor's nonperformance or entitle him to relief under this Clause. 66.1 If the execution of substantially all the Works in progress is prevented for a Termination, Payment continuous period of 90 days by reason of Force Majeure of which notice has been given under GCC 62, or for multiple periods which total more than 150 days due to the same notified Force Majeure, then either Party may give to the other Party a notice of termination of the Contract. In this event, the termination shall take effect 7 days after the notice is given, and the Contractor shall proceed in accordance with GCC 72.5. 66.2 Upon such termination, the Project Manager shall determine the value of the work done and issue a Payment Certificate, which shall include (a) the amounts payable for any work carried out for which a price is stated in the Contract: the Cost of Plant and Materials ordered for the Works which have been (b) delivered to the Contractor, or of which the Contractor is liable to accept delivery: this Plant and Materials shall become the property of (and be at the risk of) the Employer when paid for by the Employer, and the Contractor shall place the same at the Employer's disposal; (c) other Costs or liabilities which in the circumstances were reasonably and necessarily incurred by the Contractor in the expectation of completing the Works;

65.1 If any Subcontractor is entitled under any contract or agreement relating to the

Works to relief from force majeure on terms additional to or broader than those

the Cost of removal of Temporary Works and Contractor's Equipment (d) from the Site and the return of these items to the Contractor's works in his country (or to any other destination at no greater cost); and

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(e) the Cost of repatriation of the Contractor's staff and labor employed wholly in connection with the Works at the date of termination.

67. Release from 67.1 Notwithstanding any other provision of this Clause, if any event or circumstance Performance outside the control of the Parties (including, but not limited to, Force Majeure) arises, which makes it impossible or unlawful for either or both Parties to fulfill its or their contractual obligations or which, under the law governing the Contract, entitles the Parties to be released from further performance of the Contract, then upon notice by either Party to the other Party of such event or circumstance. the Parties shall be discharged from further performance, without (a)

- prejudice to the rights of either Party in respect of any previous breach of the Contract; and
- (b) the sum payable by the Employer to the Contractor shall be the same as



	would have been payable under GCC 66 if the Contract had been terminated under GCC 66.	
	G. Finishing the Contract	
68. Completion	68.1 The Contractor shall request the Project Manager to issue a certificate of Completion of the Works, and the Project Manager shall do so upon deciding that the work is completed.	
	68.2 In addition to the other provisions, before acceptance of the completed works, Employer shall verify and assure that such worksare within the set objective, quality and appropriate to operate and use.	
69. Taking Over	69.1 The Employer shall take over the Site and the Works within seven days of the Project Manager's issuing a certificate of Completion.	
70. Final Account	70.1 The Contractor shall supply the Project Manager with a detailed account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Project Manager shall issue a Defects Liability Certificate and certify any final payment that is due to the Contractor within 60 days of receiving the Contractor's account if it is correct and complete. If it is not, the Project Manager shall issue within 60 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 Project Manager shall decide on the amount payable to the Contractor and issue a payment certificate.	
71. Operating and Maintenance Manuals	71.1 If "as built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the <b>dates stated in the SCC</b> .	
	71.2 If the Contractor does not supply the Drawings and/or manuals by the dates <b>stated in the SCC</b> pursuant to <b>GCC 71.1</b> , or they do not receive the Project Manager's approval, the Project Manager shall withhold the amount <b>stated in the SCC</b> from payments due to the Contractor.	
72. Termination	72.1 The Employer may terminate the Contract at any time if the contractor;	
	a. does not commence the work as per the Contract, b. abandons the work without completing, c. fails to achieve progress as per the Contract.	
	72.2 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract.	
	72.3 Fundamental breaches of Contract shall include, but shall not be limited to, the following :	
	(a) The Contractor uses the advance payment for matters other than the contractual obligations,	
	(b) the Contractor stops work for 30 days when no stoppage of work is shown on the current Program and the stoppage has not been authorized by the Project Manager;	
	(c) the Project Manager instructs the Contractor to delay the progress of the Works, and the instruction is not withdrawn within 30 days;	





	<ul> <li>(d) the Employer or the Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation.</li> <li>(e) a payment certified by the Project Manager is not paid by the Employer to the Contractor within 90 days of the date of the Project Manager's certificate;</li> <li>(f) the Project Manager 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 Project Manager;</li> <li>(g) the Project Manager gives two consecutive Notices to update the Program and accelerate the works to ensure compliance with GCC Sub clause 22.1 and the Contractor fails to update the Program and demonstrate acceleration of the works within a reasonable period of time determined by the Project Manager;</li> <li>(h) the Contractor does not maintain a Security, which is required;</li> <li>(i) the Contractor has delayed the completion of the Works by the number of days for which the maximum amount of liquidated damages can be paid, as defined in the SCC; and</li> <li>(j) If the Contractor, in the judgment of the Employer has engaged in corrupt or fraudulent practices in competing for or in executing the Contract, pursuant to GCC 73.1.</li> </ul>
	72.4 When either party to the Contract gives notice of a breach of Contract to the Project Manager for a cause other than those listed under GCC 72.3 above, the Project Manager shall decide whether the breach is fundamental or not.
	72.5 Notwithstanding the above, the Employer may terminate the Contract for convenience.
	72.6 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.
73. Fraud and Corruption	73.1 If the Employer determines that the Contractor has engaged in corrupt, fraudulent, collusive, coercive or obstructive practices, in competing for or in executing the Contract, then the Employer may, after giving 15 daysnotice to the Contractor, terminate the Contractor's employment under the Contract and expel him from the Site.
	73.2 Should any employee of the Contractor be determined to have engaged in corrupt, fraudulent, collusive, coercive, or obstructive practice during the execution of the Works, then that employee shall be removed in accordance with GCC Clause 15.
	For the purposes of this GCC 73;
	<ul> <li>(i) "corrupt practice" is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party.</li> </ul>
	<ul> <li>(ii) "fraudulent practice"<sup>5</sup> is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;</li> </ul>
	<ul> <li>(iii) "collusive practice"<sup>6</sup> is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;</li> </ul>
	(iv) "coercive practice" <sup>7</sup> is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence



	improperly the actions of a party;
	(v) "obstructive practice" is
	(aa) deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or
	(bb) acts intended to materially impede the exercise of the GON's/DP's inspection and audit rights provided for under GCC28.3.
74. Black Listing	74.1 Without prejudice to any other rights of the Employer under this Contract, GoN, Public Procurement Monitoring Office (PPMO), on the recommendation of procuring entity, may blacklist a Bidder for its conduct for a period of one (1) to three (3) years on the following grounds and seriousness of the act committed by the bidder:
	(a) if it is established that the Contractor has committed substantial defect in implementation of the contract or has not substantially fulfilled its obligations under the contract or the completed work is not of the specified quality as per the contract.
	<ul> <li>(b) If convicted from a court of law in a criminal offense liable to be disqualified for taking part in procurement contract,</li> <li>(c) If it is established that the Contractor has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.</li> </ul>
75. Payment upon Termination	75.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Project Manager shall issue a certificate for the value of the work done and Materials ordered less advance payments received up to the date of the issue of the certificate. Additional Liquidated Damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractor, the difference shall be a debt payable to the Employer.
	75.2 If the Contract is terminated for the Employer's convenience or because of a fundamental breach of Contract by the Employer, the Project Manager shall issue a certificate for the value of the work done, Materials ordered, 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, and less advance payments received up to the date of the certificate.
	75.3 If the Contract is terminated because of fundamental breach of Contract or for any other fault by the Contractor, the performance security shall be forfeited by the Employer.
	In such case, amount to complete the remaining works as per the Contract shall be recovered from the Contractor as Government dues.
76. Property	76.1 All Materials on the Site, Plant, Equipment, Temporary Works, and Works shall be deemed to be the property of the Employer if the Contract is terminated because of the Contractor's default.
77. Release from	77.1 If the Contract is frustrated by the outbreak of war or by any other event entirely



Procurement of Works- Single Stage Two Envelope Procedure | 193 Performance outside the control of either the Employer or the Contractor, the Project Manager 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 a commitment was made. 78.Suspension of 78.1 In the event that the DP suspends the loan/ credit/grant to the Employer from DPLoan/Credit/Grant which part of the payments to the Contractor are being made: a. the Employer is obligated to notify the Contractor of such suspension within 7 days of having received the DP's suspension notice; and b. if the Contractor has not received sums due him within the 30 days for payment provided for in GCC 49.1, the Contractor may immediately issue a 15-day termination notice. 79. Eligibility 79.1 The Contractor shall have the nationality of an eligible country as specified in Section V of the bidding document. The Contractor shall be deemed to have the nationality of a country if the Contractor is a citizen or is constituted, or incorporated, and operates in conformity with the provisions of the laws of that country. This criterion shall also apply to the determination of the nationality of proposed subcontractors or suppliers for any part of the Contract including related services. 79.2 The materials, equipment, and services to be supplied under the Contract shall have their origin in eligible source countries as specified in Section V of the bidding document and all expenditures under the Contract will be limited to such materials, equipment, and services. At the Employer's request, the Contractor may be required to provide evidence of the origin of materials, equipment, and services. 79.3 For purposes of GCC 79.2, "origin" means the place where the materials and equipment are mined, grown, produced, or manufactured, and from which the services are provided. Materials and equipment are produced when, through manufacturing, processing, or substantial or major assembling of components, a commercially recognized product results that differs substantially in its basic characteristics or in purpose or utility from its components. 80. Project 80.1 The Project Manager's duties and authorities are restricted to the extent as Manager's Duties and stated in the SCC. Authorities 81. Quarries and 81.1 Any quarry operated as part of this Contract shall be maintained and left in Spoil Dumps a stable condition without steep slopes and be either refilled or drained and be landscaped by appropriate planting. Rock or gravel taken from a river shall be removed over some distance so as to limit the depth of material removed at any one location, not disrupt the river flow or damage or undermine the river banks. The Contractor shall not deposit excavated material on land in Government or private ownership except as directed by the Project Manager in writing or by permission in writing of the authority responsible for such land in Government ownership, or of the owner or responsible representative of the owner of such land in private ownership, and only then in those places and

under such conditions as the authority, owner or responsible representative may



	prescribe.
82. Local Taxation	82.1 The prices bid by the Contractor shall include all taxes that may be levied in accordance to the laws and regulations in being in Nepal on the date 30 days prior to the closing date for submissions of Bids on the Contractor's equipment, plant and materials acquired for the purpose of the Contract and on the services performed under the Contract. Nothing in the Contract shall relieve the Contractor from his responsibility to pay any tax that may be levied in Nepal on profits made by him in respect of the Contract.
83. Value Added Tax	83.1 The Contract is not exempted from value added tax. An amount specified in the schedule of taxes shall be paid by the Contractor in the concerned VAT office within time frame specified in VAT regulation.
84. Income Taxes on Staff	84.1 The Contractor's staff, personnel and labor will be liable to pay personal income taxes in Nepal in respect of their salaries and wages, as are chargeable under the laws and regulations for the time being in force, and the Contractor shall perform such duties in regard to such deductions as may be imposed on him by such laws and regulations.
	84.2 The issue of the Final Account Certificate pursuant to clause GCC 70 shall be made only upon submittal by the Contractor of a certificate of income tax clearance from the Government of Nepal.
85. Duties, Taxes and Royalties	85.1 Any element of royalty, duty or tax in the price of any goods including fuel oil, and lubricating oil, cement, timber, iron and iron goods locally procured by the Contractor for the works shall be included in the Contract rates and prices and no reimbursement or payment in that respect shall be made to the Contractor.
	85.2 The Contractor shall familiarize himself with GON the rules and regulations with regard to customs, duties, taxes, clearing of goods and equipment, immigration and the like, and it will be necessary for him to follow the required procedures regardless of the assistance as may be provided by the Employer wherever possible.
	85.3 The Contractor shall pay and shall not be entitled to the reimbursement of cost of extracting construction materials such as sand, stone/boulder, gravel, etc. from the river beds or quarries. Such prices will be levied by the local District Development Committee (DDC) as may be in force at the time. The Contractor, sub-contractor(s) employed directly by him and for whom he is responsible, will not be exempted from payment of royalties, taxes or other kinds of surcharges on these construction materials so extracted and paid for to the DDC.
86. Member of Government, etc, not Personally Liable	86.1 No member or officer of GoN or the Employer or the Project Manager or any of their respective employees shall be in any way personally bound or liable for the act or obligations of the Employer under the Contract or answerable for any default or omission in the observance or performance of any of act, matter or thing which are herein contained.
87. Approval of Use of Explosives	87.1 No explosives of any kind shall be used by the Contractor without the prior consent of the Employer in writing and the Contractor shall provide, store and handle these and all other items of every kind whatsoever required for blasting operations, all at his own expense in a manner approved in writing by the

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	Employer.
88 Compliance with Regulations for Explosives	88.1 The Contractor shall comply with all relevant ordinances, instructions and regulations which the Government, or other person or persons having due authority, may issue from time to time regarding the handling, transportation, storage and use of explosives.
89. Permission for Blasting	89.1 The Contractor shall at all times maintain full liaison with and inform well in advance, and obtain such permission as is required from all Government authorities, public bodies and private parties whatsoever concerned or affected, or likely to be concerned or affected by blasting operation.
90. Records of Explosives	90.1 Before the beginning of the Defects Liability Period, the Contractor shall account to the satisfaction of the Project Manager for all explosives brought on to the Site during the execution of the Contract and the Contractor shall remove all unused explosives from the Site on completion of works when ordered by the Project Manager.
91.Traffic Diversion	91.1 The Contractor shall include the necessary safety procedures regarding and pedestrian traffic diversion that is needed in execution of the works. The Contractor shall include in his costing of works, any temporary works or diversion that are needed during the construction period. All traffic diversion should be designed for the safety of both the motoring public and the men at work. It shall ensure the uninterrupted flow of traffic and minimum inconvenience to the public during the period concerned. As such, adequate warning signs, flagmen and other relevant safety precautionary measures shall be provided to warn motorists and pedestrians well ahead of the intended diversion as directed by the Project Manager. All traffic devices used shall be designed in accordance with the instruction of Project Manager.



## Section IX: Special Conditions of Contract

The following Special Conditions of Contract shall supplement the GCC. Whenever there is a conflict, the provisions herein shall prevail over those in the GCC





## Special Conditions of Contract

	A. General
GCC 1.1 (q)	The Employer is <i>Aanbookhaireni Rural Municipality</i>
GCC 1.1 (v)	The Intended Completion Date for the whole of the Works shall be one and half year.
	[If different dates are specified for completion of the Works by section("sectional completion" or milestones), these dates should be listed here]
GCC 1.1(bb) &	The Project Manager is Lekhnath Neupane (Chief Administrative Officer)
10.1	The Project Manager and Engineer are synonyms.
GCC 1.1 (ee)	The Site is located at <i>Aanbookhaireni-03,Tanahun and is defined in drawings No.</i>
GCC 1.1 (hh)	The Start Date shall be within 7 days of agreement.
GCC 1.1 (II)	The Works consist of earth works in excavation and Brick soling as required, Brick masonary works, Pcc and RCC works as specified in the specification and in BOQ.
GCC 2.2	Sectional Completions are: NA
GCC 2.3(i)	The following documents also form part of the Contract: NA
GCC 3.1	The language of the contract is ENGLISH/NEPALI
	The law that applies to the Contract is the law of NEPAL
GCC 11.1	The Project Manager[may or maynot]delegate any of his duties and responsibilities.
GCC 13.1	For DP Funded:
	[insert the following text if sub-contracting is permitted]
	Maximum percentage of subcontracting permitted is: [ <i>sub-contracting percentage should be same as in ITB 34.4</i> ]% of the total contract amount
	Nature of Works that can be sub contracted:
	1
	2
	Qualification Criteria
	The proposed sub-contractor shall meet the following requirements:
	1) Completion of 80% of the quantity of the work being sub contracted
	<ol> <li>Average Annual Construction Turnover for the work being sub contracted should be at least 1.5 * V/T where V is the proposed value of sub contract and T is time in year. For contract duration of up to 1 year, T shall be "1".</li> </ol>



	Financial Resources: The sub contract must demonstrate that it has the financial resources to meet its current contract commitment plus three months' requirements for the sub contracted work.
GCC 14.1	Schedule of other contractors: NA
GCC 19.1	
	<ol> <li>The minimum insurance amounts and deductibles shall be:         <ol> <li>The minimum cover for loss of or damage to the Works, Plant and Materials is:                 [0.05%] of the Contract Amount.             </li> <li>The maximum deductible for insurance of the Works and of Plant and Materials is:                      [insert amount]             </li> <li>The minimum cover for loss or damage to Equipment is : [0.05%]</li> <li>The minimum cover for loss or damage to Equipment is: [insert amount]</li> <li>The maximum deductible for insurance of Equipment is: [insert amount]</li> <li>The minimum for insurance of other property is: [insert amount] with unlimited number of occurrences</li> <li>The minimum cover for personal injury or death insurance</li></ol></li></ol>
GCC 20.1	Site Investigation Reports are: [list documents].
GCC 23.1	The following shall be designed by the Contractor:[insert as appropriate].
GCC 26.1	The Site Possession Date(s) shall be: 7 days after the issuance date of work order.
GCC 30.1	The place of arbitration shall be:
	C. Time Control
GCC 34.1	The Contractor shall submit for approval a Program for the Works within 7 days from the date of the Letter of Acceptance.
GCC 34.3	The period between Program updates is 60 days. The amount to be withheld for late submission of an updated Program is <i>[Insert Amount]</i>
	D. Quality Control
GCC 42.1	The Defects Liability Period is: <b>365</b> days/months.
	E. Cost Control



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GCC 49.1	[insert the prevailing interest rate]
GCC 53.1	The Contract <b>[Insert "is" or "is not"]</b> subject to price adjustment, and the following information regarding coefficients <b>[Insert "does" or "does not"]</b> apply.
	The coefficients and indices for adjustment of prices in Nepalese Rupees shall be as specified in the Table of Adjustment Data submitted by bidder together with the Letter of Price Bid which is approved by the Project manager.
GCC 53.6	Base Price of Construction Materials applicable for price adjustment shall be as per the Table of Adjustment Data submitted by Bidder together with the Letter of Price Bid which is approved by the Project manager.
GCC 53.7	The Price Adjustment amount shall be limited to a maximum of:
	For GoN Funded: <i>[Insert percent]</i> percentage of the initial Contract Amount <i>[normally 25</i> %]
	For DP Funded: Not Applicable
GCC 54.1	The proportion of payments retained is:
	For GoN Funded: 5 (five) percent
	For DP Funded: [Insert 5 (five) to 10 (ten) percent]
GCC 55.1	The liquidated damages for the whole of the Works are 0.05 Percentof the final Contract Price per day. The maximum amount of liquidated damages for the whole of the Works is 10 Percentof the final Contract Price.
GCC 56.1	The Bonus for the whole of the Works is 0.05 Percent per day. The maximum amount of Bonus for the whole of the Works is <b>[Insert Amount]</b> of the final Contract Price.
GCC 57.1	The Advance Payment shall be maximum 20% of the initial contract price excluding the provisional sums, day works and VAT and shall be made in two installments. The First installment of 10% (ten percent) shall be made to the contractor upon submission of acceptable Bank Guarantee for advance payment and the second installment of 10% (ten percent) shall be made after the contractor completes the following conditions
	<ul> <li>Mobilization at site and establishment of site camp.</li> <li>Mobilization of key personnel and equipments as per contract.</li> <li>Fulfillment of contractual obligation of submission of insurance policies.</li> <li>Submission of revised / updated Work Schedule.</li> </ul>
	Submission of acceptable bank guarantee to the Employer.
GCC 57.3	Deductions from Payment Certificates will commence in the first certificate in which the value of works executed exceeds 30% of the Contract Price. Deduction will be at the rate of <i>[Insert percentage]</i> <sup>1</sup> of the respective Monthly Interim Payment Certificate until such time as the advance payment has been repaid; provided that the advance payment shall be completely repaid prior to the end of 80 % of the approved contract period.
GCC 58.1	The Performance Security amount is: 5%
	[insert amount including an additional amount based on ITB 40.1 and/or ITB 35.5 if the



	Employer has increased the Performance Security amount]				
G. Finishing the Contract					
GCC 71.1	The date by which operating and maintenance manuals are required is; <i>[Insert date]</i>				
GCC 71.2	The date by which "as built" drawings are required is: <b>[Insert date]</b> The amount to be withheld for failing to produce "as built" drawings and/or Operating and maintenance manuals is: <b>[Insert Amount]</b>				
GCC 72.3 (i)	The maximum number of days is: <b>200</b>				
GCC 80	The Project Manager has to obtain the specific approval of the Employer for taking any of the following actions :				
	<ul> <li>a. Approving subcontracting of any part of the works under General Conditions of Contract Clause 13;</li> <li>b. Certifying additional costs determined under General Conditions of Contract Clause 50;</li> <li>c. Determining start date under General Conditions of Contract Clause 1;</li> <li>d. Determining the extension of the intended Completion Date under General Conditions of Contract Clause 35;</li> <li>e. Issuing a Variation under General Conditions of Contract Clause 1 and 46, except in an emergency situation, as reasonably determined by the Project Manager; emergency situation may be defined as the situation when protective measures must be taken for the safety of life or of the works or of adjoining property.</li> <li>f. Adjustment of rates under General Conditions of Contract Clause 45;</li> </ul>				



## **Section X: Contract Forms**

This Section contains forms which, once completed, will form part of the Contract. The forms for Performance Security and Advance Payment Security, when required, shall only be completed by the successful Bidder after contract award.



#### Letter of Intent [on letterhead paper of the Employer]

Date: ....

To: ......Name and address of the Contractor.....

Subject: ..... Issuance of letter of intent to award the contract.....

contract and identification number, as given in the Contract Data/SCC] to you as your bid price

..... [insert amount in figures and words in Nepalese Rupees] as corrected and

modified in accordance with the Instructions to Bidders is hereby selected as substantially responsive lowest evaluated bid.

Authorized Signature: ..... Name: ..... Title: ....

CC: [Insert name and address of all other Bidders, who submitted the bid]

#### [Notes on Letter of Intent

The issuance of Letter of Intent is the information of the selection of the bid of the successful bidder by the Employer and for providing information to other unsuccessful bidders who participated in the bid as regards to the outcome of the procurement process. This standard form of Letter of Intent to Award should be filled in and sent to the successful Bidder only after evaluation and selection of substantially responsible lowest evaluated bid.]





#### Letter of Acceptance [on letterhead paper of the Employer]

Date: .....

To: .....Name and address of the Contractor..... Subject: .....Notification of Award

This is to notify that your Bid dated .....for execution of the.....name of the contract and identification number, as given in the Contract Data/SCC ...... for the Contract price of Nepalese Rupees *[insert amount in figures and* words in Nepalese Rupees], as corrected in accordance with the Instructions to Bidders is hereby accepted in accordance with the Instruction to Bidders.

You are hereby instructed to contact this office to sign the formal contract agreement within 15 days with Performance Security of NRs. ..... in accordance with the Conditions of Contract, using for that purpose the Performance security Form included in Section X (Contract Forms) of this Bidding Document.

Authorized Signature: .....

Name and Title of Signatory: .....



## Contract Agreement

The Employer and the Contractor agree as follows:

- 1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.
- 2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other Contract documents.
  - (a) the Letter of Acceptance;
  - (b) the Letters of Technical and Price Bid;
  - (c) the Addenda Nos ...... Insert addenda numbers if any .....
  - (d) the Special Conditions of Contract;
  - (e)the List of Eligible Countries that was specified in Section V of the bidding document,
  - (f) the General Conditions of Contract;
  - (g) the Specification;
  - (h) the Drawings;
  - (i) Bill of Quantities (or Schedules of Prices for lump sum contracts), and
  - (j) Table of Price Adjustment Data
  - (k)List of Approved Subcontractors [For GoN funded project]
  - (I) ......[Specify if there are any other document]
- 3. In consideration of the payments to be made by the Employer to the Contractor as indicated in this Agreement, the Contractor hereby covenants with the Employer to execute the Works and to remedy defects therein in conformity in all respects with the provisions of the Contract.
- 4. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of Nepal on the day, month and year indicated above.

Signed by ..... for and on behalf the Contractor in the presence of

Witness, Name Signature, Address, Date

Signed by..... for and on behalf of the Employer in the presence of



Witness, Name, Signature, Address, Date

### List of Approved Subcontractors

In accordance with GCC Sub-Clause 13.1, The following Subcontractors are approved for carrying out the work as specified below.

Name of Subcontractors	Description of Works	Value/Percentage of subcontract



### **Performance Security**

#### (On letterhead paper of the Commercial Bank or Financial Institution eligible to issue Bank Guarantee as per prevailing Law in Nepal.)

	Bank's	Name,	and	Address	of	lssuing	Branch	or	Office	 
Beneficiary:				Name and <i>l</i>	Add	ress of En	nployer			
Date:										

Performance Guarantee No.:...

Furthermore, we understand that, according to the conditions of the Contract, a performance guaranteeis required.

#### .....

Seal of Bank and Signature(s)

Note:

All italicized text is for guidance on how to prepare this demand guarantee and shall be deleted from the final document.

\* The Guarantor shall insert an amount representing the percentage of the Contract Price specified in the Contract in Nepalese Rupees.

\*\* Insert the date thirty days after the date specified for the Defect Liability Period. The Employer should note that in the event of an extension of the time for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months], in response to the Employer's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee".





## Advance Payment Security

#### (On letterhead paper of the Commercial Bank or Financial Institution eligible to issue Bank Guarantee as per prevailing Law in Nepal.)

Furthermore, we understand that, according to the Conditions of the Contract, an advance payment in the sum...... name of the currency and amount in figures\*...(... amount in words .....) is tobe made against an advance payment guarantee.

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Contractor as indicated in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that eighty (80) percent of the Contract Price has been certified for payment, or on the ...... day of ......\*\*, whichever is earlier. Consequently, any demand for payment under thisguarantee must be received by us at this office on or before that date.

Seal of Bank and Signature(s)

#### Note:

All italicized text is for guidance on how to prepare this demand guarantee and shall be deleted from the final document.

\*The Guarantor shall insert an amount representing the amount of the advance payment in Nepalese Rupees of the advance payment as specified in the Contract.

\*\* Insert the date Thirty days after the expected completion date. The Employer should note that in the event of an extension of the time for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months], in response to the Employer's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee".

# SECTION-VI Bill of Quantities

# **Bill of Quantities**

1 Pr	1 Provisional Sum								
	Procument Item Details								
SL. No	Item Description		Unit	Quantity	Unit Rate(NPR)	Amount(NPR)			
1	Insurance of works ,plants,materials,lo to equipments,contractors workman an third party insurance against damage to and property.	oss and damage d employes and o other persons	PS	1.0	75000.0	75,000.00			
2	Carry out additional tests for materia required and instructed by project Man	ls and works as ager	PS	1.0	125000.0	125,000.00			
2 C	onstruction work								
		Procun	nent Item Details						
SL. No	Item Description	Unit	Quantity	Bidder's Rate (NPR)	Bidder's Rate (in words)	Total Amount (NPR)			
1	EARTH WORK IN EXCAVATION Earth work in excavation in foundation including lift up to 2.5m timbering, pumping out water from the foundation trench, stacking the soil 1m. minimum from the edge of the foundation trench, back filling the excavated soil with clean and grub of soil up to a lead of 30m. as per drawing, specification and instruction of the engineer all complete	Cum.	324.62						
2	EARTH WORK IN FILLING Earth work in filling in foundation, floor etc. shall be done with good excavated soil in the floor with proper ramming in 20cm layers ,after sprinkling water and consolidating to 15 cm layer , as per drawing, specification and instruction of the engineer, all complete. a) Ordinary	Cum.	129.85						
3	BRICK SOLING Providing and laying, dry brick soling in floor with first class chimney made bricks complete to level including sand filling on joints, as per drawing, specification and instruction of engineer, all complete. a) Dry Brick Flat soling	Sqm.	317.57						
4	P.C.C. Providing and laying, plain cement concrete for foundation and floor with cement,sand and stone ballast including mixing, laying, curing finishing etc. as per drawings, specification and instruction of the engineer, all complete. P.C.C. of M 15	Cum.	27.39						

	Procument Item Details							
SL. No	Item Description	Unit	Quantity	Bidder's Rate (NPR)	Bidder's Rate (in words)	Total Amount (NPR)		
5	P.C.C. FOR R.C.C. Providing and laying, plain cement concrete for R.C.C. beams, slabs, lintels, sills, associated cornice columns footings, and all kinds of R. C.C. works with cement,sand and stone ballast including mixing, laying, curing finishing etc. excluding reinforcement, centering and shuttering as per drawings, specification and instruction of the engineer, all complete. P.C.C. of M 20	Cum.	127.07					
6	P.C.C. FOR R.C.C. Providing and laying, plain cement concrete for R.C.C. columns and Shear wall with cement,sand and stone ballast including mixing, laying, curing finishing etc. excluding reinforcement, centering and shuttering as per drawings, specification and instruction of the engineer, all complete. P.C.C. of M 25	Cum.	50.59					
7	FORMWORK Providing and laying, centering and shuttering with approved materials for all kinds RCC works including all necessary mild steel propping, scaffolding, staging, supporting, etc. all complete net as per drawings, specifications and instructions of the engineer, all complete. a) 19mm thick waterproof Ply Wood or steel Form Work for plain slab, column, Beams, foundations, etc.	Sqm.	1264.76					
8	BRICK WORK IN FOUNDATION Providing and laying, brickwork in foundation with approved quality first class chimney made brick in perfect line and level, finished including wetting the bricks, packing the joints and curing the work and necessary scaffolding, complete in all types and thickness of walls, columns, etc. as per drawings, specification and instruction of engineer, all complete. a) chimney made brickwork in 1:4 Cement sand Mortar (C.M.)	Cum.	159.41					

	Procument Item Details							
SL. No	Item Description	Unit	Quantity	Bidder's Rate (NPR)	Bidder's Rate (in words)	Total Amount (NPR)		
9	BRICK WORK IN STRUCTURE Providing and laying, brickwork in foundation with approved quality first class chimney made brick in perfect line and level, finished including wetting the bricks, packing the joints and curing the work and necessary scaffolding, complete in all types and thickness of walls, columns, etc. as per drawings, specification and instruction of engineer, all complete. a) chimney made brickwork in 1:4 Cement sand Mortar (C M )	Cum.	161.45					
10	CEMENT SAND PLASTER Providing and laying, cement sand plastering on floor, wall, ceiling, skirting, dado, cornices, etc. of good finish, including raking the joints, cleaning and wetting the surface and curing the works all complete, as per drawing, specification and instruction of engineer, all complete.a) 20mm thick plaster in 1:4	Sqm.	4083.35					
11	CEMENT PUNNING (1:1) Providing and laying, 3 mm thick cement sand punning (1:1) on floor, skirting, dado etc. including cleaning and wetting surface, mixing, laying and rubbing with steel trowel to a hard, smooth and shining surface and curing for a quality finish as per drawing, specification instruction of engineer, all complete.	Sqm.	726.79					
12	25MM THICK SCREEDING Providing and laying, 50 mm thick screeding with 1:2:4 concrete mix on proper slope after scraping, cleaning and watering the old surface as per drawing, specification and instruction of engineer, all complete.	Sqm.	1516.72					
13	WOODEN FRAMES Wood work in frame for doors, etc. with good finish of approved seasoned Salwood including fixing with necessary hold fast, as per drawing, specification and instruction of engineer, all complete.	Cum.	0.78					
14	Supplying and fixing of factory made (Kutty or equivalent make) flush door shutters of 38mm thick with 12mm thick teak wood edge beading and with both side Teak Veneer	Sqm.	78.97					

	Procument Item Details							
SL. No	Item Description	Unit	Quantity	Bidder's Rate (NPR)	Bidder's Rate (in words)	Total Amount (NPR)		
15	ALUMINIUM WINDOWS Supplying and fitting brown colour anodized Aluminium windows including 101x45x1.5mm section frame with shutters, 5mm tinted glass and necessary accessories as per drawings, specification and instruction of engineer, all complete. a) Sliding Aluminium Windows (with wire mesh shutter)	Sqm.	259.17					
16	ALUMINIUM PARTITION Supplying and fitting Aluminium framed Fixed Partition with Natural anodised section of 101mmx45mm x1.5mm, Glass 5mm clear or 9mm thick Laminated board as per drawing, specification and instruction of the engineer, all complete.	Sqm.	77.08					
17	PAINTING & COLORING Providing and applying, inside and outside painting work on wall and ceiling of approved color including necesary primer (as per product manual) to give uniform color after rendering surface clean and moist (where necessary) as per specifications, drawings, and instruction of the engineer, all complete. a) Two coats of Distemper paint	Sqm.	3935.81					
18	ENAMEL PAINTING Providing and applying, inside and outside painting with approved color and paints with two coats of primer to give uniform color after rendering surface clean with sandpapering as per drawing, specifications and instruction of the engineer, all complete. a) two coats of Enamel Paints	Sqm.	202.43					
19	STEEL REINFORCEMENT Providing and laying, steel reinforcement bar including straightening, cleaning,cutting, bending, binding with 20 SWG annealed tying wire and fixing in positions as per drawing, specifications and instructions of the engineer, all complete. a) TMT Fe 500	Mt.	43.12					

	Procument Item Details								
SL. No	Item Description	Unit	Quantity	Bidder's Rate (NPR)	Bidder's Rate (in words)	Total Amount (NPR)			
20	STAINLESS STEEL RAILING Providing and fixing, 25mm×25 mm square MS Railing (2'-6" - 3'-0" High) with 75mm x 125 mm, MS flat Sal / Shsham Handrail, Brass Capings with necessary primer coat as per drawing, specification and instruction of engineer, all complete.	Rm.	151.06						
21	MARBLE FLOORING Providing and laying, 15 mm. thick and minimum 600mmx600mm size Marblestone in floor, dado, skirting, etc. laid with 20mm thick Cement Sand mortar (1:2) in proper slope for draining wash water, joint not exceeding 3 mm. and pointed with White Cement slurry, grinding, polishing to smooth glazed surface and waxed finish in floor, of the approved colour and quality, as per drawing, specification and instruction of engineer, all complete. a) Floors	Sqm.	167.18						
22	b) Stairs	Sqm.	65.18						
23	PORCELAIN TILES Supplying and fixing of Porcelaine tiles on wall and floor in (1:1) cement mortar over cement plaster in (1:4) in perfect line and level of approved colour and quality as per drawing, specification and instruction of engineer, all complete. 300x300mm Non Glazed Porcelaine Tiles on floor	Sqm.	409.11						
24	12 mm thick marble skirting in 1:6 cement sand and 100 mm height	Rm.	18.31						
25	12 mm thick cement skirting in 1:6 cement sand and 100 mm height	Rm.	30.47						
26	Brick Cladding on outer surface of wall.	Sqm.	190.56						
27	Hexagonal brick paving in front of buiding in cement 1:4	Sqm.	510.0						
3 C	3 Construction work								
3.1	Building installation work								
3.1.1	Electrical installation work								
		Procun	nent Item Details						
SL. No	Item Description	Unit	Quantity	Bidder's Rate (NPR)	Bidder's Rate (in words)	Total Amount (NPR)			

Procument Item Details								
SL. No	Item Description	Unit	Quantity	Bidder's Rate (NPR)	Bidder's Rate (in words)	Total Amount (NPR)		
1	Distribution Boards. Supply, installation, testing and commissioning of factory fabricated and factory assembled, sheet steel clad powder coated, wall/recess mounting dust and vermin proof, double door vertical type Distribution Boards fabricated from 16 SWG sheet steel provided with hinged gasketted door with padlocking facility and including suitably rated PVC insulated copper busbars with interconnections and neutral bar assembly, earthing terminals etc. complete as required, as below and as per. sample to be approved by architects. Make of breakers: ABB/Siemens/Hager or equvalent. (refer SLD).MDB, SDB-1, SDB-2, SDB-3, SDB-4.List of Materials 200A 415V Change Over Switch (COS)	No	1.0					
2	125 A 3P MCCB	No	2.0					
3	63 A 3P MCCB	No	2.0					
4	50 A 3P MCCB	No	2.0					
5	32 A 3P MCB	No	1.0					
6	25 A 3P MCB	No	2.0					
7	16 A 3P MCB	No	1.0					
8	16 A 1P MCB	No	21.0					
9	6 A 1P MCB	No	21.0					
10	Copper Bus Bar(20*3 mm)	kg	1.0					
11	Panel Board 1) 60/75/100 AMP "12×36"×48" size	No	3.0					
12	1) 60/75/100 AMP, 9"×36"×48" size	No	4.0					

Procument Item Details							
SL. No	Item Description	Unit	Quantity	Bidder's Rate (NPR)	Bidder's Rate (in words)	Total Amount (NPR)	
13	SUBMAINS CABLES, SUPPORT & RACEWAYS.Supply, installation, testing & commissioning of following sizes of PVC sheathed XLPE insulated Copper conductor power/muticore control Armoured Unarmoured cables of 1.1 KV grade in pre excavated cable trench, on wall, pre installed cable tray /ladder, cable rack, ducts/hume pipe, PVC, MS Pipes as deemed including termination & fixing hardware etc as required all complete. 4 core 1.5 mm sq Cu Armored	Rm	18.0				
14	4 core 2.5 mm sq Cu Armored	Rm	8.0				
15	4 core 10 mm sq Cu Armored	Rm	5.0				
16	Cable Raceways.Supply and installation of following types of 2 mm thick HDP pipe required as a cable race ways to be installed in ceiling, wall, floor or in pre-installed cable tray as per site conditions all complete. 20 mm dia (6 Kg/Cm Sq)	Rm	300.0				
17	General Service Light Point Wiring. Supplying, wiring, testing and commissioning and putting into operation of for lights, ceiling fans, exhaust fans points using 2.5 sq mm multi stranded copper conductor, 1100 volts grade, PVC insulated wires drawn through preollo installed HDP Pipe as a cable sleeve concealed in wall and floor including all fixing and connecting materials. The rate for point wiring shall include the circuit wiring from deginated Distribution Board (DB) up to the first light/fan/ control switch on wards to light/fan then the looping between switches /lights/fans/ etc. (No cable jointing is allowed except switch and fixture). The cost shall be including HDP Pipes, modular formation control switches/electronic fan dimmers integrated in multi modular plate flushed in required size of GI box, GI fish wire, cutting and filling chases for recessed pipes as deemed as per drawing and lay out plan all complete. Modular switches and Fan dimmer shall be - North West or equvalent. One Way Light Point	Pts	75.0				
18	Two Way Light Point	Pts	4.0				
19	Ceiling and Exhaust Fan Point Wiring	Pts	39.0				

Procument Item Details							
SL. No	Item Description	Unit	Quantity	Bidder's Rate (NPR)	Bidder's Rate (in words)	Total Amount (NPR)	
20	Universal Pin 16 A Power Point Wiring.Supplying, wiring, testing and commissioning and putting into operation of 16 A power points using 2 x 4 sq mm + 1 x 2.5 Sq mm multi stranded copper conductor, 1100 volts grade, PVC insulated wires drawn through pre installed 2 mm thick HDP pipe, cable sleeve/support but including specified dia pipes concealed in wall and floor including all fixing and connecting materials. The rate for point wiring shall include the circuit wiring from deginated Distribution Board (DB) up to the first power point then the looping between sockets. The cost shall be excluding modular formation switch sockets and their flushing GI box but including GI fish wire, cutting and filling chases for recessed pipes as deemed as per drawing and lay out plan all complete.	Pts	40.0				
21	Supplying, wiring, testing and commissioning and putting into operation for 6 A light power point using 2 x 2.5 sq mm + 1 x 1.5 Sq mm multi stranded copper conductor, 1100 volts grade, PVC insulated wires drawn through pre installed 2 mm thick HDP pipe, cable sleeve/support but including specified dia pipes concealed in wall and floor including all fixing and connecting materials. The rate for point wiring shall include the circuit wiring from deginated Distribution Board (DB) up to the first power point then the looping between sockets. The cost shall be excluding modular formation switch sockets and their flushing GI box but including GI fish wire, cutting and filling chases for recessed pipes as deemed as per drawing and lay out plan all complete. 6 A Universal Pin Light Power Socket Wiring	Pts	42.0				
22	Switch Socket Outlets.Supply, installation, interconnection, testing and commissioning of following types of modular formation flush mounted switch socket including GI box to be installed in specified location and height all complete. (North West, Siemens, Philips or equvalent). Universal Pin 16 A Switch Socket	No	55.0				
23	6 A Universal Pin Switch Socket	No	42.0				
Procument Item Details							
------------------------	---	------	----------	------------------------	--------------------------	-----------------------	
SL. No	Item Description	Unit	Quantity	Bidder's Rate (NPR)	Bidder's Rate (in words)	Total Amount (NPR)	
24	Sweep Ceiling/Exhaust Fans.Supply, installation, interconnection, testing and commissioning and putting into operation of following sizes of sweep ceiling/exhaust fans as per drawing specification including the extended hanging rod as deemed. All speed regulator of ceiling fan shall be electronic type suitable for modular light switch board. Exhaust fan shall have operational louver and switching shall be made by modular switch and fan terminals shall be connected via ceiling rose. Make: Almonard/Usha/Crompton or equvalent. 1200 mm 3 Blades ceiling fan.	No	39.0				
25	Light Fixtures/Luminaires & Accessories.Supply, storing, assembling, installation, testing and commissioning of following types wall/ceiling, surface/recessed, suspended LED lighting fixtures including inbuilt driver, 1.5 Sq.mm PVC insulated copper conductor wire fixing and connecting materials complete as per specification.(Wipro Garnet or equvalent Philips) 36 W Tubelight surface panel light Lumen: 2520	Nos.	55.0				
26	12 W LED surface panel light size: 180x180 mm, Lumen: 1200	Nos.	10.0				
27	7 W LED Mirror Light length:275 mm, Lumen: 560	Nos.	41.0				
28	CCTV System.Camera Point Wiring. Supply, delivery, wiring interconnection and putting into operation of CCTV point wiring with RJ-11 or 75 Ohms double screened co-axial copper cable for digital circuits as required from DVR station to each camera points (average length is estimated 17 meters) concealed in 19 mm dia PVC pipe laid in wall, ceiling or floor as demed or including saddle/clamps for surface installation including all types fixing and connecting materials complete	Pts	25.0				
29	Day & Night Dome Camera.Supply, Installation, Testing and Commissioning of 1/3" Sony Super HAD CCD indoor Color Dome Type camera with 600 TV Lines super High resolution with 3.6mm wide angle Lens,Min. Min. Illumination 0.4 Lux, 3- axis movement for free Lens rotation, Back light compensation, automatic gain Control, PAL, high performance Camera complete as required.	No	25.0				

Procument Item Details						
SL. No	Item Description	Unit	Quantity	Bidder's Rate (NPR)	Bidder's Rate (in words)	Total Amount (NPR)
30	100KVA Three phase Diesel Generator (Eicher Volvo)	No.	1.0			
3.1.2	Plumbing and sanitary works					
		Procun	nent Item Details			
SL. No	Item Description	Unit	Quantity	Bidder's Rate (NPR)	Bidder's Rate (in words)	Total Amount (NPR)
1	Sanitary Wares and Toilet Requisites. W.C. COMMODE.Supplying and fixing Porcelain clay white glazed IPWC COMMODE with 'P' or 'S' trap with or without vent arm, 10 lit. porcelain clay low level flushing cistern (internal PVC fittings),Bakelite toilet seat cover with complete accessories including C.I. Bracket, flushing C.P. Pipe, PVC Pipe connector,screw etc. fittings as per specification and instruction of Engineer all complete.	set	12.0			
2	Supplying and fixing Porcelain clay white glazed COUNTER WASH BASIN with C.I. Brackets, 32 mm Dia. PVC Bottle trap, 32 mm dia. C.P. waste coupling with C.P. chain and rubber plug, 15 mm dia. Pillar cock, PVC pipe connector ,Screw etc. as per specification and instruction of Engineer, all complete.Counter Wash Basin 550 x 400 mm size	No	12.0			
3	Supplying & fixing CP Bib Cock (Tap) including joining material set as per specification and instruction of Engineer all complete.	No	12.0			
4	Supplying & fixing water spray with 1.2m long flexible pipe as per specification and instruction of Engineer all complete.	No	12.0			
5	Supplying and fixing as per specification and instruction of Engineer, all complete.C.P. Fancy type heavy quality Soap Dish 150mm X 150mm size.	No	12.0			
6	Glass shelf 600mm long with C.P Guard Rail	No	12.0			
7	Looking mirror beveled edge 550 x 400 mm size with plastic frame and screw etc	No	12.0			
8	C.P. Toilet Paper Holder	No	12.0			
9	Supplying and fixing COCKS as per specification and instruction of Engineer, all complete. Bib cocks. 15 mm dia. C.P. fancy type Bib-cock.	No	12.0			
10	15 mm dia. C.P. fancy type Angle Valve	No	20.0			
11	15 mm dia. C.P. Stop Cock	No	3.0			

Procument Item Details							
SL. No	Item Description	Unit	Quantity	Bidder's Rate (NPR)	Bidder's Rate (in words)	Total Amount (NPR)	
12	Supplying and laying P.V.C. PIPES( 4 kg/cm <sup>2</sup> ) with ball and socket arrangement, clamps and screws, all joints to be caulked with well terrel gaskin and Solvent as per specification and instruction of Engineer, all complete.50 mm. dia. P.V. C Pipes.	r.m	52.0				
13	75 mm. dia. P.V .C Pipes.	r.m	76.2				
14	110 mm. dia.P.V.C. Pipes	r.m	100.0				
15	160 mm. dia.P.V.C. Pipes	r.m.	50.0				
16	Supplying ,fixing ,jointing ,laying UPVC pipe SPECIALS ( 4 kg/cm <sup>2</sup> ) plain or door access /straight or reduced as per need, joints to be caulked with Gaskin, Solvent as per specification and instruction of Engineer, all complete. 50 mm. dia. specials Bend	nos.	20.0				
17	tee	nos.	20.0				
18	half bend	nos	30.0				
19	75 mm. dia.specials .half bend	nos.	20.0				
20	Door bend 90	nos.	4.0				
21	Y joint	nos.	25.0				
22	110 mm. Dia specials .Bend	nos.	8.0				
23	Bend 45	nos.	14.0				
24	Door bend 90	nos.	2.0				
25	Y joint	nos.	4.0				
26	Supplying and fixing C.P. GRATINGS as per specification and instruction of Engineer, all complete. 125 mm dia. C.P. Grating heavy quality.	No	15.0				
27	Supplying and fixing PVC Multi Floor traps as per specification and instruction of Engineer, all complete. 110 x 75 mm dia. Multi Floor Trap	No	11.0				

Procument Item Details						
SL. No	Item Description	Unit	Quantity	Bidder's Rate (NPR)	Bidder's Rate (in words)	Total Amount (NPR)
28	Water Supply Works.Supplying and fixing CPVC:- Chlorinated Poly Vinyl Chloride pipe(hot and cold). or equivalent with CPVC fittings/ specials (Tees, elbows, Unions etc) clamps(m.s plate with nut and bolt with hexagonal screws for clamp in ceiling,wall), nails, including 20 mm dia CPVC Pipe SDR 11 CTS, 22.5 kg/cm2 includes fixing/laying with necessary fittings all complete.	r.m	75.0			
29	25 mm dia CPVC Pipe SDR 11 CTS, 22.5 kg/cm2 includes fixing/laying with necessary fittings all complete.	r.m	151.0			
30	32 mm dia CPVC Pipe SDR 11 CTS, 22.5 kg/cm2 includes fixing/laying with necessary fittings all complete.	r.m	31.0			
31	50 mm dia CPVC Pipe SDR 11 CTS, 22.5 kg/cm2 includes fixing/laying with necessary fittings all complete.	r.m	50.0			
32	Supplying and fixing CPVC:- Chlorinated Poly Vinyl Chloride valve including jointing materials. all complete set as per specification and instruction.32 mm dia CPVC Ball Valve, CTS Socket all complete.	No	10.0			
33	Suply and fixing roof top PVC watertank (hiltek or equivalent ) of capacity 2000 liter	no	2.0			
34	Supplying and fixing of 1 H.P. Electrical motor water pump Multi stage, coupled pump (Crompton)	no	3.0			
Total of Procument Items						
Total Item Price						
VAT						
Grand Total						