

CONTRACT AGREEMENT DOCUMENT

For

THE PROCUREMENT OF

**RAINFALL PROTECTION WORKS AT
SOS CHILDREN'S VILLAGE KAVRE, PANAUTI-5,
SHREEKHANDAPUR**

Abbreviations

BD.....	Bidding Document
BDF	Bidding Forms
BDS	Bid Data Sheet
BOQ.....	Bill of Quantities
COF	Contract Forms
EMPLOYER.....	SOS Children's Village Nepal
ELI	Eligibility
EEC	Evaluation and Eligibility Criteria
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
NCB	National Competitive Bidding
PAN	Permanent Account Number
SBD	Standard Bidding Document
SCC.....	Special Conditions of Contract
TS.....	Technical Specifications
VAT.....	Value Added Tax
WRQ.....	Works Requirements



INVITATION FOR BID

Date of publication: December 12, 2024

SOS Children's Villages Nepal

Sanothimi, Bhaktapur

SOS Children's Villages Nepal, National Office, invites Bid from Eligible bidder's for following works under National competitive bidding (NCB) Single Stage Single Envelope System Bidding Procedure. Bidders may obtain further information from the SOS Children's Villages Nepal's website <https://www.sosnepal.org.np/notice>

S.N	Contract ID.	Description of Works	Est. Amount (Without Vat)	Bid Security Amount (NPR.)	Cost of Bidding Documents (NPR.)	Bidding Procedure	Last Date of Bid Submission	Last DateOf Bid Opening
1	SOS CV NEPAL/RA INFALL PROTECTION WORKS/SOS CV KAVRE/2024	Repair/maintenance, demolition and re-construction works to be carried on at SOS Children's Village Kavre, Panauti-5, Shreekhanda pur.	-	100,000.00	-	Single Stage Single-Envelope Bidding Procedure	December 27, 2024 till 11:00	December 27, 2024 at 11:30

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SECTION— I

Instructions to Bidders

This section specifies the procedures to be followed by Bidders in the preparation and submission of their Bids. Information is also provided on the submission, opening, and evaluation of bids and on the award of contract.

A. General	
1. Scope of Bid	<p>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 V (Works Requirements). The name, identification, and number of Contracts of the National Competitive Bidding (NCB) are provided in the BDS.</p> <p>1.2 Throughout this Bidding Document:</p> <ul style="list-style-type: none"> (a) the term “in writing” means communicated in written form and delivered against receipt; (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 (c) “day” means calendar day.
2. Source of Funds	SOS Children’s Village Nepal.
3. Fraud and Corruption	<p>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;</p> <ul style="list-style-type: none"> (a) the Employer (SOS Children’s Village Nepal) adopts, for the purposes of this provision, the terms as defined below: <ul style="list-style-type: none"> (i) “corrupt practice” means the offering, giving, receiving, or soliciting, directly or indirectly, anything of value to influence improperly the actions of another party; (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.

	<p>(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 EMPLOYER's contractual rights of audit or access to information; and</p> <p>(vi) "integrity violation" is any act which violates Anti Corruption Policy, including (i) to (v) above and the following: abuse, conflict of interest, violations of GoN/EMPLOYER sanctions, retaliation against whistleblowers or witnesses, and other violations of Anti Corruption Policy, including failure to adhere to the highest ethical standard.</p> <p>(b) the Employer will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations in competing for the contract;</p> <p>(c) the Employer will cancel the portion of the financing allocated to a contract if it determines at any time that representative(s) of the Employer or of a beneficiary of the Employer is engaged in corrupt, fraudulent, collusive, or coercive practices or other integrity violations during the procurement or the execution of that contract.</p> <p>(d) the Employer will impose remedial actions on a firm or an individual, at any time, in accordance with the Employer's Anti Corruption Policy and related Guidelines (as amended from time to time), including declaring ineligible, either indefinitely or for a stated period of time, to participate in Employer-financed, -administered, or -supported activities or to benefit from an Employer-financed, -administered, or -supported contract, financially or otherwise, if it at any time determines that the firm or individual has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations; and</p> <p>(e) the Contractor shall permit the Employer to inspect the Contractor's accounts and records relating to the performance of the Contractor and to have them audited by auditors appointed by the Employer, if so required by the Employer.</p>
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	<p>3.2 The Bidder shall not carry out or cause to carry out the following acts with an intention to influence the implementation of the procurement process or the procurement agreement :</p> <ul style="list-style-type: none"> (a) give or propose improper inducement directly or indirectly, (b) distortion or misrepresentation of facts, (c) engaging in corrupt or fraudulent practice or involving in such act, (d) interference in participation of other competing bidders, (e) coercion or threatening directly or indirectly to cause harm to the person or the property of any person to be involved in the procurement proceedings, (f) collusive practice among bidders before or after submission of bids for distribution of works among bidders or fixing artificial/uncompetitive bid price with an intention to deprive the Employer the benefit of open competitive bid price, (g) contacting the Employer with an intention to influence the Employer with regards to the bids or interference of any kind in examination and evaluation of the bids during the period from the time of opening of the bids until the notification of award of contract.
	<p>3.3 Employer may blacklist a Bidder for a period of one (1) to three (3) years for its conduct including on the following grounds and seriousness of the act committed by the bidder:</p> <ul style="list-style-type: none"> (a) if convicted by a court of law in a criminal offence which disqualifies the Bidder from participating in the contract, (b) if it is established that the contract agreement signed by the Bidder 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 obstructive practices in competing for, or in executing, an Employer-financed contract. (d) if the successful bidder fails to sign the contract. (e) if the bidder fails to inform about the saturation of maximum number of contracts as per ITB 4.9.

	<p>3.4 A bidder declared blacklisted and ineligible by the GoN, Public Procurement Monitoring Office (PPMO) and/or the Employer, shall be ineligible to bid for a contract during the period of time determined by the GoN, PPMO and/or the Employer.</p>
	<p>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.</p>
	<p>3.6 Furthermore, Bidders shall be aware of the provisions of GCC (GCC 28.3 and 72.3(j)).</p>
<p>4. Eligible Bidders</p>	<p>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:</p> <ul style="list-style-type: none"> (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 specified in the BDS. The eligibility criteria requirement of the parties to the JV shall be as specified in Section III Evaluation and Eligibility Criteria, 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. <p>4.2 A Bidder, and all parties constituting the Bidder, shall have the nationality of any country or eligible countries mentioned in the BDS. 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.</p>

	<p>4.3 A Bidder shall not have a conflict of interest. A Bidder found to have a conflict of interest shall be disqualified, if any of, including but not limited to, the following apply:</p> <ul style="list-style-type: none"> (a) they have controlling partners 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 information about or improperly influence on the Bid of another Bidder, or influence the decisions of the Employer regarding this bidding process; or
	<ul style="list-style-type: none"> (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 (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 (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. (h) a Bidder that has a close business or family relationship with a professional staff of the Procuring Entity. <p>4.4 A firm that is under a declaration of ineligibility by the GoN/Employer 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 Employer-financed, -administered, or -supported project while under temporary suspension or debarment by Employer pursuant to the Employer's Anti-Corruption Policy (see ITB 3), whether such debarment was directly imposed by the Employer. A bid from a temporary suspended or debarred firm will be rejected.</p> <p>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.</p> <p>4.6 Bidders shall provide such evidence of their continued eligibility satisfactory to the Employer, as the Employer shall reasonably request.</p>

	<p>4.7 Firms shall be excluded in any of the cases, if</p> <ul style="list-style-type: none"> (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. (b) as a matter of law or official regulation, Nepal prohibits commercial relations with that country, provided that the Employer is satisfied that such exclusion does not preclude effective competition for the supply of goods or related services required; (c) a firm has been determined to be ineligible by the Employer in relation to their guidelines or appropriate provisions on preventing and combating fraud and corruption in projects financed by them.
	<p>4.8 Maximum number of running contracts that a Bidder, and all parties constituting the Bidder can have shall be as specified in BDS. The bidders shall be considered ineligible if number of running contracts exceeds the number as specified.</p> <p>4.9 For the purpose of ITB 4.8 above, the bidder shall declare that the bidder, and all parties constituting the Bidder have not running contracts more than the number as specified in BDS. If the bidder, and all parties constituting the Bidder has participated in bidding processes of many public entities and during that period the maximum number of contracts as specified saturates due to issuance of letters of acceptance by a particular public entity, the bidder shall inform in written to all other concerned public entities, where the bidder have participated in bidding process, within three days of issuance of last letter of acceptance that saturates the maximum number of contracts as specified.</p>
5. Eligible Materials, Equipment and Services	<p>5.1 The materials, equipment and services to be supplied under the Contract shall have their origin in any source countries as defined in ITB 4.2 above 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.</p>
	<p>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.</p>
B. Contents of Bidding Documents	

6. Sections of Bidding Document	<p>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.</p> <p>PART I Bidding Procedures</p> <table border="0"> <tr> <td>Section I</td><td>Instructions to Bidders (ITB)</td></tr> <tr> <td>Section II</td><td>Bid Data Sheet (BDS)</td></tr> <tr> <td>Section III</td><td>Evaluation and Eligibility Criteria (EEC)</td></tr> <tr> <td>Section IV</td><td>Bidding Forms (BDF)</td></tr> </table> <p>PART II Requirements</p> <table border="0"> <tr> <td>Section V</td><td>Works Requirements (WRQ)</td></tr> <tr> <td>Section VI</td><td>Bill of Quantities (BOQ)</td></tr> </table> <p>PART III Conditions of Contract and Contract Forms</p> <table border="0"> <tr> <td>Section VII</td><td>General Conditions of Contract (GCC)</td></tr> <tr> <td>Section VIII</td><td>Special Conditions of Contract (SCC)</td></tr> <tr> <td>Section IX</td><td>Contract Forms (COF)</td></tr> </table>	Section I	Instructions to Bidders (ITB)	Section II	Bid Data Sheet (BDS)	Section III	Evaluation and Eligibility Criteria (EEC)	Section IV	Bidding Forms (BDF)	Section V	Works Requirements (WRQ)	Section VI	Bill of Quantities (BOQ)	Section VII	General Conditions of Contract (GCC)	Section VIII	Special Conditions of Contract (SCC)	Section IX	Contract Forms (COF)
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	<p>6.2 The Invitation for Bids issued by the Employer is not part of the Bidding Document.</p> <p>6.3 The Employer is not responsible for the completeness of the Bidding Document and their Addenda, if they were not obtained directly from the source stated by the Employer in the Invitation for Bids.</p> <p>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.</p>																		
7. Clarification of Bidding Document, Site Visit, Pre-Bid Meeting	<p>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 the BDS or raise any question or curiosity during the pre-bid meeting if 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 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 17.2</p> <p>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.</p>																		

	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 provided for in the BDS . 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 mentioned in BDS .
	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 Nonattendance 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 addenda.
	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 19.2. However, the time available to submit bids shall not be less than five (5) days since amendment in bidding document.
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 specified in the BDS . 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 specified in the BDS , 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 the following: (a) Letter of Bid; (b) Completed Bill of Quantities (BoQ), in accordance with ITB 12 and ITB13, or as stipulated in the BDS ; (c) Bid Security, in accordance with ITB 16; (d) Written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB 17.2; (e) Documentary evidence of establishing the Bidder's eligibility; (f) 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 . 11.2 The Bidder is solely responsible for the authenticity of the submitted documents.
12. Letter of Bid and Schedules	12.1 The Letter of Bid, Schedules, and all documents listed under ITB 11, shall be prepared using the relevant forms in Section IV (Bidding Forms) and in Section VI (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. Bid Prices and Discounts	13.1 The prices and discounts quoted by the Bidder in the Letter of Bid and in the Schedules shall conform to the requirements specified below. 13.2 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 VI (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.

	<p>13.3 The price to be quoted in the Letter of Bid shall be the total price of the Bid, excluding any discounts offered. Absence of the total price in the Letter of Bid or the Bid Price in the Bill of Quantities shall result in rejection of the Bid.</p> <p>13.4 The Bidder shall quote any discounts and the methodology for their application in the Letter of Bid, in accordance with ITB 12.1.</p> <p>13.5 If so indicated in ITB 1.1 and ITB 29.4, 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 13.4, provided the bids for all Contracts are submitted and opened at the same time.</p> <p>13.6 Unless otherwise provided in the BDS 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.</p> <p>13.7 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.</p>
14. Currency of Bid and Payment	14.1 The currency of the bid and payment shall be in Nepalese Rupees.
15. Period of Validity of Bids	<p>15.1 Bids shall remain valid for the period specified in the BDS after the bid submission deadline date prescribed by the Employer. If the prescribed bid submission deadline date falls on a government holiday, then the next working day shall be considered as the bid submission deadline date. In such case the validity period of the bids shall be considered from the original bid submission deadline date. A bid valid for a shorter period shall be rejected by the Employer as non-responsive.</p> <p>15.2 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 16, 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.</p>
16. Bid Security	16.1 The Bidder shall furnish as part of its bid, in original form, a bid security as specified in the BDS .

	<p>16.2 The bid security shall be, at the Bidder's option, in any of the following forms:</p> <ul style="list-style-type: none"> (a) an unconditional bank guarantee from Commercial Bank or Financial Institution eligible to issue Bank Guarantee as per prevailing Law or; (b) a cash deposit voucher in the Employer's Account as specified in BDS. <p>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 15.2.</p> <p>16.3 Any bid not accompanied by an enforceable and substantially compliant bid security shall be rejected by the Employer as non-responsive. 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.</p> <p>16.4 The bid security of unsuccessful Bidders shall be returned within three days, once the successful bidder has furnished the required performance security and signed the Contract Agreement pursuant to ITB 34.1 and 35.1.</p>
	<p>16.5 The bid security shall be forfeited if:</p> <ul style="list-style-type: none"> (a) a Bidder requests for withdrawal or modification of its bid, except as provided in ITB 15.2: <ul style="list-style-type: none"> (i) 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 Bid. (b) a Bidder changes the prices or substance of the bid while providing information pursuant to clause ITB 24.1; (c) a Bidder involves in fraud and corruption pursuant to clause 3.1; (d) the successful Bidder fails to: <ul style="list-style-type: none"> (i) furnish a performance security in accordance with ITB 34.1; (ii) sign the Contract in accordance with ITB 35.1 (iii) accept the correction of arithmetical errors pursuant to clause 28.1; <p>16.6 The Bid Security of a JV shall be in the name of the JV that submits the bid. If the JV 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.</p>
<p>17. Format and Signing of Bid</p>	<p>17.1 The Bidder shall prepare one original of the documents comprising the bid as described in ITB 11 and clearly mark it "ORIGINAL". 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.</p>

	<p>17.2 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 the Bidder. This authorization shall consist of a written confirmation as specified in the BDS 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.</p> <p>17.3 Any amendments such as interlineations, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the bid.</p>
D. Submission and Opening of Bids	
18. Sealing and Marking of Bids	<p>18.1 Unless otherwise specified in BDS, Bidders shall submit their bids by mail/by hand/by courier. Procedures for submission, sealing and marking are as follows:</p> <p>i. Bidders shall enclose the original and each copy of the Bid. These</p>
	<p>envelopes containing the original and the copies shall then be enclosed in one single envelope.</p> <p>ii. The inner and outer envelopes shall:</p> <p>(aa) bear the name and address of the Bidder;</p> <p>(bb) be addressed to the Employer as provided in BDS 19.1;</p> <p>(cc) bear the specific identification of this bidding process indicated in BDS 1.1; and</p> <p>(dd) bear a warning not to open before the time and date for bid opening.</p> <p>iii. 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.</p>
19. Deadline for Submission of Bids	<p>19.1 Bids must be received by the Employer at the address and no later than the date and time indicated in the BDS.</p> <p>19.2 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.</p>
20. Late Bids	<p>20.1 The Employer shall not consider any bid that arrives after the deadline for submission of bids, in accordance with ITB 19. Any bid received by the Employer after the deadline for submission of bids shall be declared late, rejected, and returned unopened to the Bidder.</p>

21. Withdrawal, and Modification of Bids	<p>21.1A Bidder may withdraw, or modify its bid after it has been submitted. Procedures for withdrawal or modification of submitted bids are as follows:</p> <ul style="list-style-type: none"> 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 17.2 before 24 hours prior to the last deadline of submission of bid. The corresponding modification of the bid must accompany the respective written notice. All notices must be: <ul style="list-style-type: none"> (aa) prepared and submitted in accordance with ITB 17 and ITB 18, and in addition, the respective envelopes shall be clearly marked "WITHDRAWAL", "MODIFICATION;" and (bb) received by the Employer twenty four hour hours prior to the deadline prescribed for submission of bids, in accordance with ITB 19.
	<p>21.2. Bids requested to be withdrawn in accordance with ITB 21.1 shall not be Opened, and returned unopened to the Bidders.</p>
	<p>21.3 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.</p>
	<p>21.4 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.</p>
	<p>21.5 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.</p>
	<p>21.6 The following provisions apply for withdrawal or modification of the Bids:</p> <ul style="list-style-type: none"> (i) 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.
	<p>21.7 Once a Bid is withdrawn, bidder will not be able to submit another bid for the same bid.</p>
22. Bid Opening	<p>22.1 The Employer shall open the bids in public at the address, date and time specified in the BDS in the presence of Bidders' designated representatives who choose to attend.</p> <p>22.3 Unreadable and or partially submitted bid files shall be considered incomplete.</p> <p>22.4 Envelopes marked "WITHDRAWAL" shall be opened first and read out and the envelope with the corresponding bid shall not be opened, but returned</p>

	<p>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 bid modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at bid opening. Only envelopes that are opened and read out at bid opening shall be considered further.</p>
	<p>22.5 All other envelopes shall be opened one at a time, reading out: the name of the Bidder; the Bid Price(s), including any discounts and alternative bids and indicating whether there is a modification; the presence of a bid security and any other details as the Employer may consider appropriate. Only discounts and alternative offers read out at bid opening shall be considered for evaluation. No bid shall be rejected at bid opening except for late bids, in accordance with ITB 20.1.</p>
	<p>22.6 The Employer shall prepare a record of the bid opening that shall include, as a minimum: the name of the Bidder and whether there is a withdrawal, or modification; the Bid Price, per Contract if applicable, including any discounts and alternative offers; 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.</p>
E. Evaluation and Comparison of Bids	
23. Confidentiality	<p>23.1 Information relating to the examination, evaluation, comparison, 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.</p>
	<p>23.2 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.</p>
	<p>23.3 Notwithstanding ITB 23.2, 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.</p>
24. Clarification of Bids	<p>24.1 To assist in the examination, evaluation, and comparison of the 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 prices or substance of the bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the bids, in accordance with ITB 28.</p>

	24.2 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.
25. Deviations, Reservations, and Omissions	<p>25.1 During the evaluation of bids, the following definitions apply:</p> <p>(a) "Deviation" is a departure from the requirements specified in the Bidding Document;</p> <p>(b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Bidding Document; and</p> <p>(c) "Omission" is the failure to submit part or all of the information or documentation required in the Bidding Document.</p>
26. Determination of Responsiveness	<p>26.1 The Employer's determination of a bid's responsiveness is to be based on the contents of the bid itself, as defined in ITB11.</p> <p>26.2 A substantially responsive 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,</p> <p>(a) if accepted, would:</p> <p>(i) affect in any substantial way the scope, quality, or performance of the Works specified in the Contract;</p> <p>or</p> <p>(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</p> <p>(b) if rectified, would unfairly affect the competitive position of other Bidders presenting substantially responsive bids.</p> <p>26.3 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.</p> <p>26.5 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.</p>
27. Nonconformities, Errors, and Omissions	<p>27.1 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.</p>

	27.2 Provided that a 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 non-material non-conformities in the bid related to documentation requirements. Requesting information or documentation on such non-conformities shall not be related to any aspect of the price of the bid. Failure of the Bidder to comply with the request may result in the rejection of its bid.
	27.3 Provided that a bid is substantially responsive, the Employer shall rectify quantifiable non-material non-conformities 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 Eligibility Criteria).
	27.4 If the monetary value of such non-conformities is found to be more than fifteen percent of the Bid Price of the bidder on account of minor discrepancies pursuant to ITB 27.3, such bid shall be considered non-responsive and shall not be involved in evaluation.
28. Correction of Arithmetical Errors	<p>28.1 Provided that the bid is substantially responsive, the Employer shall correct arithmetical errors on the following basis:</p> <p>(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;</p> <p>(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; and</p> <p>(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 Bid, the bid price in the Summary of Bill of Quantities will prevail and the bid amount in item (c) of the Letter of Bid will be corrected.</p> <p>(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.</p>
	28.2 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.
29. Evaluation of Bids	29.1 The Employer shall use the criteria and methodologies listed in this Clause. No other evaluation criteria or methodologies shall be permitted.
	<p>29.2 To evaluate a bid, the Employer shall consider the following:</p> <p>(a) the bid price, excluding Value Added Tax , Provisional Sums, and the</p>

	<p>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;</p> <p>(b) adjustment for correction of arithmetic errors in accordance with ITB 28.1;</p> <p>(c) adjustment due to discounts offered in accordance with ITB 13.4;</p> <p>(d) adjustment for non-conformities in accordance with ITB 27.3;</p> <p>(e) application of all the evaluation factors indicated in Section III (Evaluation and Eligibility Criteria);</p>
	<p>29.3 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.</p>
	<p>29.4 If this Bidding Document allows Bidders to quote separate prices for different Lots (Contracts), and to award multiple Contracts to a single Bidder as specified in BDS, the methodology to determine the lowest evaluated price of the Contract combinations, including any discounts offered in the Letter of Bid, is specified in Section III (Evaluation and Eligibility Criteria).</p>
	<p>29.5 If the bid for an Unit Rate Contract, which results in the lowest Evaluated Bid Price is seriously unbalanced or front loaded or extremely low 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 mentioned in BDS to protect the Employer against financial loss in the event of default of the successful Bidder under the Contract or may consider the bid as non-responsive.</p>
	<p>29.6 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.</p>
<p>30. Comparison of Bids</p>	<p>30.1 The Employer shall compare all substantially responsive bids in accordance with ITB 29.2 to determine the lowest evaluated bid.</p>
<p>31. Employer's Right to Accept Any Bid, and to Reject Any or All Bids</p>	<p>31.1 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.</p>

F. Award of Contract	
32. Award Criteria	32.1 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.
33. Letter of Intent to Award the Contract/ Notification of Award	33.1 The Employer shall notify the concerned Bidder whose bid has been selected in accordance with ITB 32.1 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 not be given to all other bidders who submitted the bid.
	33.2 After issuance of the notice under ITB 33.1 if the concerned bidder provides information pursuant to ITB 4.9 regarding saturation of maximum number of contracts, the employer shall disqualify the bidder and shall select the next lowest evaluated Bidder in accordance with ITB 32.1 and notify accordingly as per ITB 33.1.
	33.3 If no bidder submits an application pursuant to ITB 36 within a period of seven days of the notice provided under ITB 33.1, the Employer shall, accept the bid selected in accordance with ITB 32.1 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.
	33.4 After communicating letter of acceptance under ITB 33.3, if the concerned bidder provides information pursuant to ITB 4.9 regarding saturation of maximum number of contracts, the employer shall reject the bid of that bidder and shall select the next lowest evaluated Bidder in accordance with ITB 32.1 and shall issue the notice accordingly as per ITB 33.1. In such case bid security of the rejected bidder shall not be forfeited.
34. Performance Security	<p>34.1 Within Fifteen (15) days of the receipt of Letter of Acceptance from the Employer, the successful Bidder shall furnish the performance security as under mentioned from Commercial Bank or Financial Institution eligible to issue Bank Guarantee as per prevailing Law in accordance with the conditions of Contract using Sample Form for the Performance Security included in Section IX (Contract Forms), or another form acceptable to the Employer.</p> <p>i) If bid price of the bidder selected for acceptance is up to 15 (fifteen) percent below the approved cost estimate, the performance security amount shall be 5 (five) percent of the bid price.</p> <p>ii) For the bid price of the bidder selected for acceptance is more than 15 (fifteen) percent below of the cost estimate, the performance security amount shall be determined as follows:</p>
	<p>Performance Security Amount = $[(0.85 \times \text{Cost Estimate} - \text{Bid Price}) \times 0.5] + 5\%$ of Bid Price.</p> <p>The Bid Price and Cost Estimate shall be exclusive of Value Added Tax.</p>

	34.2 Failure of the successful Bidder to submit the above-mentioned Performance Security or to sign the Contract Agreement shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security. In that event the Employer may award the Contract to the next lowest evaluated Bidder whose offer is substantially responsive and is determined by the Employer to be qualified to perform the Contract satisfactorily. The process shall be repeated according to ITB 33.
35. Signing of Contract	35.1 The Employer and the successful Bidder shall sign the Contract Agreement within the period as stated ITB 34.1.
	35.4 If the bidder whose bid is accepted fails to sign the contract as stated ITB 35.1, the Public Procurement Monitoring Office shall blacklist the bidder on recommendation of the Public Entity.
36. Complaint and Review	36.1 If a Bidder is dissatisfied with the Procurement proceedings or the decision made by the Employer in the intention to award the Contract, it may file an application to the SOS CHIDLRENS VILLAGE NEPAL'S Head of Procurement Committee within Five (5) days of providing the notice under ITB 33.1, for review of the proceedings stating the factual and legal grounds.
	36.2 Late application filed after the deadline pursuant to ITB 36.1 shall not be processed.
	36.3 The chief of Procurement Committee shall, within Ten (10) days after receiving the application, give its decision with reasons, in writing pursuant to ITB 36.1: (a) whether to suspend the procurement proceeding and indicate the procedure to be adopted for further proceedings; or (b) to reject the application. The decision of the chief of Procurement Committee shall be final.

SECTION - II

Bid Data Sheet

This section consists of provisions that are specific to each procurement and supplement the information or requirements included in Section I. Instructions to Bidders.

A. General	
ITB 1.1	The number of the Invitation for Bids is : SOS CV NEPAL/RAINFALL PROTECTION WORKS/SOS CV KAVRE/2024
ITB 1.1	The Employer is: SOS CHILDREN'S VILLAGE NEPAL
ITB 1.1	The number and identification of lots (contracts) comprising this bidding process is: SOS CV NEPAL/RAINFALL PROTECTION WORKS/SOS CV KAVRE/2024
ITB 1.1	The name of the Project is: RAINFALL PROTECTION WORKS AT SOS CHILDREN'S VILLAGE KAVRE
ITB 4.1 (a)	Maximum number of partner in a joint venture shall be : 0 (zero), joint venture is not applicable.
ITB 4.2	Eligible countries: Nepal
B. Bidding Document	
ITB 7.1	For clarification purposes only, the Employer's address is: Attention: Bharat B. Rupakheti Address: SOS CHILDREN'S VILLAGES NEPAL, SANOTHIMI, BHAKTAPUR, NEPAL Telephone: : 01-6630091, 9841699870 Facsimile number: Electronic mail address: bharat.rupakheti@sosnepal.org.np Website: https://www.sosnepal.org.np/notice
ITB 7.4	A Pre-Bid meeting shall not be held. A site visit shall not be organized by the Employer.
ITB 7.5	Time for request: Requests for clarification should be received by the Employer no later than 10 days prior to the deadline for submission of bids.
C. Preparation of Bids	
ITB 10.1	The language of the bid is: English.

ITB 11.1 (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: _____
ITB 11.1 (h)	The Bidder shall submit with its bid the following additional documents: Work Schedule.
ITB 14.6	The prices quoted by the Bidder shall not be subject to adjustment during the performance of the Contract.
ITB 15.1	The bid validity period shall be: Ninety (90) days
ITB 16.1	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 NPR 100,000/- which shall be valid for 30 days beyond the validity period of the bid.
ITB 16.2 (b)	<p>a. Information to deposit the cost of bidding document in Bank:</p> <ul style="list-style-type: none"> i. Name of the Bank: Not Applicable (N/A) ii. Name of Office Account: N/A iii. Office Account no.: N/A <p>b. Information to deposit the Bid Security in Bank:</p> <ul style="list-style-type: none"> i. Name of the Bank: Standard Chartered Bank, New Baneshwor, Kathmandu ii. Name of Office Account: SOS CV National Office iii. Name of Office to Deposit: SOS CHILDREN'S VILLAGE NEPAL iv. Office Code no. (Rajaswa Code): v. Office Account no.: 18-0009520-86
ITB 17.1	In addition to the original of the bid, the number of copy/ies is/are: Not Applicable
ITB 17.2	<p>The written confirmation of authorization to sign on behalf of the Bidder shall indicate:</p> <ul style="list-style-type: none"> (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 18.1	Bidders shall not have the option of submitting their bids electronically.

ITB 19.1	<p>For bid submission purposes only, the Employer's address is:</p> <p>Attention: SOS CHILDREN'S VILLAGE NEPAL Address: SANOTHIMI, BHAKTAPUR, NEPAL</p> <p>The deadline for bid submission is as per displayed in SOS CHILDREN'S VILLAGE NEPAL's official website https://www.sosnepal.org.np/notice</p>
ITB 22.1	<p>The bid opening shall take place at:</p> <p>Address: SOS CHILDREN'S VILLAGE NEPAL, SanoThimi, Bhaktapur Date: 12/27/2024 Time: 11:30.</p>
E. Evaluation and Comparison of Bids	
ITB 29.4	Not Applicable
ITB 29.5	The amount of the performance security be increased by Eight (8) percent of the quoted bid price.

SECTION - III

Evaluation and Eligibility Criteria

This Section contains all the criteria that the Employer shall use to evaluate bids and eligible Bidders. Employer requires bidders to be qualified by meeting predefined eligibility criteria. 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 29.2 (a) - (e) the following criteria shall apply:

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 V (Works Requirements).

1.2 Multiple Contracts

Pursuant to Sub-Clause 29.4 of the Instructions to Bidders, if works are grouped in multiple contracts, evaluation will be as follows:

Works are grouped in multiple contracts and pursuant to Sub-Clause 29.4 of the Instructions to Bidders, the Employer will evaluate and compare Bids on the basis of a contract, or a combination of contracts, or as a total of contracts in order to arrive at the least cost combination for the Employer by taking into account discounts offered by Bidders in case of award of multiple contracts.

1.3 Quantifiable Nonconformities and Omissions

Subject to ITB 13.2 and ITB 29.2, the evaluated cost of quantifiable nonconformities including omissions, is determined as follows:

Pursuant to ITB 27.3, the cost of all quantifiable nonmaterial nonconformities shall be evaluated, but excluding omission of prices in the Bill of Quantities. 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		Compliance Requirements			Documents
Requirement	Single Entity	Joint Venture			Submission Requirement
		All Partners Combined	Each Partner	One Partner	
2.1 Conflict of Interest					
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 Bid
2.2 Government-owned Eligibility					
Not having been declared ineligible by government/EMPLOYER, as described in ITB Sub-Clause	must meet requirement	must meet requirement	must meet requirement	not applicable	Letter of Bid
2.3 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
2.4 UN Eligibility					
Not having been declared ineligible based on a United Nations resolution or Employer's country law, as described in ITB Sub-Clause 4.7.	must meet requirement	existing or intended JV must meet requirement	must meet requirement	not applicable	Letter of Bid
2.5 Bidder's Running Contracts					
Bidder's Running contracts ² not more than five (5) as described in ITB Sub-Clause 4.8.	must meet requirement	existing or intended JV must meet requirement	must meet requirement	not applicable	ELI-3

<i>2.5 Other Eligibility</i>					
Firm Registration Certificate	must meet requirement	not applicable	must meet requirement	not applicable	Document attachment
Business Registration Certificate (License)	must meet requirement	not applicable	must meet requirement	not applicable	Document attachment
VAT and PAN Registration certificate	must meet requirement	not applicable	must meet requirement	not applicable	Document attachment
Tax clearances certificate for the F/Y 2081/82 Tax return submission evidence or evidence of tax time extension for.	must meet requirement	not applicable	must meet requirement	not applicable	Document attachment
Additional requirements [Insert if any]

² Note: Only the contracts accepted since 2081-08-13 i.e. November 27, 2024 which are not substantially completed are reconsidered. The contracts those are running under any type of foreign assistance are not accounted for this purpose.

2.2 Pending Litigation

Criteria		Compliance Requirements			Documents
Requirement	Single Entity	Joint Venture			Submission Requirements
		All Partners Combined	Each Partner	One Partner	
2.1.1 Pending Litigation					
All pending litigation shall be treated as resolved against the Bidder and so shall in total not represent more than 100 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

2.3 Financial Situation

Criteria		Compliance Requirements			Documents
Requirement	Single Entity	Joint Venture			Submission Requirements
		All Partners Combined	Each Partner	One Partner	
2.3.1 Historical Financial Performance					
Submission of audited balance sheets and income statements, for the last three (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 decided according to the nature of the work.

<i>2.3.2 Average Annual Construction Turnover</i>					
Minimum average annual construction turnover of NPR (Not Applicable (NA)) 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

2.4 Experience

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

2.5 Personnel

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

No.	Position	Academic Qualification [When position demands]	Total Work Experience [Years]	Experience in Similar Works [years]
1.				
2.				
3.				

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

2.6 Equipment

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

the spared equipments proposed for the contract shall considered for evaluation.

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

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

i. For the equipments under Bidder's ownership

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

ii. For the Equipments to be leased/hired

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

Marking criteria for Technical Evaluation is elaborated below:

Technical Evaluation Criteria:

1. Work Methodology: 15 marks
2. General Work Experience: 25 marks
3. Annual Construction Turnover and Specific Work Experience: 25 marks
4. Qualification and Competence of Key Staff with Relevant Experience: 15 marks
5. Resources- Construction Equipment and Plants: 5 marks
6. Past Work Experience in SOS CV Nepal: 15 marks

TECHNICAL EVALUATION CRITERIA			
S.N.	FULL MARKS= 100, PASS MARKS= 60	MARKS OBTAINED	REMARKS
1 WORK METHODOLOGY (MAXIMUM MARKS= 15/100)			
1.1	Project Planning and Design including Work Schedule (maximum marks= 6)		
	0 Not mentioned/explained		
	2 Explained but insufficiently, without reference to the probable site conditions and without submission of work schedule		
	4 Explained moderately, without either one or both of: reference to the probable site conditions and work schedule		
	6 Explained sufficiently, with both reference to probable site conditions and work schedule		
1.2	Division of work into sub activities and innovative procedure to be used in scheduling, considering possible parallel activities, festivals, monsoon, etc (maximum marks= 6)		
	0 Not included		
	2 Included but insufficiently		
	4 Included but moderately		
	6 Included sufficiently and reasonably		
1.3	Site Preparation, Safe Demolition, Structural Repair and Reinforcement (maximum marks= 1)		
	0 Not mentioned/explained		
	0.33 Explained but insufficiently		
	0.66 Explained moderately		
	1 Explained sufficiently, gauging probable site conditions		
1.4	Quality Assurance and Finishing Quality of work (maximum marks= 1)		
	0 Not mentioned/explained		
	0.33 Explained but insufficiently		
	0.66 Explained moderately		
	1 Explained sufficiently, gauging probable site conditions		
1.5	Health and Safety Management, Final Inspections and Handover (maximum marks= 1)		
	0 Not mentioned/explained		
	0.33 Explained but insufficiently		
	0.66 Explained moderately		
	1 Explained sufficiently, gauging probable site conditions		
2 GENERAL WORK EXPERIENCE (MAXIMUM MARKS= 25/100)			
2.1	Overall construction experience in terms of quality, cost, time and performance (maximum marks= 12)		
	0 No experience certificate		
	4 Relevant experiences with similar role within last 3 Fiscal Years; Masonry wall works; Construction experience certificate- 1 no.		
	8 Relevant experiences with similar role within last 3 Fiscal Years; Masonry wall works; Construction experience certificate- 2 no.s		
	12 Relevant experiences with similar role within last 3 Fiscal Years; Masonry wall works;; Construction experience certificate- 3 no.s		
2.2	Years in Business (maximum marks= 7)		
	0 Not mentioned/explained		
	2.33 Companies with experience less than half of that of the company with highest experience (in terms of number of years)		
	4.66 Companies with experience equal to or more than half of that of the company with highest experience (in terms of number of years)		
	7 Companies with highest experience (in terms of number of years)		
2.3	Innovative Solutions (maximum marks= 4)		
	0 Not mentioned/explained.		

	1.33	Solution(s) mentioned are deemed either 'not innovative' by the SOS CV Nepal's Engineer or deemed inapplicable in our project.		
	2.66	Solution(s) mentioned are deemed 'innovative' by the SOS CV Nepal's Engineer but are inapplicable in our project.		
	4	Solution(s) mentioned are both deemed as 'innovative' by the SOS CV Nepal's Engineer and applicable to our project.		
2.4 Awards and Recognition (maximum marks= 2)				
	0	Not mentioned/explained.		
	0.66	Companies with awards/recognition less than half compared to that of the company with the highest no. of awards/recongnitions		
	1.33	Companies with awards/recognitions equal to or more than half compared to that of the company with highest no. of awards/recognitions.		
	2	Companies with highest number of awards/recognitions		
3 ANNUAL CONSTRUCTION TURNOVER AND SPECIFIC WORK EXPERIENCE (MAXIMUM MARKS= 25/100)				
3.1 Annual turnover NPR 5 million or more in last 3 Fiscal Years (maximum marks= 10)				
	0	Not mentioned/included.		
	3.33	Companies with annual turnover of NPR 5 million or more in last 1 Fiscal Year		
	6.66	Companies with annual turnover of NPR 5 million or more in last 2 Fiscal Years		
	10	Companies with annual turnover of NPR 5 million or more in last 3 Fiscal Years		
3.2 Specific work experience with key activities (6000 cu.ft. stone masonry works (1:5), 1500 cu.ft. brick masonry works (1:4), 4000 cu.ft. demolition works in a single project) (maximum marks= 10)				
	0	Not mentioned/included.		
	3.33	Companies with numbers in key activities less than half of that specified in 3.2		
	6.66	Companies with numbers in key activities equal to or more than half of that specified in 3.2		
	10	Companies with numbers in key activities equal equal to or more than that specified in 3.2		
3.3 Contract worth NPR 4 million or more within last 3 fiscal years related to masonry wall construction (maximum marks= 5)				
	0	Not mentioned/included.		
	1.66	Companies with 1 contract worth NPR 4 million or more in last 3 fiscal years		
	3.33	Companies with 2 contracts worth NPR 4 million or more in last 3 fiscal years		
	5	Companies with 3 contracts or more worth NPR 4 million or more in last 3 fiscal years		
4 QUALIFICATIONS AND COMPETENCE OF KEY STAFF WITH RELEVANT EXPERIENCE (MAXIMUM MARKS= 15/100)				
4.1 Project Manager; 1 no. with Bachelor's Degree in Civil Engineering, total experience 5 years, similar work experience 4 years. (maximum marks= 5)				
	0	Not mentioned/included.		
	1.66	Included but total experience and similar work experience less than half of that specified in 4.1		
	3.33	Included but total experience and similar work experience equal to or more than half of that specified in 4.1		
	5	Included and total experience and similar work experience equal to or more than that specified in 4.1		

4.2	Site Overseer; 1 no. with Diploma Degree in Civil Engineering, total experience 3 years, similar work experience 2 years (maximum marks= 3)			
	0	Not mentioned/included.		
	1	Included but total experience and similar work experience less than half of that specified in 4.2		
	2	Included but total experience and similar work experience equal to or more than half of that specified in 4.2		
	3	Included and total experience and similar work experience equal to or more than that specified in 4.2		
4.3	Site Sub-Overseer; 1 no. with experience of 3 years, similar work experience 2 years (maximum marks= 2)			
	0	Not mentioned/included.		
	0.66	Included but total experience and similar work experience less than half of that specified in 4.3		
	1.33	Included but total experience and similar work experience equal to or more than half of that specified in 4.3		
	2	Included and total experience and similar work experience equal to or more than that specified in 4.3		
4.4	Management/executive team's qualification and experience (maximum marks= 5)			
	0	Not mentioned/included.		
	1.66	Companies with qualification and experience less than half of that of companies with the highest numbers		
	3.33	Companies with qualification and experience equal or more than half of that of companies with the highest numbers		
	5	Companies with highest qualification and experience		
5 RESOURCES; CONSTRUCTION EQUIPMENT AND PLANTS (MAXIMUM MARKS= 5/100)				
5.1	Generator- 1, Mixer Machine-1, Vibrator- 2, Transport Vehicle- 1 (maximum marks= 5)			
	0	Not mentioned/included.		
	1.66	Included but resources less than half of that mentioned in 5.1		
	3.33	Included but resources equal to or more than half of that mentioned in 5.1		
	5	Included and resources equal to or more than that mentioned in 5.1		
6 PAST WORK EXPERIENCE IN SOS CV NEPAL (MAXIMUM MARKS= 15/100)				
6.1	Timely Completion with strict quality adherence (maximum marks= 15)			
	0	Not Applicable.		
	5	Project completed with reasonable adherence to the quality aspects (willing to modify/remedy/re-construct works with inferior quality after receiving the instruction from SOS CV NEPAL's Engineer), but after a substantial delay (additional time taken being equal to or more than 33% than that mentioned in the Contract) with delay fully due to the Contractor's negligence.		
	10	Project completed with reasonable adherence to the quality aspects (willing to modify/remedy/re-construct works with inferior quality even before receiving any instruction from SOS CV NEPAL's Engineer), but after a minor delay (additional time taken lying in the range of (10-33)% compared to that mentioned in the Contract) with delay partially due to the Contractor's negligence and partially due to incidence(s) of Force Majeure.		
	15	Project completed with complete adherence to the quality aspects (with incidences requiring improvement/remedy/re-construction works with inferior quality having never occurred), without any delay in Project Completion, and to the full satisfaction of SOS CV Nepal.		

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 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: RENOVATION WORKS AT SOS CHILDREN'S VILLAGE GANDAKI

To: **SOS CHILDREN'S VILLAGE NEPAL, NATIONAL OFFICE, SANOTHIMI, BHAKTAPUR, NEPAL**

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:

.....
.....

(d) The discounts offered and the methodology for their application for subject contract are

.....
.....

(e) Our bid shall be valid for a period of **90 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;

(f) If our bid is accepted, we commit to obtain a performance security in accordance with the Bidding Document;

(g) Our firm, including any subcontractors or suppliers for any part of the Contract, have nationalities from eligible countries or any countries [insert the nationality of the Bidder, including that of all parties that comprise the Bidder if the Bidder is a consortium or association, and the nationality of each Subcontractor and Supplier]

.....
.....;

(h) 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;

(i) 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;

- (j) Our firm, its affiliates or subsidiaries, including any Subcontractors or Suppliers for any part of the contract, has not been declared ineligible, under the Employer's country laws or official regulations or by an act of compliance with a decision of the United Nations Security Council;
- (k) We are not a government owned entity/We are a government owned entity but meet the requirements of ITB 4.5;¹
- (l) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed;
- (m) We declare that, we have not been black listed as per ITB 3.4 and no conflict of interest in the proposed procurement proceedings and we have not been punished for an offense relating to the concerned profession or business.
- (n) We declare that we have not running contracts more than five (5)³ in accordance with ITB 4.8.
- (o) 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.
- (p) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive; and
- (q) If awarded the contract, the person named below shall act as Contractor's Representative:
- (r) We agree to permit the Employer/EMPLOYER 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:

Bid Security

Bank Guarantee

Bank's Name, and Address of Issuing Branch or Office

(On Letter head of the Commercial Bank or Financial Institution eligible to issue Bank Guarantee as per prevailing Law in Nepal)

Beneficiary: SOS CHILDREN'S VILLAGE NEPAL, SANOTHIMI, BHAKTAPUR, NEPAL.

Date:

Bid Security No.:

We have been informed that *[insert name of the Bidder]* (hereinafter called "the Bidder") intends to submit its bid (hereinafter called "the Bid") to you for the execution of

.....
name of Contract under Invitation for Bids NO. ("the IFB").

Furthermore, we understand that, according to your conditions, bids must be supported by a bid guarantee. At the request of the Bidder, we..... *name of Bank*..... hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of *amount in figures*..... (.....*amount in words*) upon receipt by us of your first demand in writing accompanied by a written statement stating that the Bidder is in breach of its obligation(s) under the bid conditions, because the Bidder:

(a) has withdrawn or modifies its Bid, during:

(i) 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 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) 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 or,

(d) 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 later 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.

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

Note:

The bid security of has been counter guaranteed by the Bank..... on (Applicable for Bid Security of Foreign Banks).

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.					

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

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.

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 <input type="checkbox"/> Owned <input type="checkbox"/> Rented <input type="checkbox"/> Leased <input type="checkbox"/> 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	

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.	
<ol style="list-style-type: none"> 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 17.2. 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: Bidder's Running Contracts

Each member of a JV must fill in this form

	Bidder's Running Contracts				
Name of office	Contract Identification no.	Source of Fund*	Date of issuance of Letter of Acceptance	Status of contract**	Date of Issuance of Taking Over Certificate***

* Mention GON funded or EMPLOYER funded or Other PE (Insert name) funded

** Mention "Yet to sign" if contract is not signed, "Running" if contract has been signed and contract is running and "Substantially completed" if taking over certificate has been issued.

*** Insert date of issuance of taking over certificate if the awarded contract has been substantially completed and taking over certificate has been issued.

Form LIT - 1: Pending Litigation

Each member of a JV must fill in this form

Pending Litigation			
<input type="checkbox"/> No pending litigation in accordance with Criteria 2.2 of Section III (Evaluation and Qualification Criteria)			
<input type="checkbox"/> Pending litigation in accordance with Criteria 2.2 of Section III (Evaluation and Qualification Criteria)			
Year	Matter in Dispute	Value of Pending Claim in NRS	Value of Pending Claim as a 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 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 of Bidder

Part – II

EMPLOYER'S REQUIREMENTS

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SECTION - V

Works Requirements

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

Scope of Work

RAINFALL PROTECTION WORKS AT SOS CHILDREN'S VILLAGE KAVRE, PANAUTI-5,
SHREKHANDAPUR.

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.

Specification

RAINFALL PROTECTION WORKS AT SOS CHILDREN'S VILLAGE KAVRE, PANAUTI-5, SHREEKHANDAPUR

SOS Children's Villages Nepal

DECEMBER 2024

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Special Note to CONTRACTOR

- i. The Contractors are responsible to have Supervision Engineer, supervisors and such other manpower as mentioned in the Bid submission on site throughout the contract period.
- ii. The contractor shall appoint and identify a supervisor to monitor the safety issues arising. Further, the contractor is responsible to furnish, maintain and enforce all safety rules/equipment/tools/measures required to complete this project.
- iii. The contractor will prepare and install information regarding safety which is to be posted with-in view of the public before work commences, with contact numbers of the safety officer and the company home office.
- iv. The contractor is responsible to make arrangement of all his electrical requirements during the project at his own expenses/w maintenance.
- v. Site and effected boundaries connecting to joining areas shall be rendered to a state of "as good" or "better" at the time of completion and demobilization, blending and matching in an acceptable manner in all areas.
- vi. The successful bidder shall within 15 days of notice of award of contract submit a Master Project Schedule for client review and adjustment if required.
- vii. The contractor shall be responsible to maintain the cleanliness in and around adjoining areas, for health and safety reasons of persons on and off the site.
- viii. The contractor shall from his own expenses maintain adequate lighting for safety and security at all times for the duration of the project.
- ix. The contractors are required to arrange their required spaces for the camp and material storage at their own expenses if the space is not available at the location.

1. General

1. The Work shall be carried out according to these Specifications whether specifically mentioned elsewhere or not. No extra in any form will be paid unless it is stated as an item in the Bill of Quantities (BoQ).
2. Whenever the Specifications are not given or when the Specifications are ambiguous, the relevant Nepal Standards or Indian Standards and further amendments will be considered as final and binding.
3. All Works shall be carried out simultaneously with electrical, plumbing, sanitary and other services. The Work shall be carried until it is completed satisfactorily along with the completion of all other essential services. The building contractor shall keep the other contractors informed of the proposed program of work, well in advance, so that the building work is not hindered. The Contractor shall further cooperate with other Contractors in respect of any facility required by them e.g. making holes in shuttering for sanitary, pipes, electric conduits, fan hook etc. However, no extra payment shall be admissible for such reasonable assistance and facilities extended to other Contractors and the building Contractors shall be deemed to have taken these factors into consideration while quoting the rates.
4. The Work shall be as per the drawings and bill of quantities and in conformity to the specifications, which the Contractor is presumed to have studied. Nothing extra will be paid for any item because of its shape, location or other difficult circumstances, even if the schedule makes no distinction, as long as the item is shown in the drawings.
5. The sources of materials stated in the Specifications are those from which materials are generally available. However, materials not conforming to Specifications shall be rejected even if they come from the stated sources. The Contractor should satisfy himself that sufficient quantity of materials of acceptable Specification is available from the stated or other sources.

6. The compliance to the Specifications shall be fulfilled by the Contractor without extra charges i.e. the item rates quoted shall be deemed to have taken these Specifications into account.

7. These are requirements the Contractor shall fulfill after the issue of Letter of Acceptance but before the Date of Commencement.

1.1 Definitions

General:

Acceptable/Approved (Approval) - Acceptable to/approved by the Engineer.

Agreed - Agreed in writing.

As detailed - As detailed on the drawings.

Authorized/ordered/rejected - Authorized/ordered/rejected by the Engineer.

Designated - Shown on the drawings or otherwise specified by the Engineer or, in relation to an item scheduled in the bid documents, descriptive of an item to be priced by a bidder.

Indicated - Indicated in or reasonably to be inferred from the contract, or indicated in writing by the Engineer.

Instructed/directed/permitted - Instructed/directed/ permitted by the Engineer.

Satisfactory - Capable of fulfilling or having fulfilled the intended function.

Service - Any pipeline, cable, duct etc. for conveying or transmitting any fluid or other matter.

Submitted - Submitted with the tender or submitted to the Engineer, as appropriate.

Tolerances:

Deviation - The difference between the actual (i.e., measured) size or position and the specified size or position.

Permissible deviation - The specified limit(s) of deviation.

Tolerance - The range between the limits within which a size or position must lie.

Measurement and Payment:

Bill/schedule - The bill/schedule of quantities.

Billed/scheduled rate - The unit rate or price entered in the bill/schedule at which the Contractor undertakes to execute the particular work or to provide the required material, article or service, or to do any or all of these things, as set out in the item concerned.

Billed/scheduled - Listed in the bill/schedule of quantities.

Fixed charge - A charge for work that is executed without reference to time.

Method-related charge - The sum for an item inserted in the bill by the Contractor when tendering, to cover items of work relating to his intended method of executing the Works.

Time-related charge - *A charge for work the cost of which, to the Employer, is varied in proportion to the length of time taken to execute the particular item scheduled.*

Value-related charge - A charge that is directly proportional to the value of the contract.

1.4 Safety Measures

The Contractor shall be responsible for safety of all workmen and other persons entering the Works and shall at his own expense; where not stated otherwise take all measures, subject to the Engineer's approval, necessary to ensure their safety. Such measures shall include but not be limited to:

- Provision of safety and emergency regulations for fire, gas, and electric shock prevention, together with rescue operation plan
- Safe control of flowing water
- Provision and maintenance of suitable lighting to provide adequate illumination at place of work with appropriate spares and standby unit
- Provision and maintenance of safe, sound slings, pulleys, ropes, and other lifting device
- Provision of safe access to any part of the works.
- Provision of safety barriers and safety nets at floors above 3m.
- Provision of notices in local dialect temporarily or permanently during construction at locations likely to be used by the public. Placement of such notices shall depend on the existence of the nature of work in the vicinity. These notices shall be in addition to any other statutory requirements demanded of the Contractor

The Contractor shall submit before starting the Site operations a Safety Plan, a proposal with detailed safety and emergency measures for the Engineer's approval. When the proposal has been approved, English and Nepali version of the regulations shall be made available to all of his Employees and the Engineer.

The Contractor shall ensure that all his Employees are fully conversant with the regulations, emergency and rescue procedures etc. and shall enforce a rule that will instantly dismiss any employee committing a serious breach of such regulations.

1.6 Barricading the Construction Area:

Barricading the construction area will be done with CGI sheet and poles to restrict the unwanted access to students and other personnel which are not related to the construction work. Stairways, Hatches, Chutes, Open Manholes, Elevated platforms, Areas with moving machinery, Excavation sites, Construction sites, Temporary wall or floor openings should be guarded or barricaded properly using suitable technique for overall project duration.

It shall be ensured that the safety signs are erected to warn workers of specific hazards and to communicate necessary precautionary measures and emergency actions. As a minimum, it shall be ensured that safety signs are erected, The following shall (but not limited to) shall form mandatory requirements to meet the safety requirements at site:

- Barricading of the confined spaces;
- Provision and use of specific Personal Protective Equipment (PPE) requirements;
- Care while handling hazardous chemicals;
- Provision of Fire protection equipment;
- Provision of First Aid Kits
- Traffic management and pedestrian control (wherever applicable).

Safety signs erected shall meet the relevant legislative requirement.

1.7 Occupational Health and Safety

Required personnel protection equipment (PPE) must be worn at all times when on construction or renovation sites. At a minimum, each employee is required to wear a hard hat, high visibility safety vests with reflective striping, wear shirts with sleeves, long work pants, and sturdy work shoes or boots when working on a construction or renovation site. Sleeveless or tank top shirts, short pants, sweatpants, sneakers, sandals, and high-heeled or open-toed shoes are not permitted.

Depending on the circumstances and potential hazards present, additional PPE may be required. This determination will be made by supervisor based on the preliminary Job Hazard Analysis; EHS may also be consulted. Additional PPE may include:

- Protective gloves
- Hearing protection
- Full face shields when cutting, grinding, or chipping
- Chemical splash goggles
- Respiratory protection
- Fall protection equipment when working above 6 feet
- Specific protective clothing such as welding leathers when welding or FR clothing when working with live electric

2. Temporary Facilities:

No separate measurement and payment shall be made for the works described in this Clause.

2.3 Protection of Adjoining Property

The Contractor shall control the movement of his crews and equipment on right-of-way including access routes approved by the Engineer so as to minimize damage to crops and property and shall endeavor to avoid marring the lands. Ruts and scars shall be obliterated and damage to land shall be corrected and the land shall be restored as close as possible to its original conditions before final taking-over of the Works.

The Contractor shall be responsible directly to the Employer for any excessive or avoidable damage to crops or lands resulting from his operations whether on lands adjacent to right-of-way or on approved access road and deductions will be made from payment due to the Contractor to cover the amount of such excessive or avoidable damage as determined by the Engineer.

2.5 Measurement and Payment

Unless otherwise provided in the contract, no separate measurement and/or payment shall be made for all materials and works required under this clause (Clause 2, Temporary Facilities). All costs in connection with the work specified herein shall be considered to be included with other related items of the work in the BOQ.

2.6 Publicly and Privately Owned Services

- If any privately owned service for water, electricity, drainage, etc., passing through the site is affected by the works, the Contractor shall provide a satisfactory alternative service in full working order to the satisfaction of the owner of the services and of the Engineer before terminating the existing service.
- Drawing and scheduling the affected services like water pipes, sewers, cables, etc. owned by various authorities including Public Undertakings and Local Authorities included in the contract documents shall be verified by the Contractor for the accuracy of the information prior to the commencement of any work.
- Notwithstanding the fact that the information on affected services may not be exhaustive, the final position of these services within the works shall be supposed to have been indicated based on the information furnished by different bodies and to the extent the bodies are familiar with the final position. The Contractor must also allow for any effect of these services and alternations upon the works and for arranging regular meetings with the various bodies at the commencement of the contract and throughout the period of the works in order to maintain the required co-ordination. During the period of the works, the Contractor shall agree if the public utility bodies vary their decisions in the execution of their proposals in terms of program and construction, provided that, in the opinion of the Engineer, the Contractor has received reasonable notice thereof before the relevant alterations are put in hand.
- No clearance or alterations to the utility shall be carried out unless ordered by the Engineer.
- Any services affected by the works shall be restored immediately by the Contractor who must also take all measures reasonably required to protect their services and property during the progress of the works.
- The Contractor may be required to carry out the removal or shifting of certain services/utilities on specific orders from the Engineer for which payment shall be made to him. Such works shall be taken up by the Contractor only after obtaining clearance from the Engineer and ensuring adequate safety measures.

2.7 Insurance of works

- **Insurance of Works**
 - The Contractor shall take out Insurance for the Works from approved agency/institution;
 - Payments made to the agency/institution and stamp charges/duties incurred if any, by the contractor in compliance of the above work shall be paid from Provisional Sum included for the item in the BOQ after submission of the

insurance document to the satisfaction of the Engineer.

- **Third Party Insurance**

- The Contractor shall take out Third Party Insurance from an approved agency/institution;
- Payments made to the agency/institution and stamp charges/duties incurred if any, by the Contractor in compliance of the above work shall be paid from the Provisional Sum included for the item in the BOQ after submission of the documents to the satisfaction of the Engineer.

- **Insurance of Contractor's Workmen and Employees**

- The Contractor shall insure against such liability as stipulated in Conditions of Particular Application.

2.8 Environmental Protection Works

The environment has been defined to mean surrounding area including human and natural resources to be affected by the execution and after completion of works. The Contractor shall take all precautions for safeguarding the environment during the construction of the works. He shall abide by all prevalent laws, rules and regulations governing pollution and environmental protection. The Contractor shall prohibit employees from unauthorized use of explosives, poaching wildlife and cutting trees. The Contractor shall be fully responsible for the action of his employees.

The Contractor is expected to arrange and execute the Works in such a way that existing environmental conditions are not deteriorated. Borrow pits and dumping sites used by the contractor shall be reinstated at his own cost by grass and/or tree plantation.

Written instruction/approval must be obtained from the Engineer regarding protection and reinstatement of environment throughout the Contract period. Failure in compliance with Engineer's instructions in respect of overall standard will lead to reduction or withhold of payment. Further, any serious deterioration in the environment including pollution attributable to Contractor as determined by the Engineer, may result in deduction of actual expenditures incurred in their reinstatement done through separate agency, from any money due to the Contractor.

Environmental protection works, among others, shall also include the following:

2.10 Disposal of Spoil and Construction Waste

Materials in excess of the requirements for permanent works and unsuitable materials shall be disposed of in locations and in the manner as agreed with the Engineer. The locations of disposal sites shall be such as not to promote instability, destruction of properties and public service systems. Approval for the disposal site/sites will be obtained by the contractor from the relevant authority. Exposed areas of such disposal sites shall be suitably dressed and be planted with suitable vegetation.

The Contractor shall plan his works in such a way that there is no spillage of POL products to the surface or sub-surface water.

2.13 Provision of Potable Water

The Contractor shall supply potable water from the commencement of work to Contractor's staff and work person both at camps and at construction-sites. This arrangement shall be enforced to avoid proliferation and generation of various water borne diseases.

The Contractor shall inform the Engineer regarding sources, installation and operation of supply of potable water within a week after the supply is commenced.

2.14 Provision of First Aid/Medical Facilities

Provision of first aid/medical facilities shall be made along with commencement of work to provide quick medical service to injured/sick work person, and employees. Services shall also include on-the-way service and other arrangements required for taking them to the nearest hospital in case of emergency.

The Contractor shall also supply and provide adequate medicines and facilities required for standard first aid.

The Contractor shall inform the Engineer regarding the medical facility within a week after its establishment and operation.

2.15 Hazardous Materials

The Contractor shall not store hazardous materials near water surfaces. The Contractor shall provide protective clothing or appliances when it is necessary to use some hazardous substances. High concentration of airborne dust resulting in deposition and damage to crops and water resources shall be avoided.

2.16 Reinstatement of Environment

The Contractor shall arrange and execute works as well as related activities in such a way that environmental conditions are reinstated. He may be required to carry out filling, removal and disposal works along with plantation of grass and trees as directed by the Engineer at his own costs at identified locations to reinstate environment.

Written instruction/approval shall be given by/sought from the Engineer regarding reinstatement of environment both during and after completion of works and up to the end of Defects Liability Period.

2.17 Survey And Setting Out

- Prior to the Commencement of works the Contractor shall survey the construction area and confirm the levels. He shall immediately notify the Engineer of any discrepancies and shall agree with the Engineer any amended values to be used during the contract, including replacements for any stations missing from the original stations.
- The Contractor shall check, replace and supplement as necessary the station points/Benchmark and agree any revised or additional station details with the Engineer.
- All stations and reference points shall be clearly marked and protected to the satisfaction of the Engineer.
- The Contractor shall establish working Bench Marks with reference stations soon after taking possession of the site. The coordinates and the elevations of the reference stations shall be obtained from the Engineer. The working Bench Marks shall be near all major/medium structure sites. Regular checking of these Bench Marks shall be made and Adjustments, if any, got agreed with the Engineer and recorded.
- The Contractor shall be responsible for the accurate establishment of the centrelines based on the Drawing and data supplied. The centrelines shall be accurately referenced in a manner satisfactory to the Engineer. A schedule of reference dimensions shall be prepared and supplied by the Contractor to the Engineer.
- The existing profile and cross-sections shall be taken jointly by the Engineer and the Contractor. These shall form the basis for the measurements and payments. If in the opinion of the Engineer, design modifications of the centrelines and/or grade are advisable, the Engineer shall issue detailed instructions to the Contractor and the Contractor shall perform modifications in the field, as required, and modify the levels on the cross-sections accordingly.

2.19 Photographs

The Contractor shall supply colour prints of photographs, of such portions of the works in progress and completed, as may be directed by the Engineer.

3. Notes About Measurement And Payment

3.1 Measurement

Unless specified, all measurements shall be based on "Principals of Measurement (Int.) for works of constructions and method of measurement and tolerance as per Nepal standard." The tolerances specified in these Specifications are for evaluation of accuracies only based on which the work shall be accepted or rejected. However, the measurement of the work performed within the limits of tolerances shall be the measurement of actual work done in place, if their dimensions are less than what have been specified or instructed by the Engineer. If the actual work done in place is more than what has been specified or instructed by the Engineer, but within the limit of tolerances,

the measurement shall be the measurement of the work what has been specified or instructed by the Engineer.

3.2 Payment

Unless otherwise stated in the contract, the contract unit rates and/or prices for items as set out in the Bill of Quantities are the full and the final compensation to the Contractor for:

- Supply of all materials necessary to complete the item as per relevant specifications;
- Use of materials, labours, tools, equipment, machines and other resources as per need;
- All handling, packing charges and transportation;
- Cost of supervision, quality assurance, temporary and ancillary works;
- Site commissioning;
- Maintenance and making good;
- All duties and obligations as set out in the contract
- General works such as setting out, clearance of site before setting out and after completion of works the preparation of detailed work program providing samples of various materials proposed to be used
- the detailed Design and Drawing of temporary works
- testing of materials
- any other details as required by the contract
- cost of all operations like storing, erection, moving into final position, etc. necessary to complete and protect the work till handing over to the Employer;
- the cost for safeguarding the environment
- All incidental costs, profit and overhead costs not covered under above stated.

Where the Bill of Quantities does not include the items mentioned in this Section, no separate payment shall be made for such works. The costs in connection with the execution of the works specified herein shall be considered to be included in the related items of other works specified in the Bill of Quantities or shall be considered to be incidental to the works specified. Items specified in this Section if included in the Bill of Quantities shall be paid at the contract unit rates as agreed and shown in the Bill of Quantities.

3.3 National Specifications

Certain Specifications issued by various national or other widely recognized bodies are referred to in these Specifications. Such Specifications shall be defined and referred to as National Specifications.

The Contractor may propose that the materials and workmanship be defined in accordance with the requirements of other equivalent National Specifications and he may execute the works in accordance with such National Specifications as may be approved by the Engineer. A copy of the National Specification, together with its translation into the English language if the National Specification is in another language, shall be submitted to the Engineer along with the request for its adoption.

In referring to National Specifications, the following abbreviations are used:

NS	Nepal Bureau of Standards and Metrology
IS	Indian Standards
ASTM	American Society of Testing and Materials
BS	British Standards
BSCP	British Standard Code of Practice
ISO	International Organization for Standardization
EN	European Norm
NFP	French Norm

3.4 Equivalency of Standards

Wherever reference is made in these Specifications to specific standards and codes to be met by the materials, plant, and other supplies to be furnished, and work to be performed or tested, the provisions of latest current edition or revision of relevant standards and codes in effect shall apply. Other authoritative standards which ensure a substantially equal or higher performance than the

specified standards and codes shall be accepted subject to the Engineer's prior review and approval. Differences between the standards specified and the proposed alternative standards shall be fully described by the Contractor and submitted to the Engineer at least 28 days prior to the date when the Contractor desires the Engineer's approval. If the Engineer determines that such proposed deviations do not ensure substantial performance, the Contractor shall comply with the standards and codes specified. No payment shall be made for adoption of higher standards.

3.5 Units of Measurement, Abbreviations and Terminology:

Units of Measurement

The Symbols for units of measurement are used in these Specifications as they are given below.

micron	m x 10 ⁻⁶
mm	millimetre
m	meter
km	kilometre
sq. mm. or mm ²	square millimetre
sq.m. or m ²	square meter
sq. km. or km ²	square kilometre
ha	hectare
PI	Plasticity Index
PL	Plastic Limit
Cu. M. or m ³	cubic meter lit
l	litre
rad	radian
°C	degrees Celsius
kg	kilogram
g	gram = kgx10 ⁻³
mg	milligram = kg x 10 ⁻⁶
mg/l	milligram per litre
t	ton = kg x 10 ³
kg/m ³	kilogram per cubic meter
t/m ³	ton per cubic meter
N	Newton
N/m ²	Newton per square meter
Lin. m	Linear meter
Max	Maximum
Min	Minimum
ACV	Aggregate Crushing Value
BOQ	Bill of Quantities
CR	Crushing Ratio
dia	Diameter
hr	Hour
LS	Linear Shrinkage
MC	Moisture Content
MDD	Maximum Dry Density
min	Minute
no	Number (units), as in 6 no.
No	Number (order) as in No 6
OMC	Optimum Moisture Content
OPC	Ordinary Portland Cement PI
PM	Plasticity Modulus (PI x % passing 0.425 mm sieve)
POL	Petrol, Oil & Lubricant
ROW	Right of Way
SE	Sand
Equivalent sec	Second
SG	Specific Gravity

SI	International Standard Units of Measurements
SSS	Sodium Sulphate Soundness test, loss on 5 cycles
STV	Standard Tar Viscosity
TS	Tensile Strength
UC	Uniformity Coefficient
UCS	Unconfined Compressive Strength
VIM	Voids in Mix
w/c	Water cement ratio
wt	Weight
%	Percent

Terminology

The term "the Specifications" shall be construed as the Standard Specification and the Special Specification all together.

3.6. Program

The Contractor shall provide all information including Master Construction Schedule needed for fulfilment of the program and required in accordance with the Conditions of Contract including the sequence in which he intends to work including implementation of quality assurance plan. If the Contractor requests a change in the sequence and such change is approved by the Engineer, the Contractor shall have no claim as per the Conditions of Contract for delay arising from such revisions to the program. If the Contractor fails to submit the updated Master Construction Schedule within 15 days of signing of the contract will reconsidered adjustment in first IPC , same will apply, if the Master Construction Schedule is not updated on a Monthly basis, will be reconsidered in following IPC's.

The program shall be detailed enough to give, in addition to construction activities, detailed activities for the submission and approval of materials, procurement of critical materials and equipment, fabrication of special products/equipment if any and their installation and testing, and for all activities of the Engineer that are likely to affect the progress of work. The Contractor shall update all activities in accordance with the Conditions of Contract on the basis of the decision taken at the periodic site review meetings or as directed by the Engineer.

3.7. Submittal:

i. General Requirements

The Contractor shall maintain an approved system of recording and tracking submissions indicating dates, status (i.e. approved, not approved, approved subject to conditions), quantities, and other details as required.

Copies of all approved submissions will be retained securely and properly filed on site, available for reference by the Engineer at any time.

ii. Contractor's Compliance Reports

The project will be monitored through the Daily Reports submitted by the Engineer which will include among other things, Safety Observations Reports; Inspection Reports; Material Submittal Requests and Quality Reports among others. The Contractor is required to submit the compliance reports on a timely manner.

iii. Contractor's Monthly Progress Report

The Contractor shall submit monthly progress report to the Engineer in triplicate showing actual work done during the month, vis- a- vis the cumulative work progress till the end of the month superimposed upon copies of the program. He shall furnish an explanation of any deviation from the Program stating his proposals for improving progress should this be lacking in any respect and he shall furnish the Engineer with his amended critical path analysis in triplicate. The Contractor shall comply with the reporting requirements on implementation of Environmental Management Plan in the monthly report following the guidelines provided by the Engineer.

iv. Submission of Samples

- a. The Engineer may at his discretion request or take samples of any material or product intended for use in the Works. Where samples are requested in the Specifications they shall be submitted in the number requested or if not specified then as directed by the Engineer.
- b. Samples shall be of the type and size specified and fully representative of the materials proposed to be used.
- c. Samples shall be indelibly and clearly marked with the date of submission, material reference and any other data required to determine the source and kind of sample.
- d. One or more samples of each kind submitted will either be returned marked "ACCEPTED" and signed by a representative of the Engineer or the Contractor will be requested to provide new samples and be notified of deficiencies present in the submitted samples.
- e. One or more "accepted" samples will be retained by the Engineer for comparison with materials and workmanship supplied and will form the standard of acceptance.
- f. One or more "accepted" samples shall be retained at the Contractor's site office and be available for reference on request.
- g. The Engineer may reject any materials and goods which in his opinion are inferior to the samples thereof previously approved and the Contractor shall promptly remove such materials and goods from the Site. No separate or additional payment shall be made for the samples or the replacement of defective materials. The contractor shall be responsible and it should have been considered during the submission of tender document.

v. Copies of Orders

If the Engineer so wishes he may demand for copy of supply/purchase orders for the supply of materials and goods required in connection with the works. However this would not relieve the contractor the responsibility of bringing authentic/specified materials.

vi. Inclusive Documents

The provisions of General Conditions of Contract, Special Conditions of Contract, Drawings and Bill of Quantities and notes or other Specifications issued in writing by the Engineer shall form part of these Specifications.

If there is any ambiguity in the execution drawings, the Contractor should immediately report the matter to the Engineer. It should be returned for review and do not commence order for materials or products or execute the works until drawings have been reviewed and are revised except when instructed by the Engineer.

xi. Unacceptable Work

All defective Works are liable to be demolished, rebuilt and defective materials replaced by the Contractor at his own cost. In the event of such Works being accepted by carrying out repairs/rectification etc. as specified by the Engineer, the cost of repairs/rectification shall be borne by the Contractor and no extra time shall be considered in doing this work.

In the event of the work being accepted by giving 'Design Concession', arising out of but not limited to under sizing, under strength, shift in location and alignment, etc. and accepting design stresses in members which are higher than those provided for in the original design or by accepting materials not fully meeting the Specifications, etc. the Contractor will be paid for the Works actually carried out by him at the suitable reduced rate of the tendered rates for the portion of the work thus accepted.

x. Measurement and Payment

No separate measurement and payment shall be made for items under "Submittal". All costs in connection with the work specified herein shall be considered included with other related items of the work in the Bill of Quantities.

CW.0. CIVIL WORKS

CW.1. STANDARD CONSTRUCTION MATERIALS

CW.1.1. Water

Water for construction work shall not be salty or blackish and shall be clean water, clear and free from objectionable quantities of silt and traces of oils, acid and injurious alkali, salts, organic matter and other deleterious material which will weaken the concrete. Water shall be obtained from the sources approved by the Engineer. Sources of water shall be maintained at such a depth and the water shall be withdrawn in such a manner as to exclude silt, mud, grass or other foreign materials be clean.

CW.1.2 Cement

Cement shall conform I.S. 269-1976 or equivalent Nepal Standard. The type of the cement as to whether it shall be Ordinary, Rapid Hardening or Low Heat shall be specified. When specific type is not specified, Ordinary Portland Cement shall be used.

The Contractor shall submit certificate from manufacturer for each batch of cement to be delivered at site.

The weight of Ordinary Portland Cement used shall be as per latest Nepal Standard. The measurement of proportion of cement should normally be on the basis of weight and whole bags each undisturbed and sealed 50 kg. Date of manufacture, batch number and place of manufacture should be clearly readable in each cement bag.

Tests: when tests are considered necessary, they shall be carried out as indicated in Nepal Standard/ I.S. 269-1958. The contractor should ensure that the cement is of sound and required quality before using it. Test of each batch of cement shall be carried out in an approved laboratory at the Contractor's cost to show the acceptability of the material.

Storage: cement required for use shall be as fresh as possible and stored on planks raised 15 to 20 cms above the storey and stacked 30 cms away from the walls in suitable closed weatherproof buildings at the work site or at the selected approved site in such a manner as to prevent deterioration by dampness or moist atmosphere or intrusion of foreign matter. Cement shall be stored in such a way as to allow the removal and use of cement in chronological order of receipt, i.e. first received being first used. Not more than 15 bags shall be stacked vertically in one pile and maximum width of the piles should not be more than 3 meters. Any cement which has deteriorated, cracked or which has been damaged shall not be used. Cement concerning which there is doubt shall not be used pending testing and satisfactory results. Cement that is condemned shall be immediately removed from the work site. When temporarily stored in the open for use within 48 hours, it shall be kept on a platform of planks about 15 to 20 cm above ground and covered with a tarpaulin. Ordinary cement stored for more than 2 months from the date of receipt from the factory shall be subjected to test and used only if found satisfactory. The cost of test shall be borne by the Agency responsible for the storage after two months from receipt. Different kinds or brands of cement or cement of the same brand from different factory (mills) shall be stored in separate areas and shall not be mixed during use except when directed in writing by the Engineer. Cement shall be kept in a store under double locking arrangement so that it can be taken out or fresh stock admitted with the knowledge of supervising staff of the Works. A board indicating stock and daily transactions of cement shall be kept in each room of the cement store. The cement shall not be stored unduly long periods. It shall not be handled in such a way as to impair its strength or useful characteristics.

CW.1.3. Sand

Sand shall consist of siliceous material having hard, strong, durable, uncoated particles, free from undesirable amounts of dust, lumps, soft, or flaky particles or other deleterious substances. The amount of different undesirable substances shall not exceed the percentage limits by weight as specified in relevant NS/I.S. Codes but in no case, the total amount of all undesirable substances shall exceed five percent by weight.

All fine aggregate (sand) shall conform to I.S. 383-1970.

Sand for use in concrete shall be natural sand. Sand shall be clean, well graded, hard, strong, durable and gritty particles free from injurious amounts of dust, clay, soft or flaky particles, shale, salts, organic matter, loam, mica or other deleterious substances and shall be approved by the Engineer. When the quality of fine aggregate is doubtful, it

shall be tested for clay, organic impurities and other deleterious substances as laid down in I.S. 383-1970.

The fine aggregate shall be of the sizes as specified below.

- a. Cement concrete topping of thickness 40 mm and above - fineness modules between 2 and 3.
- b. Cement concrete topping of thickness 10mm and above - fineness modules between 4 and 6.

The Contractor has to identify the source of sand. The Contractor shall conduct sieve analysis test from reputed test lab for each batch of sand at his own cost.

CW.1.4. Reinforcing Bars

Reinforcing steel shall be clean and free from loose mill scales, dust, loose rust and coats of paints, oil, grease or other coating, which may impair or reduce bond. Reinforcing bars should be :

1. TMT steel (Thermo Mechanically Treated), Grade Fe 500, high strength deformed steel bars conforming to IS: 1786, IS :456, latest revision.
2. The TMT bars should have Yield strength 500Mpa, Tensile Strength 580MPA and Elongation in % 20.
3. Hard-drawn steel wire fabric conforming to IS: 1566, IS 456 - latest revision.

All steel reinforcement above 6mm diameter shall necessarily be of tested quality. Test of each batch of reinforcement shall be carried out in an approved laboratory at the Contractor's cost to show the acceptability of the material. Along with all types strength test of the reinforcement bars, the Contractor shall conduct bend/re-bend test, as well.

CW.1.5. Bricks

Bricks: Unless otherwise specified, burnt clay bricks shall conform to the requirement of I.S. 1077-1957. Specification for Common Burnt Clay Building Bricks and shall be first class quality. As a minimum, all bricks will have a compressive strength of 7.5MPa or more. The brick has been referred as local chimney made bricks and machine-made brick for fair face. Bricks shall be of uniform deep red, thoroughly burnt, regular in shape and size and shall have sharp and square edges and parallel faces to ensure uniformity in the thickness of the courses of brick work.

Bricks shall be free from cracks, chips, flaws, stones or lumps of any kind. They shall be free from salt which effect the mortar of the masonry. Bricks shall not show any sign of efflorescence either dry or subsequent to soaking in water. Bricks shall be sound, hard, homogeneous texture and emit a clear ringing sound on being struck and water absorption shall be minimum. All bricks shall have to be approved by the Engineer/Resident Engineer. Any bricks not up to the specification must be removed from the site immediately at Contractor's own cost. Representative samples of bricks to be used shall be submitted to the Engineer and his approval taken before bulk purchase. The samples shall be kept with the Engineer for future reference and comparison. All bricks supplied shall conform to these approved samples in all respects.

Bricks shall not be dumped at site. They shall be stacked in regular layers even as they are unloaded. The supply of bricks shall be arranged that at least two weeks requirement of bricks are available at site at any time.

Bricks selected for different situation for use in the work shall be stacked separately.

CW.1.6. Coarse Aggregate

Coarse aggregate shall consist of crushed or broken stone and be hard, strong, dense, durable, clean and of proper gradation and free from skin and coating likely to prevent proper adhesion of mortar. The aggregate shall generally be cubical in shape and as far as possible flaky, elongated pieces shall be avoided. It shall generally comply with the provisions of I.S. 383-1970 and I.S. 515-1959. Stone shall have no deleterious reaction with cement.

The coarse aggregate shall be of the following sizes:

- | | | |
|----|---|------------------------------|
| a. | Normal cement concrete of 100mm and above thickness | - graded 20mm and below |
| b. | Cement concrete topping thickness 40mm and above | - graded from 12mm and below |
| c. | Mass cement concrete of 500mm and above | - graded 38mm and below |

Grading tests shall be taken in the beginning and at change of source or material. Where required, by the Engineer, tests indicated in I.S. 383- 1970 and I.S. 456-1978 shall be carried out in an **approved laboratory** at the Contractor's cost to show the acceptability of the material.

Coarse aggregate of a porous nature where absorption of water after 24 hours immersion in water, is more than 5 percent by weight, shall not be used.

Limits of deleterious substances shall not exceed those prescribed in 2.3.1.1 and 2.3.1.2 of I.S. 515-1959.

The aggregates of different sizes shall be stored separately and handled in such a manner as to prevent intermixing of different sizes of aggregate required separately for grading purposes. No foreign matter shall be allowed to be mixed up with aggregates. If covered with dust etc. they shall be washed clean before use.

Sample of coarse aggregates required for the work shall be approved by the Engineer both regarding the quality and grading and shall be kept in the site office. The coarse aggregates to be used shall conform to these samples.

For controlled concrete, the aggregate shall be supplied in separate batches, consisting at least of coarse, medium and fine gradings. These will then be combined in proportions given by standard grading curves specified in relevant I.S. Codes. An average mix composition of 20mm (3/4") and 38mm (1.2") aggregates that will be obtained from the average standard aggregates grading curves is shown in Table - A.

Table – A Coarse Aggregate Grading

IS Sieve	Percentage passing of graded aggregate of nominal size by weight			
	50mm	20mm	16mm	12.5mm
40mm	95 to 100	100		
20mm	30 to 70	95 to 100	100	100
16mm	-	-	95 to 100	-
12.5mm	-	-	-	95 to 100
10.0mm	10 to 35	25 to 55	30 to 70	40 to 85
4.75 mm	0 to 5	0 to 10	0 to 10	0 to 10
2.36 mm	-	-	-	-

Fine aggregate Grading

IS Sieve	Percentage passing by weight			
	Grading zone I	Grading zone II	Grading zone III	Grading zone IV
10mm	100	100	100	100
4.75 mm	90 to 100	90 to 100	90 to 100	95 to 100
2.36 mm	60 to 95	75 to 100	85 to 100	95 to 100
1.18 mm	30 to 70	55 to 90	75 to 100	90 to 100
600 mic	15 to 20	35 to 59	60 to 79	80 to 100
300 mic	5 to 20	8 to 30	12 to 40	15 to 50
150 mic	0 to 10	0 to 10	0 to 10	0 to 15

Zone I, fine aggregate is the coarsest and zone IV is the finest. Zone II is the finer, than zone I sand and zone III is finer than zone II sand.

Note: The above will NOT give a perfect grading. It can be expected, however, that the above grading will normally give good results.

Stone shall be hard, sound, far from decay, durable, tough, free from cracks and decaying. Stones with process matter or with boulder skin shall be rejected. It should be gravels / quartzite / gneiss stone in that order a preferably of similar quality and strength. It should in no case shall have any deleterious reaction with cement.

CW.1.8. Wood/Veneer

Plywood/veneer shall be of or superior to Indian Standard, 5 or 7 ply. All such plywood shall be pressed properly to the required degree and to the required uniformity. They shall be of approved pattern and shall conform to I.S. 1328-1959.

Defective plywood/veneer either by the damaged corner or edge or by defective pressing shall not be used at all.

Storage of such boards shall be done in uniform layer above storey level in a dry plate form. No edge shall be contacted with wall and storey while storing.

CW.2. EARTH WORK

CW.2.1. Scope

This specification covers the earthwork in excavation for all types of foundation wet or dry.

CW.2.2. Clearing Site

The site on which the structure is to be built as shown on the plan and the area required for setting out and other operations should be cleared and all obstructions, loose stones, materials and rubbish of all kinds, stumps, brush wood and trees removed as directed, roots being entirely grubbed up. The materials obtained will be the property of the Government and materials pronounced useful by the Engineer will be conveyed and properly stacked as directed. Useless materials shall be disposed off the site as directed by the Engineers.

CW.2. 3. Setting Out

After clearing the site, the center lines shall be given by the Engineers and it will be the responsibility of the Contractor to install substantial reference marks; bench marks etc. and maintain them as long as required true to line, curve, slopes and level. The contractor shall assume full responsibility for alignment, elevation and dimension of each and all parts of the work. Labour, material etc. required for setting out and establishing Bench Marks and other reference marks shall be arranged by the Contractor at his own cost.

CW.2.4. Excavation

Foundation excavation shall include removal of all materials of whatever nature and whether wet or dry, necessary for the construction of foundation and substructure exactly in accordance with the lines, levels, grades and curves as shown on the plans or as directed by the Engineers. It shall be taken to the exact width of the lowest step of the footing and the sides shall be left plumb where the nature of soil admits it. Unless there is a specific extra provision in the contract for shoring or for cutting side slopes, contractor shall at his own cost do the necessary shoring or cutting of slopes to a safe angle or both as approved by the Engineers, when the strata need such treatment. The contractor shall notify the Engineers before starting excavation to enable him to take cross sectional level for purposes of measurements before the ground is disturbed.

Wherever there is the need to cut the slope in order to fit the structures/building at the site, a minimum of 60-degree slope must be maintained.

CW.2.5. Preparation of Foundation for Footing

The bottom of foundation shall be levelled both longitudinally and transversely or stepped as directed by the Engineers. Before footing is laid final surface shall be slightly watered and rammed. If any soft patches come to light on inspection or ramming, these shall be dug out and dealt with as directed by the Engineers. If excess excavation has been done, no filling shall be allowed to bring the foundation to the required level. If by contractor's mistake, excavation is made deeper than shown on the plans or ordered by the Engineer, the extra depth shall be made up with concrete or masonry of the foundation grade as directed by the Engineers, and at the cost of the contractor. All rock or other hard foundation shall be cleaned of all soft and loose material and out to a firm surface, either level, stepped or serrated as directed by the Engineers. The elevation of the bottom of foundation shown on the plan shall be considered as approximate only and the Engineer may order such changes in the dimensions and elevations of the foundation as may be deemed necessary to secure satisfactory foundation. Footing depth shall be referenced from existing bench mark as defined in site plan.

After each excavation is completed, the contractor shall notify the Engineers to that effect and no footing shall be allowed to be laid until the Engineers has approved the depth and dimensions of excavation and nature of the foundation material and the levels and measurements are recorded.

CW.2.6. Shoring

Unless separately provided for in the contract, excavation of slopes to prevent falling in of sides or providing, fixing, maintaining and removing shoring, bracing etc. shall not be paid for. The Contractor shall be responsible for the design of shoring of sufficient strength to resist side pressure and ensure safety from steps and blows and to prevent damage to work and property and injury to persons. It shall be removed as directed after all the items for which it is required are completed.

CW.2.7. Protection

Near towns and all frequented places foundation pits, well pits and similar excavation shall be strongly fenced and marked with red lights at night placed in charge of watchman to avoid accidents. Adequate protective measures shall be taken to see that the foundation excavation does not affect or damage adjoining structures. All measures required for the safety of the excavation, the people working in and near the foundation trenches, property and the people in the vicinity shall be taken by the Contractor at his own cost, he being entirely responsible for any injury to life and damage to property caused by his negligence or accident due to his constructional operations.

CW.2.8. Disposal of excavated materials

No materials excavated from the foundation trenches of whatever kind they may be, are to be placed even temporarily nearer than 1.5 meters or greater distance as directed by the Engineers from the outer edge of excavation. All materials excavated will remain the property of the Owner. The materials found unsatisfactory for backfill shall be removed from the site at the time of excavation. Rate for excavation includes sorting out of useful materials and stacking them separately as directed within the specified lead. Materials suitable and useful for back filling or other use shall be stacked in convenient places but not in such a way as to obstruct free movements of men, animals and vehicles or encroach on the area required for constructional purposes. It shall be used to the extent required to completely backfill the structure to original ground level or the elevation shown on the drawings or as directed by the Engineer. For backfilling, the materials shall be placed in layers not exceeding 300mm, moistened and well compacted. Materials not useful in any way shall be thrown as directed by the Engineers. If useful excavated rubble is required by the Contractor for the use in other items, it shall be paid for at the rate fixed in the tender and if not so provided, at the rate at which both parties mutually agree. The site shall be left clean of all debris on completion.

CW.2.9. Dewatering

Unless specially provided for as a separate item in the Contract, the excavation rate shall include pumping out all water which may accumulate in the excavation during the progress of the work either from seepage, springs, rain or any other cause and diverting surface flow if any, by bonds or other means. The bonds 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 are in progress and till they come above the natural water level and (iii) till the Engineer considers that the mortar is sufficiently set.

CW.2.10. Slips and Blows

If there are any slips or blows in the excavation, they shall be removed by the Contractor without any extra cost so as to provide correct dimensions required for the foundation.

CW.2.11. Backfilling

All timber work and form work shall be removed after their necessity ceases and trash of any sort shall be cleaned out from the excavation. All space between foundation masonry or concrete and the sides of excavation must be refilled to the original surface with approved materials, in layers not exceeding 300mm in thickness, watered and rammed to compact with a recommended dry density of 95% and testing shall be done by proctor's test.

The filling shall be done after concrete or masonry is fully set and done in such a way as not to cause undue thrust on any part of the structure. Where suitable excavated material is to be used for refilling, it shall be brought from the place where it was temporarily deposited and used in refilling.

CW.2.12. Types of Excavation

CW.2.12.1. Ordinary Soil

Soils of all sort, sand, loose gravel, soft clay, black soil and other similar soft or loose materials etc. shall include all materials of earthy or sandy nature which can be easily ploughed or small shingle or gravel which can be easily removed.

CW.2.12.2 Conglomerate

Gravel mixed soil / hard soil which is to be excavated by the help of pick, Jumper and lifted or removed by the help of shawl.

CW.2.12.3 Rock / Hard Rock

Large boulder / stone or pebbles formally jointed / cemented which need chisel to break / excavate.

CW.2.12.4 Rate

The rate for the item of excavation shall include the following:

- a) Cleaning site.
- b) Setting out works, profiles etc. according to the sanctioned plan or as ordered by the Engineers and setting up Bench Marks and other reference marks.
- c) Providing and subsequently removing shoring and shuttering or cutting slopes except when separately provided for in the Contract.
- d) Bailing and pumping out water when separate provision does not exist for in the contract.
- e) Excavation and removal of all materials of whatever nature dry or wet and necessary for the construction of foundation including materials like explosives, removal of blows and slip sand use of tools, plant and equipment necessary for satisfactory completion of the items and preparing bed for foundation.
- f) Sorting out of useful excavated materials, conveying them up to the specified level clear beyond the structure and stacking them neatly for backfilling or reuse and disposing useless materials as directed by the Engineers.
- g) Backfilling the trenches alongside masonry or concrete with approved material up to the natural ground level.
- h) Necessary protection including labour, materials and equipment to ensure safety and protection against risk or accident.
- i) Supply of facilities for inspection and measurement at any time by the Engineers.
- j) Compensation for injury of life and damage to property if any caused by the Contractor's operation connected with this item.
- k) Small drill holes to explore the nature of substratum if necessary.

CW.2.12.5. Measurement and Payment

The payment for respective class of excavation shall be made at the Contract rate per cubic foot for the quantity

acceptably excavated, limited to the dimension shown in the sanctioned plan or as directed by the Engineer. The excavation to dimension in excess of the above shall not be measured nor paid for and if so ordered by the Engineers the Contractor shall have to fill up the excess depth with cement concrete or masonry of foundation grade without extra payment.

Driving of sounding bars or inserting small drill holes to explore the nature of substratum up to a total length of 1 meter distributed in 2 or 3 places in each foundation if necessary shall be considered incidental work and shall not be paid separately.

Removal of slips and blows in the foundation trenches shall not be measured nor paid for. If it is necessary in the opinion of the Engineer to carry foundation below the levels shown on the plans, the excavation for the first 1.5 meters of the additional depth shall be included in the quantity for the particular classification at the tendered rate. The excavation below this additional depth of 1.5 meters shall be paid for as extra work at rate to be decided under general conditions of Contract unless the contractor is willing to accept payment at tendered rates. For all depths less than the designed depth plus 1.5 meters the excavation shall be paid for at tendered rates.

Dimension shall be measured nearest to one centimeter (inch) and individual quantity shall be calculated correct to two places of decimals of a cubic meter (cubic foot) as per Nepal Standards.

CW.3. CEMENT CONCRETE WORK FOR GENERAL USE

CW.3.1. Scope

This specification deals with the cement concrete, plain or reinforced for general use of specified proportion and flooring (I.S. Code of Practice IS:456 latest revision to be complied with unless permitted otherwise hereinafter).

CW.3.2. Materials

All required materials shall be as specified in "STANDARD CONSTRUCTION MATERIALS"

CW.3.3. Grades of Concrete

A. GENERAL:

Structural concrete shall be either ordinary or controlled and in two grades designated as M200 and M250, as specified in IS:456 - latest provision.

B. ORDINARY CONCRETE:

Ordinary concrete is recommended only when accurate control is impracticable and not necessary. However, if ordinary concrete is allowed by the Engineer, it shall be used only in the concrete of Grades M200 and M250. Ordinary concrete does not require preparation of trial mixes. But all necessary tests shall be carried out before concreting and random sample collection during concreting.

At least three deferent brands of cement shall be tested for verification using approved sand and aggregate.

Concrete mix proportions for ordinary concrete shall be as per IS:456 - latest revision - and as follows :

Table – B
Mix Proportions (By Weight) Expected to Give Different Degrees of
Workability with Different Water Cement Ratios and Specified Strength
(For Guidance)

Workability	Water Cement Ratio	Compressive Strength in 28 days	Ratio by Weight of Cement to Gravel Aggregate	Ratio by Weight of Cement to Crushed Stone Aggregate
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		kg/Cm2	20 mm size	38 mm size	20 mm size	38 mm size
Very low Slump 0-25 mm	0.4	360	1:4.8	1:5.3	1:4.5	1:5.0
	0.5	290	1:7.2	1:7.7	1:6.5	1:7.4
	0.6	220	1:8.5	1:8.6	1:7.8	1:8.4
	0.7	160	1:9.0	1:9.0	1:8.7	1:8.9
Low Slump 25-50 mm	0.4	360	1:3.9	1:5	1:3.5	1:4.0
	0.5	290	1:5.5	1:6.7	1:5.0	1:5.5
	0.7	160	1:8.0	1:8.5	1:7.4	1:8.0
Medium Slump 50-100 mm	0.4	360	1:3.5	1:3.8	1:3.1	1:3.6
	0.5	290	1:4.8	1:5.7	1:4.2	1:5.0
	0.7	160	1:6.8	1:7.9	1:6.2	1:7.0
High slump 100-175 mm	0.4	360	1:3.2	1:3.5	1:2.9	1:3.3
	0.5	290	1:4.4	1:5.2	1:3.9	1:4.6
	0.6	220	1:5.4	1:6.7	1:4.7	1:5.7
	0.7	160	1:6.2	1:7.4	1:5.5	1:6.5

Notwithstanding anything mentioned hereinbefore, the maximum total quantity of aggregates by weight per 50 kg. of cement shall not exceed 450 kg. except where otherwise specifically permitted by the Engineer.

The minimum cement content for each grade of concrete shall be as follows:

Grade of Concrete	Minimum Cement Content per Cu.M. of Finished Concrete
.....
M 20	360 kg.
M 25	420 kg.

At least four trial batches are to be made and six test cylinders/cubes taken for each batch noting the slump on each mix. These cylinders/cubes shall be tested in a testing laboratory approved by the Engineer at 7 days and others at 28 days for obtaining the ultimate compressive strength. The test reports shall be submitted to the Engineer. The cost of the mix design and testing shall be borne by the Contractor.

On the basis of the above test reports, proportion of mix by weight and water-cement ratio will be approved by the Engineer, the proportions so decided for different grades of concrete shall be adhered to during all concreting operations. If, however, at any time, the Engineer feels that the quality of the materials being used, has been changed from those used for preliminary mix design, the Contractor shall have to run similar trial mixes design, the Contractor shall ascertain the mix proportions and water-cement ratio for obtaining the desired strength and consistency. It will be within the competency of the Engineer to reduce the number of trial batches and the number of test specimens mentioned above.

The mixes once approved must not be varied without prior approval of the Engineer.

In designing the mix proportions of concrete, the quantity of both cement and aggregate shall be determined by weight. The Engineer may allow the quantity of aggregates to be determined by equivalent volume basis after the relationship between the weight and volume is well established by trial and the same shall be verified frequently. Water shall be either measured by volume in calibrated tanks or weighted.

All measuring equipment shall be maintained in a clean and serviceable condition and their accuracy periodically checked.

To keep the water-cement ratio to the designed value, allowance shall be made for the moisture content in both fine and coarse aggregates and determination of the same shall be made as frequently as directed by the Engineer. The determination of moisture contents shall be according to IS: 2386 (Part III) - (latest revision).

CW.3.4. Strength requirements

Where ordinary portland cement conforming to IS: 269 - latest revision or Portland cement - Furnace Slag cement conforming to IS: 455 - (latest revision) is used, the compressive strength requirements for various grades of concrete shall be as shown in Table - IV and shall apply to both controlled concrete and ordinary concrete.

The acceptance of strength of concrete shall be as per clause 5.4 "Sample size and Acceptance Criteria" of IS: 456 - latest revision subject to the stipulations and/or modifications stated elsewhere in this specification.

Concrete work found unsuitable shall have to be dismantled and replacement to be done as per specification by the Contractor. No payment for the dismantled concrete, the relevant formwork and reinforcement embedded fixtures, etc. shall be made. In course of dismantling, if any damage is done to the embedded items or adjacent structures, the same shall be made good free of charge by the Contractor to the satisfaction of the Engineer.

Compressive strengths for different grades of concrete as specified in Table - IV shall always refer to the cylinder/cubes strength based on test conducted on 15 cm diameter and 30 cm height.

Other requirements of concrete strength as may be desired by the Engineer shall be in accordance with IS: 456 - (latest revision).

Table –C Strength Requirement of Concrete

Compressive strength of 15 cm. diameter and 30 cm. high cylinder or 15cm cube at 28 days after mixing, conducting in accordance with IS: 456 - latest revision

Grade of Concrete	Preliminary tests kg/cm ²	Work test kg/cm ²
M 200	260	200
M 250	320	250

With permission of the Engineer, for any of these above mentioned grades of concrete shall also be increased proportionately to keep the ratio of water to cement same as adopted in trial mix design for each grade of concrete. No extra payment for the additional cement will be made.

CW.3.5. Workability

The workability of the concrete shall be checked at frequent intervals by slump test. Where facilities exist and if required by the Engineer, alternatively, the compacting factor test in accordance with IS: 1199 - (latest revisions), shall be carried out. The degree of workability necessary to allow the concrete to be well consolidated and to be worked into the corners of formworks and around on the type and nature of structure and shall be based on experience and tests within the preferred limits of consistency as specified in Table below for various types of structures.

Table -D
Limits of Consistency

Degree of Workability	Minimum Slump in mm	Maximum Slump in mm	
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Low	20	40	Mass concrete foundations without vibrations, simple reinforced section with vibration.
Medium	50	100	Normal reinforced beams, columns, slabs without heavily reinforced section with vibration.
High	100	150	Section with congested reinforcement not normally suitable for vibration.

Note: However, the slump to be obtained for work in progress shall be as per direction of the Engineer.

CW.3.6. Workmanship

a. General: All workmanship shall be according to the latest and best possible standards.

i. Mixing of Concrete:

The proportion of fine and coarse aggregate, cement and water shall be as determined by the preliminary tests or according to fixed proportions in case of ordinary concrete and shall always be approved by the Engineer. The quantities of fine and coarse aggregates shall be determined by weight. The water shall be metered accurately after giving proper allowance for surface water present in the aggregates for which regular check shall be made by the Contractor. Concrete shall be always mixed in a mechanical mixer unless specifically approved by the Engineer for concrete to be used in unimportant structure. The water shall not be poured into the drum of the mixer until all the cement and aggregates constituting the batch are already in the drum and mixed for at least one minute. Mixing of each batch shall be continued until there is a uniform in colour and consistency, but in no case shall mixing be done for less than two minutes and at least forty revolutions after all the materials and water are in the drum. When absorbent aggregates are used or when the mix is very dry, the mixing time shall be extended as may be directed by the Engineer. Mixer shall not be loaded above their rated capacity as this prevents thorough mixing.

The entire contents of the drum shall be discharged before the ingredients for the next batch are fed into the drum. No partly set or remixed or excessively wet concrete shall be used and it shall be immediately removed from site.

Each time the work stops, the mixer shall be thoroughly cleaned and when the next mixing commences, the first mix shall have 10% additional cement at no extra cost to the Employer to allow for loss in the drum.

When hand mixing is permitted by the Engineer for concrete to be used in non-structural elements, it shall be carried out on a water tight platform and care shall be taken to ensure that mixing is continued until the mass is uniform in colour and consistency. In case of hand mixing, additional 10% cement by volume shall be added to each batch with no extra cost to the owner.

ii. Conveying and Pumping Concrete:

Concrete shall be handled and conveyed from the place of mixing to the place of final deposit as rapidly as practicable by approved means before the initial setting of the cement starts. Concrete should be conveyed in such a way as will prevent segregation or loss of any of the ingredients. If segregation does occur during transport, the concrete shall be remixed. During the very hot or cold weather, if directed by the Engineer concrete shall be transported in deep containers which will reduce the rate of loss of water by evaporation and loss of heat. Conveying equipment for concrete shall be well maintained and thoroughly cleaned before commencement of concrete mixing. Such equipment shall be kept free from set concrete. While using the wheelbarrow for transporting the concrete, plywood/planks over the steel reinforcement have to be used. Before pouring, the concrete in the wheelbarrow must be mixed using shovel.

For major concrete works, a concrete pump should be used. Concrete mix should be placed at pouring place through an appropriate boom. At pouring spot, people of concrete gang should place concrete uniformly by

holding a rubber/boom pipe.

iii. Placing Concrete:

Form work and reinforcement shall be approved in writing by the Engineer prior to placing of concrete. Concrete shall be placed in its final position without segregation. The forms shall be well wetted and all shavings, dirt and water that may have collected at the bottom shall be removed before concrete is placed. The interval between adding the water to the dry materials in the mixer and the completion of the final placing inclusive of compaction of the concrete shall be not more than initial setting time of the cement, normally 30 minutes for ordinary Portland cement. The concrete shall be well placed in the form work by means approved by the Engineer and shall not be dropped from a height or handled in a manner which may cause segregation. Any drop above 100 cm shall have to be approved by the Engineer. Once the concrete is placed in its final position, it shall not be disturbed. After the concrete has been placed, it shall be spread and thoroughly compacted by approved mechanical vibration to a maximum subsidence without segregation and thoroughly worked around reinforcement or other embedded fixtures into the correct form and shape. Vibration shall not be used for pushing and shoveling concrete. Vibrator must be operated by experienced men and over vibration shall not be permitted.

Precise line, level and sloping should be strictly maintained as mentioned in the drawing and as per instruction of the Engineer. The required perfect line, level and sloping should be achieved by using power trowel machine. Hand tamping in some cases may be allowed subject to the approval of the Engineer.

No concrete shall be placed in open, while it rains. If there has been any sign of separation of cement and sand by washing, the concrete shall be entirely removed immediately. Suitable precautions shall be taken in advance to guard against rains before leaving the fresh concrete at site. No accumulation of water shall be permitted on freshly laid concrete. Slabs, beams and similar members shall be poured in one operation normally. Bleeding of under layer, if any shall be effectively removed. Moulding, throating, drip coarse, etc. shall be poured as shown on the drawing or as directed by the Engineer. Holes shall be provided and bolts sleeves, anchors fastenings or other fixtures shall be embedded in concrete as shown on the approved drawings or as directed by the Engineer. Any deviation there from the drawing shall be set right by the Contractor at his own expense as instructed by the Engineer.

iv. Construction Joints:

When the work is to be interrupted, the concrete shall be rebated at the joint to such shape and size as may be required by the Engineer or as shown on the drawing. All vertical construction joints shall be made with step boards, which are rigidly fixed and slotted to allow for the passage of the reinforcing steel. If desired by the Engineer keys and/or dowel bars shall be provided at the construction joints. In the case of water retaining structure water stops of approved material shall be provided if so specified in the drawings or desired by the Engineer. Construction joints shall be provided in positions as described, the joints shall be in accordance with the followings:

In a column, the joint shall be formed about 75mm below the lowest soffit of the beams framing into it.

Concrete in a beam shall be placed throughout without a joint, but if the provision of a joint is unavoidable, the joint shall be vertical and at the middle of the span. A joint in a suspended floor slab shall be vertical at the middle of the span at right angle to the principal reinforcement. The locations of construction joint shall be planned by the contractor well in advance of pouring and will have to be approved by the Engineer.

Before fresh concrete is placed, the cement skin of the partially hardened concrete shall be thoroughly removed and surface made rough by hacking, sand blasting, water jetting, air jetting or any other method as directed by the Engineer. The rough surface shall be thoroughly wetted for about two hours and shall be dried and coated with 1:1 freshly mixed cement sand slurry before placing the new concrete. The new concrete shall be worked against the prepared surface before the slurry sets. Special care must always be taken to see that the first layer of concrete placed after a construction joint is cold. Joints during pour shall be treated with 1:1 freshly made cement sand slurry only after removing all loose materials.

v. Protection and Curing of Concrete:

Newly placed concrete shall be protected from rain, sun and wind. As soon as the concrete has hardened sufficiently for the surface to be marked, it shall be covered either with canvas or similar materials and kept continuously wet for at least fourteen days after final setting. This period may be extended at the discretion of the Engineer. For the columns wetted jute bags shall be used and for the slab ponding has to be created.

vi. Control Tests on Concrete:

Six test cubes for each type of work shall be taken by the Contractor for each 8 hours or less of concreting. If the value of concrete poured is less than 20 M3 on any day per mixing plant, the Engineer may exempt or reduce the number of test cylinders. The samples of concrete shall be tested in an approved laboratory in presence of the Engineer and the test results shall be submitted in triplicate to the Engineer. The Contractor shall carry out the sampling and testing according to the provisions of this Specification at his own cost. No payment shall be made for the concrete used in specimens.

To control the consistency of concrete from every mixing plant, slump tests shall be carried out by the Contractor free of charge every two hours or as directed by the Engineer. The amount of mixing water shall not be changed without prior approval of the Engineer. Slumps corresponding to the test cylinders shall be recorded for reference. The Engineer if he so desires may order special tests to be carried out on cement, sand or coarse aggregates, water, reinforcing steel, or traverse tests in accordance with I.S.I. recommendations. If the material tested is found to be suitable for the intended use, the cost of these special tests shall be borne by the Owner. If the material is found to be not suitable for the intended use the cost of these special tests shall be borne by the Contractor. Further, during the progress of the work if the Engineer has doubt about the quality of any material in use he can instruct suspension of its use till the material is proved acceptable by test. Any consequent loss arising out of the suspension shall be borne by the Contractor. The Engineer at its discretion can ask for NDT tests whenever required the cost of which will have to be borne by the contractor

b. Exposed Surface

Interior: - Imperfect surface, where strength is not required shall be patched with plaster (of cement: sand ratio of 1: 2) and rubbed smooth with carborundum stone. Immediately the formwork is stripped off, fins and projections shall be removed and the concrete surface affected thereby shall be rubbed smooth to the satisfaction of the Engineer.

Wherever there are exposed surfaces in the structural elements, pressure grouting as directed by the Engineer will have to be undertaken to rectify the defect and the cost of the same will be borne by the contractor.

c. Anchor Bolts, Anchors, Openings, Sleeves, Inserts and Other Built-in Fixtures

The Contractor shall take care to comply with the requirements of all openings, grooves, chases etc. in concrete work as shown on the drawings or as specified by the Engineer. He shall build into concrete work all the materials noted below and shall embed and secure the same as and when required. The materials required to be supplied by the Contractor, shall be of best quality available of approved manufacture and shall be up to the satisfaction of the Engineer.

Materials to be embedded:

- i. Inserts, hangers, anchors, opening frames, manholes, covers, floor clips, sleeves and conduits.
- ii. Anchor bolts and plates for machinery, equipment and for structural steel work.
- iii. Dowels bars, etc. for concrete work falling under scope of future works.
- iv. Lugs or plugs for door and window frames occurring in concrete work.
- v. Flashing and jointing in concrete work.
- vi. Sanitary floor trap at the appropriate elevations for finished floor covers..

vii. Any other built-in-fixtures as may be required.

viii. Correct location, exact alignment, etc. of all these shall be entirely the responsibility of the Contractor.

d. Joints etc.

i. Expansion and Isolation Joints:

Expansion joints in concrete structures shall be provided at specified places as indicated on the drawings. The materials and types of joints shall be as specified below. In case of liquid retaining structures, additional precaution shall be taken to prevent leakage of liquids as may be specified on the drawings or as directed by the Engineer. The Engineer may demand test certificates for the materials and/or get them tested.

CW.4. CENTERING AND SHUTTERING FOR RCC WORK

CW.4.1. Scope

This specification covers centering and shuttering works for RCC works of any size, shape etc. at any level including strutting, propping and removal thereof.

CW.4.2. Material

Form work shall be composed of steel and/or best quality shuttering wood or shuttering of 18mm thick plywood. Timber shall be free from knots and shall be of medium grain as far as possible. Hard woods shall be used as caps and wedges under or over posts. Plywood or equivalent shall be used where specified to obtain smooth surface for exposed concrete work. Struts shall generally be mild steel tubes. Shuttering shall give a best-off form finish with proper alignment of all joints and gaps shall not exceed 5mm.

CW.4.3. Shop Drawing

The Contractor shall prepare, design and drawings for formwork and centering before commencement of actual work and get them approved by the Engineer. The formwork and centering shall conform to the shape, lines and dimensions as shown on the drawings.

CW.4.4. Construction

The centering shall be true and rigid and thoroughly braced both horizontally and diagonally. The forms shall be sufficiently strong to carry without undue deformation, the dead weight of the concrete as a liquid and working load. Where the concrete is vibrated, the formwork shall be strong enough to withstand the effects of vibration without appreciable deflection, bulging distortion or shall be sufficiently tight to prevent any leakage of mortar. The formwork shall be poured members such as to ensure the concrete a smooth uniform surface free from honeycombs, air bubbles, fines and other blemishes.

Deflection of forms shall be limited to 5mm on column and beams. Column shall not vary from plumb more than 5mm.

For exposed interior and exterior concrete surface of beams, columns and walls, plywood or other approved forms, thoroughly cleaned and tied together with approved corrosion-resistant dividers shall be used. Rigid care shall be exercised in ensuring that all columns are plumb and true and thoroughly cross braced to keep them so. All floor and beam centering shall be crowned not less than 8mm in all directions for every 5 meter span. Unless described in the drawing or elsewhere to the contrary, beveled strips 25mm by 25mm shall be provided without any extra charge, to form angles and in corners of column and beam boxes for chamfering of corners. Temporary openings for cleaning, inspection and for pouring concrete shall be provided at the base of vertical forms and at other places, where they are necessary and as may be directed by the Engineer. The temporary openings shall be so formed that they can be conveniently concerted.

CW.4.5. Cleaning and treatment of forms

All rubbish, loose concrete chippings, shavings, saw dust etc. shall be scrupulously removed from the interior of the forms before the concrete is poured. Wire brushes, brooms, etc. compressed air jet and/or water jet shall be kept handy for the cleaning if directed by the Engineer.

The form surface in contact with concrete shall be treated with approved non-staining composites, such as approved brand form oil. It shall not come in contact with reinforcing steel or existing concrete surface. They shall not be allowed to accumulate at the bottom of the shuttering.

The formwork shall be so designed and erected that the forms for slabs and the sides of the beams, columns and walls may be removed first, leaving the shuttering to the soffits of beams and their support in position. If formwork for column is erected for the full height of the columns, one side shall be left open and built up in sections, as placing of concrete proceeds. Wedges, spacer bolts, clamps, or other suitable means shall be provided to allow accurate adjustment of the formwork and to allow it to be removed gradually without jarring the concrete.

CW.4.6. Removal of forms

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 therefrom 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 premature removal of formwork or loading shall be entirely reconstructed without any extra cost of the owner.

Forms 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.

Table -E

	Part of Structure	Ordinary Portland Cement Concrete (Temp °C)			Rapid Hardening Portland Cement Concrete (Temp °C)	
		40 - 20 days	20 - 5 days		40 - 20 days	20 - 5 days
a.	Columns & Walls	1	2	Do not remove forms until	1/2	2
b.	Beam Sides	2	4	Site cured test cylinders develop 50% of	1	3
c.	Slabs 125 mm	7	14	28 days strength	4	7
d.	Slab below 125mm	14	21		8	14
e.	Soffit of main beams	21	28		10	16

Where exposed surface of concrete can be effectively sealed to prevent loss of water, the periods specified for temperature above 40° C can be reduced to those for the temperature range of 20° C to 40° C subject to the approval of the Engineer. Before removing any form work the Contractor must notify the Engineer well in advance to enable him to inspect the concrete if he so desires.

In case of evidence of honey comb at the time of form removal the contractor shall inform the structural engineer to inspect the honey comb. The honey comb shall be rectified only as instructed by the structural engineer. The contractor should not rectify the honey comb right after removal of the form on his own. The contractor should be well prepared to rectify honey comb prior to removal of forms.

CW.4.7. 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 — 5 mm

- | | | |
|-----------|---|---------------------|
| b. Plumb | — | 1 in 1000 of height |
| c. Levels | — | 3 mm |

CW.4.8. Re-use of forms

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

CW.4.9. Classification

Marine grade plywood of good quality shall be used for formwork. Where a specially good finish is required and shall be made mostly of approved brand of heavy quality marine plywood to produce a perfectly level, uniform and smooth surface. Re-use only may be permitted after special inspection and approval by the Engineer.

CW.4.10. Rate

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

CW.4.11. Measurement

Measurement for payment shall be done of the area on which centering shuttering has been carried out. Rate shall include centering and shuttering including propping, strutting etc. and removal of forms including applying form oil to shuttering shall be measured in sq.m. or sq.ft.

CW.5. REINFORCING FOR RCC WORKS

CW.5.1. Scope

This specification covers providing and fixing TMT steel reinforcement of various sizes in all type of R.C.C. works.

CW.5.2. Material

The reinforcement shall be as specified in the STANDARD CONSTRUCTION MATERIAL and test certificate shall be submitted to the Engineer for approval. Each reinforcing bars shall be tested and any bar showing cracks or flaws or scales shall not be used.

CW.5.3. Shop drawings: bar bending schedules

The Contractor shall furnish to the Engineer bar bending schedules for all R.C.C. work within one month of the receipt of the Letter of Intent or of the receipt of each design drawings whichever is later. Approval of schedule/drawing by the Engineer shall not relieve the Contractor from responsibility for errors nor relieve him of any part of his obligation to meet the entire requirement of the Contractor or of the responsibility for the correctness of his drawings.

CW.5.4. Cleaning

All steel for reinforcement shall be free from loose rust, oil grease, paint or other harmful matters.

CW.5.5. Protection

Reinforcement bars should be stored with protection from rain. They should be supported above ground by minimum 200mm.

CW.5.6. Bending

Unless otherwise specified, reinforcing steel shall be bent in accordance with procedure specified in IS: 2502 - (latest revision) or as approved by the Engineer. Bends and shapes shall comply strictly with the dimensions in the approved Bar Bending Schedule. Contractor shall be entirely responsible for its correctness. Bars correctly bent shall only be used. No reinforcement shall be bent when in position in the work without approval of the Engineer, whether or not is partially embedded in concrete. Bars shall not be straightened in a manner that will injure the materials. Re-bending can be done only if approved by the Engineer. Reinforcement bars shall be bent by machine or other approved means producing a gradual and even motion. All the bars shall be cold bent unless otherwise approved.

CW.5.7. Placing in position

All reinforcement shall be accurately placed in position as shown on the drawings. Bars intended to be in contact, at crossing points, shall be securely bound together at all such points by No. 20 BG annealed soft iron wire or by tack

welding as may be directed by the Engineer.

Binders and the like shall tightly embrace the bars with which they are intended to be in contact and shall be securely held. The vertical distance between successive layers of bars shall be placed by provision of mild steel spacer bars. They should be so spaced that the main bars do not sag perceptibly between adjacent spaces.

The placing of reinforcement bars shall be completed well in advance of concrete pouring. The reinforcement shall be checked by the Engineer for accuracy of placement and cleanliness and necessary corrections prior to pouring the cement. The column shuttering/form work shall be securely held in position by nut and bolts or wooden clamps. The verticality has to be ensured. Laps and anchorage lengths of reinforcing bars shall be in accordance with IS:456 - latest revision- unless otherwise specified. If the bars in a lap are of the different diameter the smaller will guide the lap length. The laps shall be staggered as far as practicable and as directed by the Engineer.

CW.5.8. Exposed reinforcement

Reinforcement projecting from work being concreted or already concreted shall not be bent out of its correct position for any reason unless they are protected from deformation or other damage. Reinforcement left projecting for bending with future extension shall be thoroughly coated with cement grout wash, encased in concrete or otherwise protected from corrosion as approved by the Engineer.

CW.5.9. Cover to the reinforcement

Unless otherwise specifically stated anywhere in the contract, the following clear cover to the main reinforcement shall be strictly adhere to:

- Column - 40mm or size of the main bar whichever is greater
- Beam - 25mm or size of the main bar whichever is greater
- Slab - 20mm or size of the main bar whichever is greater
- Footing - 50mm or size of the main bar whichever is greater

CW.5.10. Rate

Rate shall include all material, labour and other incidental items for complete work.

CW.5.11. Measurement

The net reinforcement shall be worked out in term of weight as per the bar bending schedule approved by the Engineer, taking theoretical unit weight for various size of the bars. ***Chairs of any profile, spacer bars of any profile, binding wires, and wastages shall not be measured.*** Only the authorized laps and splices will be measured.

CW.5.12. Safety barriers

In all the areas above GF, safety barricades shall be erected so that there are no accidents/casualties. These can be (but not limited to) net or plywood or similar barricades

CW.6. BRICK MASONRY WORK

CW.6.1. Scope

This specification covers the construction of brick work in general and the erection of half brick, full brick and above thick walls in superstructure in particular.

CW.6.2. Materials

All required materials shall be as specified in the "STANDARD CONSTRUCTION MATERIALS".

CW.6.3. Mortar

Mortar shall be as specified in the drawing, Bills of quantities or schedule of items for the particular work which may differ from case to case and as per the size, shape and thickness of the wall.

- Mix

Cement and sand (or any supporting materials) shall be mixed dry thoroughly on clean approved platform or in a mechanical mixer and water shall then be added to obtain a mortar of the consistency of a stiff paste. Care being taken to add just sufficient water for the purpose.

- Use of Mortar

Mortar shall be used as soon as possible, after mixing and within 1/2 hours after cement is mixed wet. Mortar unused for more than 1/2 hours shall be rejected and removed. Mortar can only be rehydrated one time within the ½ hour.
Transportation of Mortar:

The well-mixed mortar shall be transported from the mixing platform to the site of work in such a manner as to prevent formation of laitance or segregation.

CW.6.4. Bond

"English Bond" shall be used in the construction of full brick and thicker walls unless otherwise specified in the drawing. For half brick thick wall, "stretcher bond" shall be used throughout the length of the wall.

Quoin bricks shall be laid header and stretcher in alternative courses, bond being obtained by placing a closer next to the quoin header. The arrangement of quoin in a course shall generally be symmetrical. Holes for required size shall be left in the brickwork during laying only, for fixing pipes, service lines, passage of water etc. After they are fixed, the extra hollow left in the holes shall be filled with 1:3 cement mortar or 1:3:6 cement concrete and the face neatly made up with bricks in cement mortar. When iron fixtures etc. are to be laid in the brick work, shall be entirely covered with not less than 10mm of 1:3 cement mortar.

CW.6.5. Thickness of joints

The thickness of the joints in the brickwork **shall be 12mm** unless otherwise specified and uniform throughout the work.

CW.6.6. Soaking of bricks

Bricks shall be soaked in water before use for a period that is sufficient for the water just to penetrate the whole depth of the bricks. Any dirt, sand and dust shall be removed from the surface of the bricks. Bricks shall not be too wet at the time of use, as they are likely to slip in the mortar bed and there will be difficulty in ensuring plumpness of the wall. When bricks are soaked, they shall be removed from the tank sufficiently early so that at the time of laying they are skin dry. Such soaked bricks shall be stocked on a clean place, where they are not again spoil by dirt, earth etc.

CW.6.7. Laying of Bricks for Masonry

Bricks shall be laid on a full bed of mortar evenly applied on the wetted surface of the old brick work. If any dirt or earth is on the wall they shall be cleaned by wire brush and washed down with water jet. When laying, the bricks shall be slightly pressed so that the mortar can get into all the pores of the brick surface to ensure proper adhesion. Cross joints and wall joints shall be properly flushed and packed with mortar so that no hollow spaces are left. All brick work shall be in plumb, square and true to dimensions as shown in drawings. All brickwork shall be built tightly against columns floor slabs or other structural parts around window and door frames with proper distance to permit concealed joints.

CW.6.8. Raking out joints

Joints of brick work shall be ranked out to a depth of 6mm at the time of laying. The face of the brick work shall be kept clear of all mortar, the very day the brick work is laid. Joints shall be 'Struck' with a metal tool producing a smooth and hard weather resistant surface.

CW.6.9. Reinforcing and anchorage

For external walls, the anchors in the form of flats or rods from beams and columns and any other anchoring and reinforcement as shown on drawing shall be adequately embedded in the masonry.

CW.6.10. Other brick work

HALF/FULL BRICK THICK WALL:

Two numbers of bars of 8mm diameter shall be used longitudinally at every 4th course of brick work. The first reinforcement shall be placed on the top of the bottommost course. The bars shall be fully embedded in the mortar and the ends shall be properly bonded in the vertical joints of brick work or to the main wall. In case of ends at RCC column, the reinforcement should be inserted 2" deep into the column by drilling. Laps for the reinforcement shall be provided of minimum length of 45 times the diameter of bar.

CW.6.11. Workmanship

- i. All loose materials, dirt, and set lump of mortars may be laying over the surface over which the brick work is to be freshly started, shall be removed with a wire brush.
- ii. All the bricks shall be thoroughly soaked in clean water before use.
- iii. The surface over which the brick work is to be started shall be slightly wetted.
- iv. The first course itself shall be made horizontal by providing enough mortar in the bed joint to fill up any undulations in the bed course.
- v. Required quantity of water is mixed in the mixing platform itself and not over the courses.
- vi. The joint should be of uniform thickness as specified.
- vii. There shall be no thorough joints and the lap shall not be less than half the width of the brick, and all the vertical joints are properly filled with mortar.
- viii. The verticality and horizontality of the courses shall be checked very often with plumb bob and spirit level respectively.
- ix. The courses of brick work shall be aligned and care shall be taken to keep the perpend.
- x. The brick work shall be built in uniform layers, corners and other advanced works shall be racked back. No part of the wall during its construction shall rise more than 1 metre above the general construction level, to avoid unequal settlement, and also improper jointing. Where the masonry of one part has to be delayed the work shall be racked back suitably at an angle not exceeding 45 degrees according to bond and not toothed.

CW.6.12. Architectural features

All projecting architectural features, such as string courses, cornices etc. shall be effectively bonded by tailing into the brick work to ensure stability. Such architectural features shall be set straight and true as shown in the drawing with finished joints (as far as possible).

CW.6.13. Curing and protection

- i. The brick work shall be kept wet by misting (flooding not allowed) for 7 days commencing from 24 hours after the course is laid.
- ii. At the end of the day's work the masonry construction shall be protected from harmful effects of rain, sun, and frost by suitable coverings such as **tarpaulin** or any other suitable coverings.
- iii. Care shall be taken during construction that edges of jambs, sills, heads etc. are not damaged.

CW.6.14. Scaffolding

Double scaffolding having two sets of vertical supports shall be provided as directed by the Engineer. The supports shall be sound and strong and of steel tubular construction unless otherwise by other approved means. The vertical posts shall be tied together with horizontal pieces over which the scaffolding planks be fixed. The three sides of the scaffolding should be covered with **1.0m wide plyboards** to protect the materials from dropping off while working. Areas having work performed above ground floor shall be segregated for worker safety.

CW.6.15. Rates

Rates for item shall include necessary materials, labour and equipment for proper execution of work and that all auxiliary work is included. Rates shall include work at all the levels, double scaffolding, (special) conveyance of materials, barricading etc. Rates shall also include for curing.

CW.6.16. Measurements

The measurement of work shall be the product of the length, height and thickness for full brick and above thick walls. For half brick wall, the measurement of work shall be the product of the length and height. Deduction for doors, windows and other openings including lintels shall be made to arrive at the quantity of work. Nothing shall be paid extra for forming such openings. However, no deductions shall be made for areas less than 0.1 sq.m 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.

CW.7. PLASTER WORK

Plaster works cannot be undertaken without first completing the Electrical piping and metal box works. Likewise, the for

the plumbing works all piping works including pressure testing has to be completed before the start of the Plaster works.

The cement plaster shall be 12 mm, 15 mm or 20 mm thick as specified in the item. ***Only graded river sand shall be permitted to be used for making the mortar.***

CW.7.1. Scaffolding

For all exposed brick work or tile work double scaffolding independent of the work 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.

For all other work in buildings, single scaffolding shall be permitted. In such cases the inner end of the horizontal scaffolding pole shall rest in a hole provided only in the header course for the purpose. Only one header for each pole shall be left out. Such holes for scaffolding shall, however, not be allowed in pillars/columns less than one metre in width or immediately near the skew backs of arches. The holes left in masonry works for scaffolding purposes shall be filled and made good before plastering.

CW.7.2. Preparation of Surface

The joints shall be raked out properly. Dust and loose mortar shall be brushed out. Efflorescence if any shall be removed by brushing and scrapping. The surface shall then be thoroughly washed with water, cleaned and kept wet before plastering is commenced.

In case of concrete surface if a chemical retarder has been applied to the form work, the surface shall be roughened by wire brushing and all the resulting dust and loose particles cleaned off and care shall be taken that none of the retarders is left on the surface.

CW.7.3. Mortar

The mortar of the specified mix using the type of sand described in the item shall be used. The mortar for cement plaster of specified proportion shall be mixed as specified in the specification for Brick Work. For external work and under coat work, the fine aggregate shall conform to grading IV. For finishing coat work the fine aggregate conforming to grading zone V shall be used.

CW.7.4. Application of Plaster

Ceiling plaster shall be completed before commencement of wall plaster.

Plastering shall be started from the top and worked down towards the floor. All putlog holes shall be properly filled in advance of the plastering as the scaffolding is being taken down. To ensure even thickness and a true surface, plaster about 15 × 15 cm shall be first applied, horizontally and vertically, at not more than 2 metres intervals over the entire surface to serve as gauges. The surfaces of these gauged areas shall be truly in the plane of the finished plaster surface. The mortar shall then be laid on the wall, between the gauges with trowel. The mortar shall be applied in a uniform surface slightly more than the specified thickness. This shall be brought to a true surface, by working a Aluminum straight edge reaching across the gauges, with small upward and sideways movements at a time. Finally, the surface shall be finished off true with trowel or Aluminum float according as a smooth or a sandy granular texture is required.

Excessive troweling or over working the float shall be avoided. All corners, arrises, angles and junctions shall be truly vertical or horizontal as the case may be and shall be carefully finished. Rounding or chamfering corners, arrises, provision of grooves at junctions etc. where required shall be done without any extra payment. Such rounding, chamfering or grooving shall be carried out with proper templates or battens to the sizes required. When 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 scrapped cleaned and wetted with cement slurry before plaster is applied to the adjacent areas, to enable the two to properly join together. Plastering work shall be closed at the end of the day on the body of wall and not nearer than 15 cm to any corners or arises.

It shall not be closed on the body of the features such as plasters, bands and cornices, nor at the corners of arises.

Horizontal joints in plaster work shall not also occur on parapet tops and copings as these invariably lead to leakages. The plastering and finishing shall be completed within half an hour of adding water to the dry mortar. No portion of the surface shall be left out initially to be patched up later on. The plastering and finishing shall be completed within half an hour of adding water to the dry mortar.

CW.7.5. Thickness

Where the thickness required as per description of the item is 20 mm the average thickness of the plaster shall not be less than 20 mm whether the wall treated is of brick or stone. In the case of brick work, the minimum thickness over any portion of the surface shall be not less than 12.5 mm while in case of stonework the minimum thickness over the bushings shall be not less than 12.5 mm.

CW.7.6. Curing

Curing shall be started as soon as the plaster has hardened sufficiently not to be damaged when watered. Water should be sprayed mistily upon plaster works. 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 at the contractor's expense by such means as the Engineer. The dates on which the plastering is done shall be legibly marked on the various sections plastered so that curing for the specified period thereafter can be watched.

CW.7.7. Finish

The plaster shall be finished to a true and plumb surface and to the proper degree of smoothness as required. The work shall be tested frequently as the work proceeds with a true straight edge not less than 2.5 m 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.

CW.7.8. Precaution

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.

(i) When ceiling plaster is done, it shall be finished to chamfered edge at an angle at its junction with a suitable tool when plaster is being done. Similarly, when the wall plaster is being done, it shall be kept separate from the ceiling plaster by a thin straight groove not deeper than 6 mm drawn with any suitable method with the wall while the plaster is green.

(ii) To prevent surface cracks appearing between junctions of column/beam and walls, 150 mm wide chicken wire mesh should be fixed with U nails 150 mm centre to centre before plastering the junction. The plastering of walls and beam/column in one vertical plane should be carried out in one go.

CW.7.9. Measurements

Length and breadth shall be measured correct to a cm and its area shall be calculated in sqm or sqft correct to two decimal places.

Thickness of the plaster shall be exclusive of the thickness of the key i.e. grooves, or open joints in brick work.

The measurement of wall plaster shall be taken between the walls or partitions (the dimensions before the plaster shall be taken) for the length and from the top of the floor or skirting to the ceiling for the height. Depth of coves or cornices if any shall be deducted.

Exterior plastering at a height greater than 10 m from average ground level shall be measured separately in each storey height. Patch plastering (in repairs) shall be measured as plastering new work, where the patch exceed 2.5 sqm. extra payment being made for preparing old wall, such as dismantling old plaster, raking out the joints and cleaning the surface. Where the patch does not exceed 2.5 sqm in area it shall be measured under the appropriate item under sub head 'Repairs to Buildings.'

Deductions in measurements, for opening etc. will be regulated as follows:

- (a) No deduction will be made for openings or ends of joists, beams, posts, girders, steps etc. upto 0.5 sqm in area and no additions shall be made either, for the jambs, soffits and sills of such openings. The above procedure will apply to both faces of wall.
- (b) Deduction for opening exceeding 0.5 sqm but not exceeding 3 sqm each shall be made for

reveals, jambs, soffits sills, sills, etc. of these openings.

- (i) When both faces of walls are plastered with same plaster, deductions shall be made for one face only.
 - (ii) When two faces of walls are plastered with different types of plaster or if one face is plastered and other is pointed or one face is plastered and other is unplastered, deduction shall be made from the plaster or pointing on the side of the frame for the doors, windows etc. on which width of reveals is less than that on the other side but no deduction shall be made on the other side. Where width of reveals on both faces of wall are equal, deduction of 50% of area of opening on each face shall be made from area of plaster and/or pointing as the case may be.
 - (iii) For opening having door frame equal to or projecting beyond thickness of wall, full deduction for opening shall be made from each plastered face of wall.
- (c) For opening exceeding 3 sqm in area, deduction will be made in the measurements for the full opening of the wall treatment on both faces, while at the same time, jambs, sills and soffits will be measured for payment. In measuring jambs, sills and soffits, deduction shall not be made for the area in contact with the frame of doors, windows etc.

CW.7.10. Rate

The rate shall include the cost of all labour and materials involved in all the operations described above.

CW.8. NEAT CEMENT PUNNING

Specifications for this item of work shall be same as described in Cement Plaster Work except for the additional punning coat which shall be carried out as below.

When the plaster has been brought to a true surface with the wooden straight edge (as mentioned in 'Application of Plaster' here above) 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 sqm. Smooth finishing shall be completed with trowel immediately and in no case later than half an hour of adding water to the plaster mix. The rest of the specifications described in 'Application of Plaster' shall apply. Specification for scaffolding, curing, finish and precautions shall be as described above in Cement Plaster Work.

Measurements

The measurements for cement punning shall be taken over the finished work. The length and breadth shall be measured correct to a cm or half an inch. The area shall be calculated in sq.m or sq. ft. correct to two places of decimal.

Punning over Plaster on bands, skirting, coping, cornices, drip courses, string courses etc. shall not be measured separately but only as wall surfaces. In these cases the measurements shall be taken girthed over the above features

Punning over plaster on circular work also, of any radius shall be measured only as wall surfaces, and not separately.

Cement punning in patch repairs irrespective of the size of the patch shall be measured as new work, and in this case the rate shall include for cutting the patch to rectangular shape before punning.

Deductions in measurements for openings shall be regulated generally as described above in Cement Plaster Work.

Rate

The rate shall include the cost of all labour and materials involved in all the operations described above.

CW.9. IPC FLOORING (Trowel Finish)

CW.9.1. Scope

This specification deals with the cement concrete, plain or reinforced for general use of specified proportion and flooring (I.S. Code of Practice IS:456 latest revisions to be complied with unless permitted otherwise hereinafter).

CW.9.2. Materials

Cement, sand, aggregates; water etc. as specified in plain cement concrete work.

CW.9.3. Mixing

The proportion shall be 1 cement : 2 sand : 4 stone aggregate 13mm and down gauge by volume as specified in the schedule. Grading aggregate shall be as per reinforced concrete specification.

CW.9.4. Preparing Base

The cement concrete suborder shall be cleaned of all loose earth, rubbish and other foreign matter. If necessary, the suborder shall be hacked and chipped and cleaned with wire brushes. Cleaned suborder shall then be wetted with water thoroughly, but no water pool shall be allowed. Necessary slope shall be given in the suborder itself.

In order to obtain the level, prior fixing of the level will be done before the concreting so that the required level is obtained.

CW.9.5. Laying Of Concrete

The floors shall be laid to specify thickness in panels of uniform size not exceeding 2.35 sq.m (one side not exceeding 1500mm). These shall be laid in alternate panels on different days if no glass strips are provided. The edges of the panels shall be protected by flat bars of iron or wood, their depth being equal to that of flooring. When glass strips are provided all panels of the flooring can be cast in one operation under controlled conditions so that voids do not occur under the panels at the corner junctions of the glass strips. Power trowel should be used to achieve perfect line and level.

CW.9.6. Finishing Coat

Neat cement finish: One layer of cement sand plaster of specified proportion (1:2) shall be used, which shall be cut in pattern, the joints shall be just above the joints of the concrete. Such plaster shall be followed by a thin coat of cement punning of specified mix which shall be in the approved pattern, trowelled and finished neatly or broom finished. However, the thickness of such film shall not be less than 3mm. Curing of the finished work shall be done by covering the whole surface with damp jute bags and kept wet for one week or as directed by the Engineer. Wherever colour crete is specified, such work shall be applied only in the neat finish coat and finished similarly.

CW.9.7. Slopes

Unless shown in the drawing, all slopes of the floor shall be towards the outlet at the rate of 0.5%.

CW.9.8. Skirting

Skirting shall be finished as finishing coat of the floor unless otherwise specified. The skirting work shall include racking and cleaning of base, watering, applying plasterwork and neat finish. The level, line and corners shall be done carefully to get even, plumb and uniform surface through uniformity. The skirting work shall be done simultaneously with floor work or as directed by the Engineer. The top edge of the skirting shall be chamfered to prevent dust collection.

CW.9.9. Rates

The rates for items shall include cost of all materials consumed in the work at all levels, hire charges of materials, tools and plant, cost of labour, insurance, all transport, services, accommodation, supervision, storage, protection etc. complete.

CW.9.10. Measurement

Measurement for IPC flooring shall be done of the area of the floor. Skirting shall be measured in length.

CW.12.RANDOM RUBBLE MASONRY

Providing & laying Random Rubble Masonry with hard stone in retaining walls in cement mortar 1:4 & in cement mortar 1:6 Hammer dressed

The stones to be used shall be durable and angular in shape. If boulders are used, they shall be broken into angular pieces. The stones shall be sound, hard, and free from iron bands, spots, sand holes, flaws, shakes, cracks or other defects. The stone shall not absorb water more than 5 per cent. The specific gravity of the stone shall not be less than 2.50. Except otherwise described in the contract, the length of any stone shall not exceed three times its height. The

breadth of the stone on the bed shall not be less than 150 mm nor greater than $\frac{3}{4}$ the thickness of the wall. At least 85% of the stones used in masonry, except those used for chinking as chips or spalls of stones shall have individual volumes of more than 0.01 m³. The chips or spalls used including voids in the dry stone masonry shall not be more than 20% of the stone masonry by volume. In case of mortared masonry, the total volume of mortar and spalls taken together shall not be more than 30% of the mortared masonry. Representative samples of the stones intended for use in the works shall be submitted to the Engineer for prior approval. Further representative samples shall be submitted for approval whenever there is a change in the type or strength of the rock that the Contractor intends to use in masonry work.

CW.12.1. Mortar

Mortar for masonry shall conform to provisions under brick works.

CW.12.2. Construction

The method of construction described herein shall hold good in all Clauses of this Section, wherever applicable.

CW.12.3. General

Construction shall be carried out in accordance with I.S. 1597-1992, Code of Practice for construction of stone masonry, Part 1 Rubble stone masonry or Part 2 Ashlar Masonry as appropriate. All stratified stone possessing bedding planes shall be laid with its natural bed as nearly as possible at right angles to the direction of load. In the case of arch rings, the natural bed shall be radial. Facework groins shall be built to a height not exceeding one meter in advance of the main body of the work and adjacent walling stepped down on either side. Masonry face work between the groins shall then be built to a height not exceeding 500 mm above the backing which shall then be brought up level with the completed facework. At no time shall the backing be built up higher than the facework on the course and pouring water upon it to fill the gaps in stones shall not be allowed. Mortar shall be fluid, mixed thoroughly and then poured in the joints. No dry or hollow space shall be left anywhere in the masonry and each stone shall have all its faces completely covered with mortar of the thickness as specified for joints.

The bed which is to receive the stone shall be cleaned, wetted and covered with a layer of fresh mortar. All stones shall be laid full in Except for dry rubble walling, all joints (gaps) shall be sufficiently thick to prevent stone to stone contact and the gaps shall be completely filled with mortar. Stones shall be clean and sufficiently wetted before laying to prevent absorption of water from mortar. Placing loose mortar mortar both in bed and vertical joints and settled carefully in place with a wooden mallet immediately after placement and solidly embedded in mortar before it has set. Clean and wet chips and spalls shall be wedged into the mortar joints and bed whenever necessary to avoid thick joints or bed of mortar. When the foundation masonry is laid directly on rock, the bedding face of the stones of the first course shall be dressed to fit into rock snugly when pressed down in the mortar bedding over the rock. For masonry works over rock, a levelling course of M15/40 or M15/20 concrete 100mm thickness shall be laid over rock and then stone masonry work shall be laid without foundation concrete block.

In case, any stone already set in mortar is disturbed or the joints broken, it shall be taken out without disturbing the adjoining stones and joints. Dry mortar and stones thoroughly cleaned from the joints and the stones shall be reset in fresh mortar. Sliding one stone on top of another which is freshly laid shall not be allowed. Shaping and dressing of stone shall be done before it is laid in the work. Dressing and hammering of the laid stones which will loosen the masonry shall not be allowed.

Building up face wall tied with occasional through stones and filling up the middle with stones spalls and chips or dry packing shall not be allowed. Vertical joints shall be staggered. Distance between the nearer vertical joints of upper layer and lower layer in coursed rubble masonry shall not be less than half the height of the course. Masonry in a structure between two expansion joints shall be carried up nearly at one uniform level throughout but when breaks are unavoidable the masonry shall be raked in sufficiently long steps to facilitate jointing of old and new work. The stepping of raking shall not be more than 45 degrees with the horizontal.

Masonry shall not be laid when the air temperature in the shade is less than 3°C. Newly laid masonry shall be protected from the harmful effects of weather.

CW.12.4. Ashlar

All stones shall be dressed to accurate planes on the beds and joints and they shall be fair and neatly or fine tooled on the face unless otherwise described in the contract.

CW.12.7. Random Rubble - Coursed Or Uncoursed

All stones shall be carefully set with a bond stone provided at the rate of at least one to every 0.9 m² of exposed face. Bond stones shall measure not less than 150 mm x 150 mm on the exposed face and not less than 450 mm in length or the full thickness of the wall, whichever is the less.

CW.12.10. Test and Standard of Acceptance

Before laying any mortar, the Contractor shall make six sets of mortar test cubes from each source of sand to demonstrate the compliance of the mix to the specified strength. Each set shall comprise six cubes, three to be tested at 7 days and the other to be tested at 28 days. During construction, the Contractor shall make and test mortar cubes at the rate of three cubes for every 10 m³ of masonry to assess the strength subject to a minimum of 3 cubes samples for a day's work. Testing of cubes shall be in accordance with IS 2250. The stones shall be tested for the water absorption as per IS: 1124 and it shall not be more than 5 percent. The stones shall also be tested for Specification gravity and it shall not be less than 2.65. Sand shall be tested as directed by the Engineer. At least 3 set of tests for stone and sand shall be conducted for every source.

About one square meter (1mx1m) measured in front face of the completed stone masonry in every 200 sq.m or part of it shall be dismantled during the process of construction up to complete depth and the aggregate volume of the stones having volume more than 0.01m³ shall be obtained by the method of displacement of water to find the volume of spalls and mortars in the case of mortared masonry and the volume of spalls and voids in the case of dry masonry. The dismantling shall be made in such a manner that the quality of the surrounding work is least affected. While dismantling, the tightness of the joints shall also be compared with the thickness of joints as specified for assessment of the quality of work. If the volume of spalls and mortars is more than the specified volume and/or the joints are not filled completely with mortar, then the entire work which the sample and test represent shall be rejected.

The dismantled portion shall be made good by the Contractor at his own cost after completion of the test.

CW.12.11. Measurement

Stone masonry shall be measured in cubic meters. The pointing shall be measured in sq.m.

CW.12.12. Payment

The stone masonry shall be paid at the respective contract unit prices which shall be the full and the final compensation to the Contractor

CW.14. SLOPE STABILISATION AND EROSION PROTECTION

CW.14.1. Scope

This Clause covers the works related to the furnishing of materials and construction of slope stabilising measures in dry stone pitching, grouted stone pitching, gabion, masonry walling, rock dowels and rock anchors/bolts and wire netting on slopes as shown on the Drawing or as instructed by the Engineer.

CW.14.2. Excavation of Soil and Rock

Excavation of soil for landslide stabilisation and slope protection shall include excavation and removal of existing landslide debris, streambed debris, the trimming of scarp faces and gully sides and excavation required to construct gabion and masonry walls or other structures, in accordance with the lines, levels, grades and dimension as shown on the Drawing or as directed by the Engineer. Excavation may be undertaken either by machine or by labour or in combination of the both. However, during any excavation work care must be taken to ensure that the excavation does

not endanger the stability of adjacent slopes. In some locations the Engineer may direct the Contractor to use labour only during excavation, or issue other directions as to the method of excavation.

The cutting of access tracks to enable machines to reach otherwise inaccessible areas shall not be allowed during slope stabilisation works. However, access tracks may be constructed only with the specific approval of the Engineer where no benching into the hillside is necessary.

Excavation and removal of rock for landslide stabilisation and slope protection shall include removal of individual rock blocks from a rock face, removal of potentially unstable rock masses or isolated individual boulders. Excavation and removal of rock may be undertaken by pneumatic tools, hand tools or other approved methods.

The slopes of cuttings shall be shaped or terraced in accordance with the Drawing and as required by the Engineer.

CW.14.3. Fill Areas

During slope stabilization work, small areas of fill may be required, such as to infill gullies. Fill material for such purposes shall consist of suitable material and shall be deposited and compacted by approved plant in accordance with the lines, levels and grades shown on the Drawing and as directed by the Engineer.

CW.14.4. Dry Stone Pitching

(a) Materials

Stone used for pitching shall be from a quarry or arising from the excavation and be angular in shape. If river boulders are used they shall be broken into angular pieces. The stone shall be sound, hard, and free from cracks or other defects. Not less than 80% of the stones, except those used for chinking shall have individual volumes of not less than 0.01 cubic metres. Waste concrete may be used provided it is sound and meets the size requirements of the stone. The stones, when immersed in water for 24 hours, shall not absorb water by more than 5 percent of their dry weight when tested in accordance with IS: 1124.

(b) Construction

Construction shall comply with Sub-clause 2.5 of Section 7.

(c) Tests and Standard of Acceptance

Tests and Standard of Acceptance shall comply with Sub-clause 2.5 of Section 7 while the size of the stone which shall comply as per Sub-clause 4.4 (a) of Section 7.

CW.14.5. Grouted Stone Pitching

(a) Materials

The materials shall comply with relevant the Technical Specifications.

(b) Construction

Method of laying and thickness shall be as for dry stone pitching specified in Sub-clause 2.5 of Section 7. After the stones have been laid on the entire slope, all spaces between them shall be filled with clean rock fragments, crushed rock or gravel. More than 15% of the fill materials shall not pass 20 mm sieve. The material shall be carefully hand

tamped into place.

Prior to the application of grout the surfaces of the stones shall be thoroughly cleaned of adhering dust and then moistened. The interstices between the stones shall be completely filled with grout throughout the entire thickness of the stone pitching. Grouting operations shall progress from the bottom of the slope toward the top. Grout shall be placed in a continuous operation for any day's run at any location.

After the grout has been placed, the stones shall be thoroughly brushed so that their top surfaces are exposed. The grouted pitching shall be cured for a period of not less than four days after grouting. Curing shall be done with wet sacking or other approved cover, and shall not be subjected to loading until adequate strength has developed. Where required, or instructed by the Engineer, weep holes shall be provided in the pitching.

(c) Tests and Standard of Acceptance

Stones shall be tested in accordance with these Specifications and shall meet the prescribed criteria. One set of test (3 tests in a set) shall be carried out for every change in source of materials.

The finished surface of the grouted pitching shall present an even, tight and neat appearance with no stones surface varying by more than 25 mm from the specified surface grades and lines. The average thickness of the pitching, measured at right angles to the surface, shall not be less than the specified average thickness.

CW.14.6. Gabion Wire Mattress

The materials used shall comply with Technical Specifications (Civil works). The mattresses shall be assembled and filled in the same manner as for gabions. Ties and anchorages shall be provided as shown on the Drawing.

(a) Wire Netting

Where required by the Engineer or shown on the Drawing, slopes shall be covered with wire mesh to prevent small scale reeling and erosion. The wire mesh shall conform to the requirements specified of the Technical Specifications and shall have a minimum thickness of SWG 10.

CW.14.7. Masonry/Concrete/Reinforced Concrete Walling

Walls of the specified type(s) shall be constructed in accordance with the Drawing and as directed by the Engineer to act as retaining structures, as revetment structures or as buttresses.

Materials for masonry walling shall comply with Technical Specifications.

Materials for concrete/reinforced concrete walling shall comply with Technical Specification (Civil Works).

CW.14.8. Payment

- (a) The quantity of excavation for structures, common backfill/previous backfill/filter materials, gabion mattresses, masonry/concrete/reinforced concrete walling and wire netting shall be paid as provided under respective Clauses of these Specifications.
- (b) The quantities of dry stone pitching, grouted stone pitching, rock dowels, rock/earth anchors and rock bolts shall be paid as per the respective contract unit rates. The contract unit rate shall be the full and the final payment to the Contractor to complete the works as per the Technical Specifications.

CW.15. SUB-SURFACE DRAINS

CW.15.1 Scope

This Clause shall cover the works related to the construction of sub-surface drainage networks under road pavement, under road side drains, in slopes and slides. The drains shall be either main or tributary or of other types as shown on the Drawing or as directed by the Engineer.

Sub-surface drains shall consist of perforated HDP pipes surrounded by granular material laid in a trench. If specified in the contract, sub-surface drains shall also consist of perforated HDP (high density polyethylene pipes) surrounded by geotextile/geomembrane and granular material laid in a trench.

CW.15.2. Materials

The materials used for construction of sub-surface drains shall comply with following requirements:

(a) Stone

Stones used for filling and lining of sub-surface drains shall comply with the specifications for dry stone pitching given in Sub-clause 4.4 of Section 7.

(b) Cement

Cement comply with the requirements.

(c) Mortar

The mortar used for cement masonry lining shall be as specified in Sub-clause 4.5 of section 7.

(d) Gabion Works

Gabion works shall comply with the requirements as specified in the Technical Specifications.

(e) Filter Material

Filter materials used in drains shall comply with the requirements.

(f) Geomembrane

Geomembrane shall be made of PVC or polythene sheets of at least 0.8 mm thickness, duly protected from ultra-violet exposure with 2.5 per cent carbon black, in black colour, supplied in roll form with a minimum of 3 m width. The joints of these sheets shall be heatbonded or seamed for effective permeation cut off. While fixing on to a slope, they shall not be punctured or stapled to impair their use.

(g) Geotextile

Geotextiles used for lining of drain trenches shall be as per the requirements. The type of geotextile to be used for drains shall be approved by the Engineer prior to starting the works.

(h) Drain Pipe

Drain pipes shall be made of high density polyethylene, high pressure as approved by the Engineer. Jointing of pipes shall be done by fine-cutting and heating with equipment complying with the prescription of the HDP pipe manufacturer. Pipes may be jointed with angles to fit the requirements of the terrain, but angles shall not exceed the maximum specified by the manufacturer. The joints shall be watertight and develop the same strength as unjointed HDP material. The method of jointing shall be approved by the Engineer prior to starting the works. Drain pipes shall be provided with holes of minimum 5 mm diameter. The pipes shall be perforated by drilling minimum 50 holes per meter length on the upper half of the pipe in a staggered pattern uniformly distributed. The Engineer might adjust these specifications according to the site conditions.

CW.15.3. Construction

The detailed layout of the drainage network shall be as instructed by the Engineer, based on the general layout given in the Drawing.

The work shall start with construction at road side and then go up the slope by using already constructed drains as buttress for new drains.

The main drains shall be placed in naturally existing depressions. The tributary drains shall be at a maximum inclination of 45° to the main drain.

(a) Sub-surface Drains without Geotextile/Geomembrane

Trench for sub-surface drain shall be excavated to the specified lines, grades and dimensions shown on the Drawing. Following considerations shall be made while excavating the drain and dumping excess materials.

- (i) Depth of excavation shall be according to Drawing.
- (ii) Top of structure shall be lower than natural ground.
- (iii) No blasting shall be done in slides.

Wherever required or instructed by the Engineer, the Contractor shall provide trench struts and shoring as per approved design and shall execute in a manner to resist the earth pressure and in order to protect labour and work.

Where unsuitable material is encountered at the bed of trench, the same shall be removed to such depth as instructed by the Engineer and backfilled with approved material shall be compacted.

Laying of pipe in the trench shall be started at the outlet end and proceed towards the upper end, true to the lines and grades specified. Before placing the pipe, filter material shall be laid for the full width of the trench bed and compacted. Unless otherwise shown on the Drawing, the thickness of this layer shall be 150 mm.

After the pipe installation has been completed and approved filter/pervious material shall be placed over the pipe to the required level in horizontal layers not exceeding 150 mm and thoroughly compacted to 93% of the MDD (heavy compaction).

Pitching shall be done as per Clause 3 of Section 7. The finished slope shall be reshaped to facilitate proper surface drainage towards drains.

CW.15.4. Tests and Standard of Acceptance

Copies of the manufacturer's certificates for geotextile/geomembrane and drain pipe to be used shall be furnished by the Contractor. In addition, the Engineer may ask for testing in independent laboratories. All test results shall meet the specified requirements.

Minimum one set of test for gradation analysis and compaction of filter material shall be checked for every 50 cu.m. and/or every change in source of material. The results shall meet specified requirements.

CW.15.5. Measurement

Sub-surface drain with/without geotextile/geomembrane shall be measured in running meter which shall be inclusive of earth excavation, backfill/filter, geotextile/geomembrane. Drain pipe shall be measured in running meters separately. Pitching shall be measure as provided under respective clauses of these Specifications.

CW.15.6. Payment

Sub-surface drains with/without geotextiles/geomembranes, drain pipe and pitching shall be paid at the respective contract unit rates. The contract unit rates shall be the full and the final compensation to the Contractor to complete the works as per the Technical Specifications (Civil works).

CW.16. PAINTING WORKS

No paints containing lead shall be permitted to be used. The contractor will have to submit the proposed paint along with all the relevant details for approval prior to the purchase or use.

CW.16.1. Scope

This specification covers different type of paintings in different surface in general and application of cement paint, enamel paint. Dry or oiled distemper, plastic emulsion paint etc. in wall/ceiling surface in particular with a petroleum base/water base paint in roof.

CW.16.2. Materials

Paints, oils, varnishes etc. of approved brand and manufacture shall be used. Only ready mixed Paint as received from the manufacturer without any admixture shall be used.

CW.16.3. Scaffolding

The scaffolding shall be double or single according to requirements and shall be provided by the contractor at his own expense. The scaffolding shall be erected with steel section or pipes, or bamboos of adequate strength to safe for all operation. The Contractor shall test all measures to ensure the safety of the work and working people. Any instruction of the Engineer in this respect shall also be compiled with. The Contractor shall be entirely responsible for any damage to property, or injury to persons resulting from ill erected scaffolding, defective ladders and materials or otherwise arising out of his default in this respect. Proper scaffolding shall be provided to allow easy approach to every part of the work. Overhead work shall not be allowed.

Wherever scaffolding is necessary, it shall be erected on double supports tied together by horizontal pieces, over which scaffolding planks shall be fixed. No ballies, bamboos or planks shall rest on or touch the surface which is being painted.

For all exposed brick work or tile work, 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.

Note

Where ladders are used, pieces of old gunny bags shall be tied on their tops to avoid damage or scratches to walls. For painting the ceiling, proper stage scaffolding shall be erected.

CW.16.4. Preparatory Work

Before new work is being painted, the surface shall be thoroughly brushed free from mortar droppings and foreign matter. The surface to be painted shall be prepared as specified by the manufacturer of the paint. The surface shall be thoroughly sand papered and cleaned from dirt, dust etc. by brushing and washing down with clean water. Any grease, oil paint or any other foreign material shall be removed by approved method.

Rough coat and pebble dash surface shall be thoroughly sand papered brushed and washed to remove dirt and dust and should be applied the primer for interior painting.

CW.16.5. Exterior Painting on Wall

Materials

Paints, oils, varnishes etc. of approved brand and manufacture shall be used. Only ready mixed Paint (Exterior grade) as received from the manufacturer without any admixture shall be used. If for any reason, thinning is necessary in case of ready mixed Paint, the brand of thinner recommended by the manufacturer or as instructed by the Engineer shall be used.

Approved Paints, oil or varnishes shall be brought to the site of work by the contractor in their original containers in sealed condition. The material shall be brought in at a time in adequate quantities to suffice for the whole work or at least a fortnight's work. The materials shall be kept in the joint custody of the contractor and the Engineer. The empties shall not be removed from the site of work, till the relevant item of work has been completed and permission obtained from the Engineer.

Commencing Work

Painting shall not be started until the Engineer has inspected the items of work to be painted, satisfied himself about their proper quality and given his approval to commence the painting work. Painting of external surface should not be done in adverse weather condition like hailstorm and dust storm. Painting, except the priming coat, shall generally be considered after practically finishing all other building work.

The rooms should be thoroughly swept out and the entire building cleaned up, at least one day in advance of the Paint work being started.

Preparation of Surface

The surface shall be thoroughly cleaned and dusted off. All rust, dirt, scales, smoke splashes, mortar droppings and grease shall be thoroughly removed before painting is started. The prepared surface shall have received the approval of the Engineer after inspection, before painting is commenced.

Application

Before pouring into smaller containers for use, the Paint shall be stirred thoroughly in its containers, when applying also, the Paint shall be continuously stirred in the smaller containers so that its consistency is kept uniform.

The crossing and laying off consists of covering the area over with Paint, brushing the surface hard for the first time over and then brushing alternately in opposite direction, 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 is finished. The full process of crossing and laying off will constitute one coat.

Where so stipulated, the painting shall be done by spraying. Spray machine used may be (a) high pressure (small air aperture) type, or (b) a low pressure (large air gap) type, depending on the nature and location of work to be carried out. Skilled and experienced workmen shall be employed for this class of work. Paints used shall be brought to the requisite consistency by adding a suitable thinner.

Spraying should be done only when dry condition prevails. Each coat shall be allowed to dry out thoroughly and rubbed smooth before the next coat is applied. This should be facilitated by thorough ventilation. Each coat except the last coat, shall be lightly rubbed down with sand paper or fine pumice stone and cleaned off dust before the next coat is laid.

No left over Paint shall be put back into the stock tins. When not in use, the containers shall be kept properly closed.

No hair marks from the brush or clogging of Paint puddles in the corners of panels, angles of moldings etc. shall be left on the work.

In painting doors and windows, the putty round the glass panes must also be painted but care must be taken to see that no Paint stains etc. are left on the glass. Tops of shutters and surfaces in similar hidden locations shall not be left out in painting. However, bottom edge of the shutters where the painting is not practically possible, need not be done nor any deduction on this account will be done but two coats of primer of approved make shall be done on the bottom edge before fixing the shutters.

On painting steel work, special care shall be taken while painting over bolts, nuts, rivets overlaps etc.

All paintings works of include primer.

Brushes and Containers

After work, the brushes shall be completely cleaned of Paint and linseed oil by rinsing with turpentine. A brush in which Paint has dried up is ruined and shall on no account be used for painting work. The containers when not in use, shall be kept closed and free from air so that Paint does not thicken and also shall be kept safe from dust. When the Paint has been used, the containers shall be washed with turpentine and wiped dry with soft clean cloth, so that they are clean, and can be used again.

CW.16.6. Measurements

The length and breadth shall be measured correct to a cm or half an inch. The area shall be calculated in sq.m or sq.ft (correct to two places of decimal), except otherwise stated.

Small articles not exceeding 10 sq. decimeter (0.1 sqm) of painted surfaces where not in conjunction with similar painted work shall be enumerated.

Painting upto 10 cm or 4 inches in width or in girth and not in conjunction with similar painted work shall be given in running meters or feet and shall include cutting to line where so required.

Note : *Components of trusses, compound girders, stanchions, lattices and similar work shall, however, be given in sq. metres irrespective of the size or girth of members. Priming coat of painting shall be included in the work of fabrication.*

In measuring painting, varnishing, oiling etc. of joinery and steel work etc. The coefficients as Indicated in following tables shall be used to obtain the area payable. The coefficients shall be applied to the areas measured flat and not girthed.

TABLE –S Equivalent Plain Areas of Uneven Surface

S. No.	Description of work	How measured	Multiplying coefficients
1	2	3	4
I. Steel work doors, windows Etc.			
17.	Collapsible gates	Measured flat	1.50 (for painting all over)
III. General			
19.	Expanded metal, hard drawn steel wire fabric of approved quality, grill works and gratings in guard bars, balustrades, railing partitions and MS Bars in windows frames.	Measured flat overall; no deduction shall be made for open spaces; supporting members shall not be measured separately	1 (for Paint all over)
20.	Open palisade fencing and gates including standards, braces, rails stays etc. in timber or steel	-do- (see note No. 12)	1 (for Paint all over)

Explanatory Notes for Table -S

Collapsible gates shall be measured for width from outside to outside of gate in its expanded position and for height from bottom to top of channel verticals. No separate measurements shall be taken for the top and bottom guide rails rollers, fittings etc.

Measurements of painting as above shall be deemed to include painting all iron fittings in the same or different shade for which no extra will be paid.

For painting open palisade fencing and gates etc., the height shall be measured from the bottom of the lowest rail, if the palisades do not go below it, (or from the lower end of the palisades, if they project below the lowest rail), upto the top of rails or palisades whichever are higher, but not up to the top of standards when the latter are higher than the top rails or the palisades. Width of moulded work of all other kinds, as in hand rails, cornices, architraves shall be measured by girth.

Painting of rain water, soil, waste, vent and water pipes etc. shall be measured in running metres of the particular diameter of the pipe concerned. Painting of specials such as bends, heads, branches, junctions, shoes, etc. shall be included in the length and no separate measurements shall be taken for these or for painting brackets, clamps etc. Measurements of wall surfaces and other work not referred to already shall be recorded as per actual.

PRECAUTIONS

All furniture, fixtures, glazing, floors etc. shall be protected by covering and stains, smears, splashing, if any shall be removed and any damages done shall be made good by the contractor at his cost.

CW.16.7. Rate

The rates for items shall include cost of all materials (including grouting material) consumed in the work at all levels, hire charges of materials, tools and plant, cost of labour, insurance, all transport, services, accommodation, supervision, storage, protection etc. complete.

CW.17. PAINTING ON WOOD, IRON OR PLASTERED SURFACES

CW.17.1. Primer

The primer for iron work or plastered surface shall be as specified in the description of item. Primer for plaster/ Iron & Steel surfaces shall be as specified below:

TABLE –T

S.No.	Surfaces	Primer to be used
	(B) Iron, Steel and Galvanized steel) Red Oxide Zinc chromate Primer (conforming IS 2074
4.	Cement/Conc/RCC/brick work, Plastered surfaces, non-asbestos surfaces to receive Oil bound distemper or Paint finish.	Cement primer conforming to IS 109

The primer shall be ready mixed primer of approved brand and manufacture. Where primer for steel work is specified to be mixed at site, it shall be prepared from a mixture of red oxide, raw linseed oil and turpentine in the ratio of 2.8 kg : 1 litre : 1 litre.

The specifications for the base vehicle and thinner for mixed on site primer shall be as follows:

- White oxide* : The White lead shall be pure and free from adulterants like barium sulphate and whiting. It shall conform to IS 103.
- Red oxide* : This shall be in powder form and shall be pure and free from adulterants like brick dust etc. It shall conform to IS 102.
- Raw Linseed Oil* : Raw linseed oil shall be lightly viscous but clear and of yellowish colour with light brown tinge. Its specific gravity at a temperature of 30 degree C shall be between 0.923 and 0.928.

Note : The oil shall be mellow and sweet to the taste with very little smell. The oil shall be of sufficiently matured quality. Oil turbid or thick, with acid and bitter taste and rancid odour and which remains sticky for a considerable time shall be rejected. The oil shall conform in all respects to IS 75. The oil shall be of approved brand and manufacture.

- Double Boiled Linseed Oil* : This shall be more viscous than the raw oil, have a deeper colour and specific gravity between 0.931 and 0.945 at a temperature of 30 degree C. It shall dry with a glossy surface. It shall conform in all respects to IS 77. The oil shall be of approved brand and manufacture.

Turpentine : Mineral turpentine i.e. petroleum distillate which has the same rate of evaporation as vegetable turpentine

(distillate product of oleoresin of conifers) shall be used. It shall have no grease or other residue when allowed to evaporate. It shall conform to IS 533.

All the above materials shall be of approved manufacture and brought to site in their original packing in sealed condition.

CW.17.2. Preparation of Surface

Iron & Steel Surface: All rust and scales shall be removed by scrapping or by brushing with steel wire brushes. Hard skin of oxide formed on the surface of wrought iron during rolling which becomes loose by rusting, shall be removed. All dust and dirt shall be thoroughly wiped away from the surface. If the surface is wet, it shall be dried before priming coat is undertaken.

Plastered Surface: The surface shall ordinarily not be painted until it has dried completely. Trial patches of primer shall be laid at intervals and where drying is satisfactory, painting shall then be taken in hand. Before primer is applied, holes and undulations, shall be filled up with plaster of paris and rubbed smooth.

Application

The primer shall be applied with brushes, worked well into the surface and spread even and smooth.

CW.17.3. Wall Painting With Plastic Emulsion Paint Distemper in The BoQ

The plastic emulsion Paint is not suitable for application on external, and iron surface and surfaces which are liable to heavy condensation. These Paints are to be used on internal surfaces. Plastic Emulsion Paint as per IS 5411 of approved brand and manufacture and of the required shade shall be used.

Painting on New Surface

The wall surface shall be prepared as specified above.

Application : The number of coats shall be as stipulated in the item. The Paint will be applied in the usual manner with brush, spray or roller. The Paint dries by evaporation of the water content and as soon as the water has evaporated the film gets hard and the next coat can be applied. The time of drying varies from one hour on absorbent surfaces to 2 to 3 hours on non-absorbent surfaces. The thinning of emulsion is to be done with water and not with turpentine. Thinning with water will be particularly required for the under coat which is applied on the absorbent surface. The quantity of water to be added shall be as per manufacturer's instructions. The surface on finishing shall present a flat velvety smooth finish. If necessary more coats will be applied till the surface presents a uniform appearance.

Precautions

- (a) Old brushes if they are to be used with emulsion Paints, should be completely dried of turpentine or oil Paints by washing in warm soap water. Brushes should be quickly washed in water immediately after use and kept immersed in water during break periods to prevent the Paint from hardening on the brush.
- (b) In the preparation of wall for plastic emulsion painting, no oil base putties shall be used in filling cracks, holes etc.
- (c) Splashes on floors etc. shall be cleaned out without delay as they will be difficult to remove after hardening.
- (d) Washing of surfaces treated with emulsion Paints shall not be done within 3 to 4 weeks of application.

Painting on Old Surface

Preparation of Surface: This shall be done, generally as specified in 13.24.2.1 except that the surface before application of Paint shall be flattened well to get the proper flat velvety finish after painting.

Application: The number of coats to be applied shall be as in description of item. The application shall be as specified for new surface, except that thinning with water shall not normally be required.

CW.17.4. Painting with Synthetic Enamel Paint

Synthetic Enamel Paint (conforming to IS 2933) of approved brand and manufacture and of the required colour shall be used for the top coat and an undercoat of ordinary Paint of shade to match the top coat as recommended by the same manufacturer as far the top coat shall be used.

Painting on New Surface

Preparation of surface shall be as specified here above, as the case may be.

Application : The number of coats including the undercoat shall be as stipulated in the item.

- (a) *Under Coat* : One coat of the specified ordinary Paint of shade suited to the shade of the top coat, shall be applied and allowed to dry overnight. It shall be rubbed next day with the finest grade of wet abrasive paper to ensure a smooth and even surface, free from brush marks and all loose particles dusted off.
- (b) *Top Coat* : Top coats of synthetic enamel Paint of desired shade shall be applied after the undercoat is thoroughly dry. Additional finishing coats shall be applied if found necessary to ensure properly uniform glossy surface.

Other details shall be as specified above for exterior painting, as far as they are applicable.

Painting on Old Surface

Preparation of Surface : Where the existing Paint is firm and sound it shall be cleaned of grease, smoke etc. and rubbed with sand paper to remove all loose particles dusted off. All patches and cracks shall then be treated with stopping and filler prepared with the specified Paint. The surface shall again be rubbed and made smooth and uniform.

Painting : The number of coats as stipulated in the item shall be applied with synthetic. enamel Paint. Each coat shall be allowed to dry and rubbed down smooth with very fine wet abrasive paper, to get an even glossy surface. If however, the surface is not satisfactory additional coats as required shall be applied to get correct finish. Other details shall be specified here above for 'Exterior painting on Wall' as far as they are applicable.

CW.17.5. Sample to be Approved

Sample of approximately 1 sq.m. of painting work of all types of paint work shall be prepared, to be approved by the Engineer before further execution.

CW.17.6. Rate

The rate shall include all labour, materials and use of tools to carry out the following operation:

- a. Supplying and mixing the paint as specified.
- b. Scaffolding including erection and dismantling.
- c. Preparation of the surface before painting.
- d. Application of paints as specified.
- e. Curing and protecting the painted surface.

CW.20. Random Rubble Masonry

CW.20.1. Dressing

Stones shall be hammer dressed, on the face, the sides and the beds, to enable it to come into close proximity with the neighbouring stone. The bushing in the face shall not project more than 4 cm in an exposed face, and one cm on a face to be plastered. The hammer dressed stone shall have a rough tooling for a minimum width of 2.5 cm along the four edges of the face of stone.

CW.20.2. Laying

Every stone shall be carefully fitted to the adjacent stones, so as to form neat and close joints. Stones may be brought

to level courses at plinth, windowsills and roof level. Levelling up at plinth level, window sills and roof level shall be done with concrete comprising of one part of the mortar as used for the masonry and two parts of graded stone aggregate of 20mm nominal size and shall be included in the items. The bond shall be obtained by fitting in closely, the adjacent stones and by using bond-stones. Face stones shall extend and bond well into the backing. These shall be arranged to-break joints as much as possible, and to avoid long vertical lines of joints.

The hearting or interior filling of the wall shall consist of rubble stones, which may be of any-shape but shall not pass through a circular ring of 15 cm inner diameter; thickness of these stones in any direction shall not be less than 10 cm. These shall be carefully laid, hammered down with a wooden mallet into position and solidly bedded in mortar, chips and spalls of stone being used wherever necessary to avoid thick mortar beds or joints and at the same time ensuring that no hollow spaces are left anywhere in the masonry. The hearting will be laid nearly level with facing and backing, except that at about one metre intervals, vertical 'Plumb' projecting about 15 cm to 20 cm shall be firmly embedded to form a bond between successive courses.

The chips shall not be used below the hearting stone to bring these upto the level of face stones. The use of chips shall be restricted to the filling of interstices between the adjacent stones in hearting, and then shall not exceed 20% of the quantity of stone masonry. The masonry in a structure shall be carried regularly. Where the masonry of one part has to be delayed the work shall be raked back at an angle not steeper than 45 degree.

CW.20.3. Bond Stones

Bond or through stones running right through the thickness of walls, shall be provided in walls upto 60 cm thick and in case of walls above 60 cm thickness, a set of two or more bond stones overlapping each other by atleast 15 cm shall be provided in a line from face to back.

In case of highly absorbent types of stones (porous lime stone and sand stone etc.) the-bond stone shall extend about two- third into the wall. Through stones in such cases may give rise to-damp penetrations therefore, for all thickness of such walls, a set of two or more bond stones overlapping-each other by at least 15 cm shall be provided. Where bond stone of suitable lengths are not available cement concrete block of 1:3:6 mix (1 cement: 3 coarse sand: 6 graded stone aggregate 20 mm nominal size) conforming to sizes mentioned above shall be used.

At least one bond stone or a set of bond stones shall be provided for every 0.5 sq.m of the wall surface. All bond stones in stone masonry shall be marked suitably as directed by the Engineer-in-charge.

CW.20.4. Quoins or corner stone

The quoins shall be of selected stones neatly dressed with the hammer and / or chisel to form the required angle, and laid header and stretcher alternately. The length of these stones shall be 45cm or more and at least 25% of the stones shall be 50cm or more in length.

CW.20.5. Jambs

Stones used in jambs shall be similar to those in quoin, excepting the length of the stem, which shall be 45cm, or thickness of the wall whichever is less.

CW.20.6. Joints

Stones shall be so laid that all joints are fully packed with mortar and chips. Face joints shall not be thicker than 20 mm.

When plastering or pointing is not required to be done, the joints shall be struck flush and finished at the time of laying. Otherwise, the joints shall be raked to a minimum depth of 20 mm by raking tool during the progress of work, when the mortar is still green.

CW.20.7. Scaffolding

Single scaffolding having one set of vertical support shall be allowed. The supports shall be sound and string tied together by horizontal pieces, over which the scaffolding planks shall be fixed. The inner end of the horizontal scaffolding member may rest in a hole provided in the masonry. Such holes, however, shall not be allowed in pillars less than one metre in width or near the skew-back of arches. The holes left in masonry work for supporting scaffolding shall be filled and made good with cement concrete 1:3:6 (1 cement: 3 coarse sand: 6 stone aggregate 20 mm nominal size).

CW.20.8. Curing

Masonry work in cement or composite mortar shall be kept constantly moist on all face for a minimum period of seven days. In case of masonry with fat-lime mortar, curing shall commence two days after laying of masonry and shall continue for at least seven days thereafter.

CW.20.9. Protection

Green work shall be protected from rain by suitable covering. The work shall also be suitably protected from damage, mortar dropping and rain during construction.

CW.20.10. Measurement

The length, height and thickness shall be measured correct to 10 mm. The thickness of wall shall be measured at joints, excluding the bushings. Only specified dimensions shall be allowed; anything extra shall be ignored. The quantity shall be calculated in cubic metre nearest to two places of decimal.

CW.20.11. Pointing of Stonework

Pointing shall be of the following types:

- A. FLUSH
- B. RAISED & CUT
- C. STRUCK AND WEATHERED
- D. RULED

1. Scaffolding

For all exposed brick work, tile work or stonework independent 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.

For all other work in building, single scaffolding shall be permitted. In such cases, the inner end of the horizontal scaffolding pole shall rest in a hole provided only in the header course for the purpose. Only one header for each pole shall be left out. Such holes for scaffolding shall, however, not be allowed in pillars/columns less than one metre in width, or immediately near the skew backs of arches. The holes left in masonry works for scaffolding purposes shall be filled and made good before plastering.

Note : *In case of special type of work, scaffolding shall be got approved from Engineer in advance.*

2. Preparation of surface

The joints shall be raked out properly. Dust and loose mortar shall be brushed out. Efflorescence if any shall be removed by brushing and scraping. The surface shall then be thoroughly washed with water, cleaned and kept wet before pointing is commenced.

In case of concrete surface if a chemical retarder has been applied to the form work, the surface shall be roughened by wire brushing and all the resulting dust and loose particles cleaned off and care shall be taken that none of the retarders is left on the surface.

The joints shall be raked to such a depth that the minimum depth of the new mortar measured from either the sunk surface of the finished pointing or from the edge of the brick shall not be less than 12 mm.

3. Mortar

Cement mortar of 1:4 has to be used.

4. Application and finishing

The mortar shall be pressed into the raked out joints, with a pointing trowel, either flush, sunk or raised, according to the type of pointing required. The mortar shall not spread over the corner, edges or surface of the masonry. The pointing shall then be finished with the proper tool, in the manner described below:

Flush Pointing : The mortar shall be pressed into the joints and shall be finished off flush and level with the edges of the bricks, tiles or stones so as to give a smooth appearance. The edges shall be neatly trimmed

with a trowel and straight edge.

Ruled Pointing : The joints shall be initially formed as for flush pointing and then while the mortar is still green, a groove of shape and size as shown in drawings or as instructed, shall be formed by running a forming tool, straight along the centre line of the joints. This operation shall be continued till a smooth and hard surface is obtained. The vertical joints shall also be finished in a similar way. The vertical lines shall make true right angles at their junctions with the horizontal lines and shall not project beyond the same.

5. Curing

The pointing shall be kept wet for seven days. During this period it shall be suitably protected from all damages. The pointing lines shall be truly horizontal and vertical except where the joints are slanting as in rubble random masonry. Lines of joints from different directions should meet neatly at the junctions instead of crossing beyond.

6. Measurements

The measurement will be the actual quantity of work executed. The rates for items shall include cost of all materials (including grouting material) consumed in the work at all levels, hire charges of materials, tools and plant, cost of labour, insurance, all transport, services, accommodation, supervision, storage, protection etc. complete.

7. Rate

The rate shall include the cost of all materials and labour involved in all the operations described above.

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.

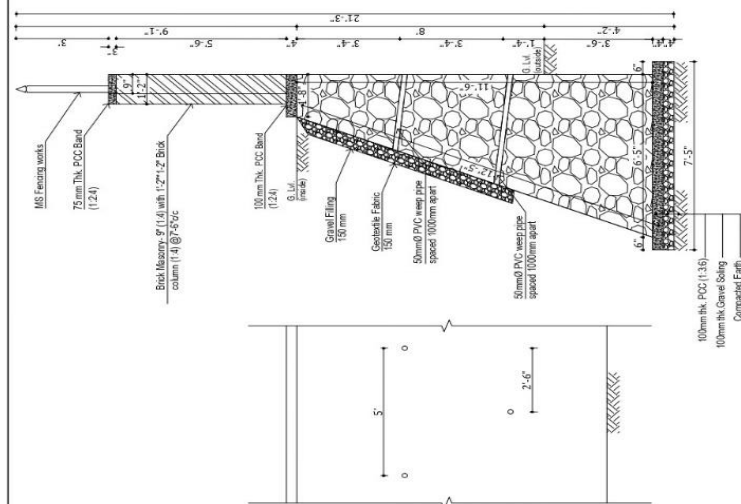


FIG.1: RETAINING WALL DETAIL @SOS CV KAVRE EDU (11'-6" HIGH)

Note 1: Provide Joint @5m interval and 1'-2" x 1'-2" Brick Masonry Column at every 7'-6" c/c

Note 2: Brick Masonry @SOS CV KAVRE NTC shall be same in Fig.1, excluding Stone Masonry

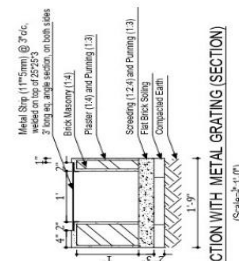


FIG. 3: DRAIN SECTION WITH METAL GRATING (SECTION)

(Scale = 10^{-1} to 10^0)

FIG.4: SAMPLE PICTURE OF MS GRILL WORKS PRESENT AND TO BE RE-USED AT SITE

(Not to Scale)

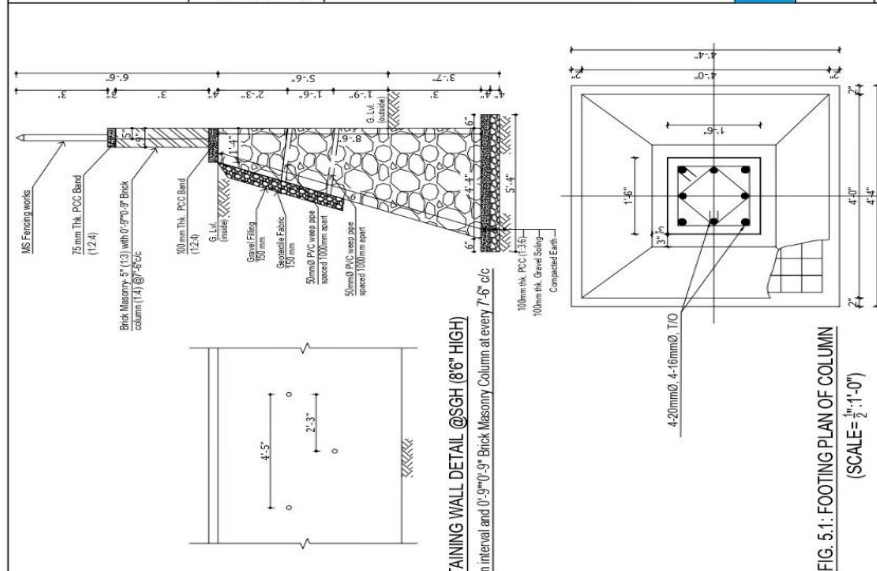


FIG. 5.1: FOOTING PLAN OF COLUMN

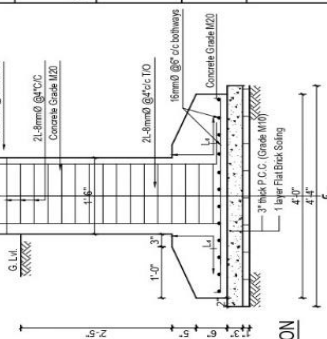
$$(\text{SCALE} = \frac{1}{2} : 1 : 0)$$


FIG. 5.2: FOOTING AND COLUMN SECTION

$$(\text{SCALE} = \frac{1''}{2} : 1'-0'')$$


Scale: $\frac{1}{4}$ " = 1'-0" unless otherwise mentioned

Project Title:
Rainfall Protection Works at
SOS CV KAVRE

Location: SOS CHILDREN'S VILLAGE

Print Sheet: A3 size	Work Type: Renovation
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Print Sheet: A3 size	Work Type: Renovation
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Date:	November, 2024	P-01
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P-01

NOTES

NOTES:

1. Any discrepancy in the drawing to be immediately reported to SOS CV NEPAL's Engineer.
2. Drawing are not to be directly measured.
3. Read this drawing along with other related drawings and coordinate with Structural, Electrical, Plumbing and other services drawings.
4. All the units are in feet, unless mentioned otherwise.

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4. All the units are in feet unless mentioned otherwise.

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SECTION - VI

Bill of Quantities⁶

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.*
- (b) Nominal quantities for each item of Day work, to be priced by each Bidder at Day work rates as bid. The rate to be entered by the Bidder against each basic Day work item should include the Contractor's profit, overheads, supervision, and other charges.*

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 Contract Data should state the manner in which they will be used, and under whose authority (usually the Project Manager's).

Summary

The Summary should contain a tabulation of the separate parts of the Bill of Quantities carried forward, with provisional sums for Day work, for physical (quantity) contingencies, and for price contingencies (upward price adjustment) where applicable.

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

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.

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 of 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

1. 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 stock piling 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
(attached separately, to be downloaded from the website
www.sosnepal.org.np)

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SECTION VII
General Conditions of Contract

General Conditions of Contract

This Section provides the General Conditions of Contract that will apply to the Contract for which the Bidding document is issued.

General	
1. Definitions	<p>1.1 Bold face type is used to identify defined terms.</p> <p>(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.</p> <p>(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.</p> <p>(c) Bill of Quantities means the priced and completed Bill of Quantities forming part of the Bid.</p> <p>(d) Compensation Events are those defined in GCC 50 hereunder.</p> <p>(e) The Completion Date is the date of completion of the Works as certified by the Project Manager, in accordance with GCC 68.1.</p> <p>(f) 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.</p> <p>(g) The Contractor is the party whose Bid to carry out the Works has been accepted by the Employer.</p> <p>(h) The Contractor's Bid is the completed bidding document submitted by the Contractor to the Employer.</p> <p>(i) The Contract Price is the Accepted Contract Amount stated in the Letter of Acceptance and thereafter as adjusted in accordance with the Contract.</p> <p>(j) Days are calendar days; months are calendar-months.</p> <p>(k) 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.</p> <p>(l) A Defect is any part of the Works not completed in accordance with the Contract.</p> <p>(m) The Defects Liability Certificate is the certificate issued by Project Manager upon correction of defects by the Contractor.</p> <p>(n) The Defects Liability Period is the period calculated from the Completion Date where the Contractor remains responsible for remedying defects.</p> <p>(o) Drawings include calculations and other information provided or approved by the Project Manager for the execution of the Contract.</p> <p>(p) The Employer is the party who employs the Contractor to carry out the Works, as specified in the SCC.</p> <p>(q) Equipment is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works.</p> <p>(r) Force Majeure means an exceptional event or circumstance: which is beyond</p>

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.

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

(t) **In writing** or **written** means hand written, type written, printed or electronically made, and resulting in permanent record.

(u) The **Intended Completion Date** 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.

(v) **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.

(w) **Materials** are all supplies, including consumables, used by the Contractor for incorporation in the Works.

(x) **Party** means the Employer or the Contractor, as the context requires.

(y) **SCC** means Special Conditions of Contract

(aa) **Plant** is any integral part of the Works that shall have a mechanical, electrical, chemical, or biological function.

(bb) The **Project Manager** is the person **named in the SCC** (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 sub-surface 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 **Subcontractor** is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract, which includes work on the Site.

(jj) **Temporary Works** are works designed, constructed, installed, and removed by the Contractor that are needed for construction or installation of the Works.

(kk) A **Variation** is an instruction given by the Project Manager which varies the

	<p>Works</p> <p>(II) The Works are what the Contract requires the Contractor to construct, install, and turn over to the Employer, as defined in the SCC.</p>
2. Interpretation	<p>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.</p> <p>2.2 If sectional completion is specified in the SCC, 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).</p> <p>2.3 The documents forming the Contract shall be interpreted in the following order of priority:</p> <ul style="list-style-type: none"> (a) Contract Agreement, (b) Letter of Acceptance, (c) Letters of 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 listed in the SCC as forming part of the Contract.
3. Language and Law	<p>3.1 The language of the Contract and the law governing the Contract are stated in the SCC.</p> <p>a. Throughout the execution of the Contract, the Contractor shall comply with the import of goods and services prohibitions in the Employer's country when</p> <ul style="list-style-type: none"> (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.
4. Contract Agreement	<p>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 IX.</p>

5. Assignment	<p>5.1 Neither Party shall assign the whole or any part of the Contract or any benefit or interested in or under the Contract. However, either Party</p> <p>(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</p> <p>(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.</p>
6. Care and Supply of Documents	<p>6.1 The Specifications 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.</p>
	<p>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 two copies of each of the Contractor's Documents.</p>
	<p>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.</p>
	<p>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.</p>
7. Confidential Details	<p>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.</p>
	<p>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.</p>
	<p>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.</p>
8. Compliance with Laws	<p>8.1 The Contractor shall, in performing the Contract, comply with applicable Laws.</p>

9. Joint and Several Liability	<p>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.</p>
10. Project Manager's Decisions	<p>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.</p>
11. Delegation	<p>11.1 The Project Manager may delegate any of his duties and responsibilities to other people after notifying the Contractor, and may cancel any delegation after notifying the Contractor.</p>
12. Communications	<p>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.</p>
13. Subcontracting	<p>13.1 A list of approved Subcontractors including its value/works is included as Article 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.</p>
14. Other Contractors	<p>14.1 The Contractor shall cooperate and share the Site with other contractors, utilities, and the Employer between the dates given in the Schedule of Other Contractors, as referred to in the SCC. 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</p>
15. Personnel and Equipment	<p>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.</p> <p>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.</p> <p>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.</p>

16. Employer's and Contractor's Risk	16.1 The Employer carries the risks which this Contract states are Employer's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.
17. Employer's Risks	<p>17.1 From the Start Date until the Defects Liability Certificate has been issued, the following are Employer's risks:</p> <p>(a) The risk of damage to the Works, Plant, Materials, and Equipment to the extent that it is due to war or radioactive contamination directly affecting the country where the Works are to be executed.</p>
18. Contractor's Risks	<p>18.1 From the Start Date until the Defects Liability Certificate has been issued, the following are Contractor's risks:</p> <p>(b) The risk of personal injury, death of manpower used in the work execution or public passing through or working near the site, or loss of or damage (has to be covered by Contractor via all required insurance) to property (excluding the Works, Plant, Materials, and Equipment)</p> <p>From the Completion Date until the Defects Liability Certificate has been issued, the risk of loss of or damage to the Works, Plant, and Materials is a Contractor's risk, viz.</p> <p>(c) a Defect which existed on the Completion Date,</p> <p>(d) an event occurring before the Completion Date, which was not itself an Employer's risk, or</p> <p>e) the activities of the Contractor on the Site after the Completion Date.</p>
19. Insurance	<p>19.1 Any and all required insurance are the responsibility of the Contractor and the Contractor shall provide insurance in the joint names of the Employer and the Contractor from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles stated in the SCC for the following events which are due to the Contractor's risks:</p> <p>(a) loss of or damage to the Works, Plant, and Materials;</p> <p>(b) loss of or damage to Equipment;</p> <p>(c) loss of or damage to property (except the Works, Plant, Materials, and Equipment) in connection with the Contract; and</p> <p>(d) Personal injury or death of manpower used in the project and/or public passing through or working near the site.</p> <p>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</p>

	<p>such insurance shall provide for compensation to be payable in the proportions of Nepalese Rupees required to rectify the loss or damage incurred.</p> <p>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.</p> <p>19.4 Alterations to the terms of insurance shall not be made without the approval of the Project Manager.</p> <p>19.5 Both parties shall comply with any conditions of the insurance policies.</p>
20. Site Investigation Reports	<p>20.1 The Contractor, in preparing the Bid, shall rely on any Site Investigation Reports referred to in the SCC, supplemented by any information available to the Contractor.</p>
21. Contractor to Construct the Works	<p>21.1 The Contractor shall construct and install the Works in accordance with the Specifications and Drawings.</p>
22. The Works to Be Completed within intended Completion Date	<p>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.</p>
23. Design by contractor and Approval by the Project Manager	<p>23.1 The contractor shall be responsible for the design of permanent works as specified in SCC.</p> <p>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.</p> <p>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.</p> <p>23.4 The Project Manager's approval shall not alter the Contractor's responsibility for design of temporary works.</p>
24. Safety, Security and Protection of the Environment	<p>24.1 The Contractor shall, throughout the execution, and completion of the works and remedying of any defects therein:</p> <ol style="list-style-type: none"> 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. 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 or for the

	<p>safety and convenience of the public or others.</p> <p>c. Take all reasonable steps to protect the environment on and off the site and 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.</p> <p>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.</p> <p>e. Any spoil or material removed from drains shall be disposed off to designated stable tipping areas as directed by the Project Manager.</p> <p>f. Shall not use fuel wood as a means of heating during the processing or preparation of any materials forming part of the works.</p> <p>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.</p> <p>h. Provide on the Site such life saving 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.</p>
25. Discoveries	<p>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.</p>
26. Possession of the Site	<p>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 stated in the SCC, the Employer shall be deemed to have delayed the start of the relevant activities, and this shall be a Compensation Event.</p>
27. Access to the Site	<p>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.</p>
28. Instructions, Inspections and Audits	<p>28.1 The Contractor shall carry out all instructions of the Project Manager which comply with the applicable laws where the Site is located.</p> <p>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.</p> <p>28.3 The Contractor shall permit the EMPLOYER and/or persons appointed by the EMPLOYER 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 EMPLOYER if</p>

	required by the EMPLOYER. 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 EMPLOYER's inspection and audit rights provided for under this Sub-Clause constitute an obstructive practice subject to contract termination.
29. Dispute Settlement	<p>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.</p> <p>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.</p>
30. Procedures for Disputes	30.1 In case of arbitration, the arbitration shall be conducted in accordance with procedures in accordance with law of Nepal at the place given in the SCC .
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.
Time Control	
34. Program	34.1 Within the time stated in the SCC , 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

	<p>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.</p> <p>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.</p> <p>34.3 The Contractor shall submit to the Project Manager for approval an updated Program at intervals no longer than the period stated in the SCC. 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.</p> <p>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.</p>
35. Extension of the Intended Completion Date	<p>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.</p> <p>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. Along with full supporting information the contractor shall also submit Performance Security, Advanced Payment Guarantee and Insurance Policy with extended validity as well as revised work schedule.</p>
36. Acceleration	<p>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.</p> <p>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.</p>
37. Delays Ordered by the Project Manager	<p>37.1 The Project Manager may instruct the Contractor to delay the start or progress of any activity within the Works.</p>

38. Management Meetings	<p>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.</p> <p>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.</p>
39. Early Warning	<p>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.</p> <p>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.</p>
C. Quality Control	
40. Identifying Defects	<p>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.</p>
41. Tests	<p>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.</p>
42. Correction of Defects	<p>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 issuance of taking over certificate pursuant to clause 69.2, and is defined in the SCC. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.</p> <p>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.</p>
43. Uncorrected Defects	<p>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.</p>
D. Cost Control	
44. Contract Price	<p>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</p>

	<p>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.</p> <p>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.</p>
45. Changes in the Contract Price	<p>45.1 In the case of an Unit Rate contract:</p> <p>(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.</p> <p>(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.</p> <p>(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.</p> <p>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.</p>
46. Variations	<p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>46.5 The Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning.</p> <p>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 GCC 45.1 or the timing of</p>

	<p>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.</p>
47. Cash Flow Forecasts	<p>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.</p>
48. Payment Certificates	<p>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.</p> <p>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.</p> <p>48.3 The value of work executed shall be determined by the Project Manager.</p> <p>48.4 The value of work executed shall comprise:</p> <ul style="list-style-type: none"> (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. <p>48.5 The value of work executed shall include the valuation of Variations and Compensation Events.</p> <p>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.</p>
49. Payments	<p>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 indicated in the SCC 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.</p> <p>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.</p> <p>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.</p>

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 on 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	N/A
54. Retention	<p>54.1 The Employer shall retain from each payment due to the Contractor the proportion stated in the SCC until Completion of the whole of the Works.</p> <p>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.</p> <p>54.3 The Contractor may substitute retention money with an unconditional bank guarantee issued from Commercial Bank or Financial Institution eligible to issue Bank Guarantee as per prevailing Law if:</p> <ul style="list-style-type: none"> (a) at least eighty (80) percent of the whole works have been completed, (b) progress of the works is satisfactory in accordance with the Contract as per approved work schedule, and (c) it can be assured that the works can be completed at the intended completion date. <p>54.4 If retention money is substituted by bank guarantee in accordance with clause 54.2, the bank guarantee shall be submitted either using the Retention Money Security Form included in Section X (Contract Forms) or in another Form acceptable to the employer. The validity of the bank guarantee shall be at least one month more than the end of defect liability period.</p>
55. Liquidated Damages	<p>55.1 The Contractor shall pay liquidated damages to the Employer at the rate per day stated in the SCC for each day that the Completion Date is later than the Intended Completion Date. The total amount of liquidated damages shall not exceed the amount defined in the SCC. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor's liabilities.</p> <p>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</p>

56. Bonus	<p>56.1 The Contractor shall be paid a Bonus calculated at the rate per calendar day stated in the SCC 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.</p>
57. Advance Payment	<p>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 stated in the SCC, against provision by the Contractor of an unconditional bank guarantee from Commercial Bank or Financial Institution eligible to issue Bank Guarantee</p>
	<p>as per prevailing Law 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.</p>
	<p>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.</p> <p>57.3 The advance payment shall be repaid by deducting proportionate amounts, as stated in SCC, 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.</p>
58. Securities	<p>58.1 The Performance Security, including any additional security required as per ITB 32.5 and ITB 37.1, shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in an amount specified in the SCC, by a Commercial Bank or Financial Institution eligible to issue Bank Guarantee as per prevailing Law 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.</p> <p>Any additional performance security required as per ITB 32.5 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.</p> <p>Any additional performance security required as per ITB 37.1 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.</p> <p>58.2 The performance security issued by any foreign Bank outside Nepal must be counter guaranteed by an Commercial Bank or Financial Institution eligible to issue Bank Guarantee as per prevailing Law in Nepal.</p>

59. Day works	<p>59.1 If applicable, the Day works 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.</p> <p>59.2 All work to be paid for as Day works 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.</p> <p>59.3 The Contractor shall be paid for Day works subject to obtaining signed Day works forms.</p>
60. Cost of Repairs	<p>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.</p>
F. Force Majeure	
61. Definition of Force Majeure	<p>61.1 In this Clause, "Force Majeure" means an exceptional event or circumstance,</p> <ul style="list-style-type: none"> (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.
	<p>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:</p> <ul style="list-style-type: none"> (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 Personnel, revolution, insurrection, military or usurped power, or civil war; (c) riot, commotion, disorder, strike or lockout by persons other than the Contractor's Personnel; (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 (e) natural catastrophes such as earthquake, hurricane, typhoon or volcanic activity.

62. Notice of ForceMajeure	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 <ul style="list-style-type: none"> (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 destroyed 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 Affecting Subcontractor	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 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. Optional Termination, Payment and Release	<p>66.1 If the execution of substantially all the Works in progress is prevented for a 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.</p> <p>66.2 Upon such termination, the Project Manager shall determine the value of the work done and issue a Payment Certificate, which shall include</p> <ul style="list-style-type: none"> (a) the amounts payable for any work carried out for which a price is stated in the Contract; (b) the Cost of Plant and Materials ordered for the Works which have been 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; (d) the Cost of removal of Temporary Works and Contractor's Equipment 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 (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 Performance	<p>67.1 Notwithstanding any other provision of this Clause, if any event or circumstance 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,</p> <ul style="list-style-type: none"> (a) the Parties shall be discharged from further performance, without 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	<p>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.</p> <p>68.2 In addition to the other provisions, before acceptance of the completed works, Employer shall verify and assure that such works are within the set objective, quality and appropriate to operate and use.</p>
69. Taking Over	<p>69.1 In the contractor's Opinion, if the works are complete and ready for taking over, the contractor may apply by notice to the Project Manager for a Taking-Over Certificate. If the Works are divided into Sections, the Contractor may similarly apply for a Taking-Over Certificate for each Section.</p> <p>69.2 The Project Manager shall, within 30 days after receiving the Contractor's application:</p> <ul style="list-style-type: none"> (a) issue the Taking-Over Certificate to the Contractor if physical progress of works is at least ninety (90) percent in accordance with the Contract except for any minor outstanding work and defects (as listed in the Taking-Over Certificate) which will not substantially affect the use of the Works or Section for their intended purpose (either until or whilst this work is completed and these defects are remedied); or reject the application, giving reasons and specifying the work required to be done by the Contractor to enable the Taking-Over Certificate to be issued. The Contractor shall then complete this work before issuing a further notice under this Sub-Clause. (b) If the Engineer fails either to issue the Taking-Over Certificate or to reject the Contractor's application within the period of 30 days, and if the Works or Section (as the case may be) are substantially completed in accordance with the Contract, the Taking-Over Certificate shall be deemed to have been issued on the last day of that period.
70. Final Account	<p>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.</p>
71. Operating and Maintenance Manuals	<p>71.1 If "as built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated in the SCC.</p> <p>71.2 If the Contractor does not supply the Drawings and/or manuals by the dates stated in the SCC pursuant to GCC 71.1, or they do not receive the Project Manager's approval, the Project Manager shall withhold the amount stated in the SCC from payments due to the Contractor.</p>

<p>72. Termination</p>	<p>72.1 The Employer may terminate the Contract at any time if the contractor;</p> <ul style="list-style-type: none"> 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. <p>72.2 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract.</p> <p>72.3 Fundamental breaches of Contract shall include, but shall not be limited to, the following :</p> <ul style="list-style-type: none"> (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; (d) the Employer or the Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation. (e) a payment certified by the Project Manager is not paid by the Employer to the
	<p>Contractor within 90 days of the date of the Project Manager's certificate;</p> <ul style="list-style-type: none"> (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; (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; (h) the Contractor does not maintain a Security, which is required; (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 (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. <p>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.</p> <p>72.5 Notwithstanding the above, the Employer may terminate the Contract for convenience.</p> <p>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.</p>

<p>73. Fraud and Corruption</p>	<p>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 days' notice to the Contractor, terminate the Contractor's employment under the Contract and expel him from the Site.</p> <p>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.</p> <p>For the purposes of this GCC 73;</p> <ul style="list-style-type: none"> (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. (ii) "fraudulent practice"⁵ 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; (iii) "collusive practice"⁶ is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party; (iv) "coercive practice"⁷ 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;
	<ul style="list-style-type: none"> (v) "obstructive practice" is <ul style="list-style-type: none"> (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/EMPLOYER's inspection and audit rights provided for under GCC28.3.

74. Black Listing	<p>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:</p> <ul style="list-style-type: none"> (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. (b) If convicted from a court of law in a criminal offense liable to be disqualified for taking part in procurement contract, (c) If it is established that the Contractor has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.
75. Payment upon Termination	<p>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.</p> <p>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.</p> <p>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.</p> <p>In such case, amount to complete the remaining works as per the Contract shall be recovered from the Contractor as Government dues.</p>
76. Property	<p>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.</p>
77. Release from Performance	<p>77.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the Contractor, the 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.</p>

78. Suspension of EMPLOYER Loan/Credit/Grant	<p>78.1 In the event that the EMPLOYER suspends the loan/ credit/grant to the Employer from which part of the payments to the Contractor are being made:</p> <ul style="list-style-type: none"> a. the Employer is obligated to notify the Contractor of such suspension within 7 days of having received the EMPLOYER'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	<p>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.</p>
	<p>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.</p>
	<p>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.</p>
80. Project Manager's Duties and Authorities	<p>80.1 The Project Manager's duties and authorities are restricted to the extent as stated in the SCC.</p>
81. Quarries and Spoil Dumps	<p>81.1 Any quarry operated as part of this Contract shall be maintained and left in 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</p>

	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.
85. Duties, Taxes and Royalties	<p>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.</p> <p>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.</p> <p>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.</p>
86. Member of Employer or Project Manager etc,	86.1 No member of the Employer or the Project Manager or any of their respective employees shall be in any way personally bound or

Not Personally Liable	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 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 VIII: 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 SOS CHILDREN'S VILLAGES NEPAL.
GCC 1.1 (v)	The Intended Completion Date for the whole of the Works shall be Three Months from Contract Agreement Date.
GCC 1.1 (bb) & 10.1	The Project Manager is SOS CHILDREN'S VILLAGES NEPAL'S CIVIL ENGINEER. The Project Manager and Engineer are synonyms.
GCC 1.1 (ee)	The Site is located at Panauti-5, Shreekhandapur, Kavrepalanchowk.
GCC 1.1 (hh)	The Start Date shall be Seven days from Contract Agreement Date.
GCC 1.1 (ll)	The Works consist of Repair/maintenance, demolition and renovation works.
GCC 2.2	Sectional Completions are Not Applicable.
GCC 2.3(i)	The following documents also form part of the Contract: <ul style="list-style-type: none"> • Specification. • Drawings and Meeting Minutes.
GCC 3.1	The language of the contract is ENGLISH. The law that applies to the Contract is the law of NEPAL.
GCC 11.1	The Project Manager may not delegate any of his duties and responsibilities.
GCC 14.1	Schedule of other contractors: Not Applicable.
GCC 19.1	All required Insurance shall be done by the Contractor and the Contractor shall quote the amount required for Insurance under Preliminary Works. The minimum insurance amounts and deductibles shall be: <ol style="list-style-type: none"> 1. The minimum cover for loss of or damage to the Works, Plant and Materials is: 115% of the Contract Amount. 2. The maximum deductible for insurance of the Works and of Plant and Materials is: 1 % of sum insured 3. The minimum cover for loss or damage to immovable Equipment/plants is : 100% (i.e Replacement Cost) 4. The maximum deductible for insurance of Equipment/plant is: 1 % of sum insured 5. The minimum cover for loss of or damage to other property is 5,00,000.00 with unlimited number of occurrences 6. The maximum deductible for insurance of other property is: 1 % of sum insured

	7. The minimum cover for personal injury or death insurance
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	<p>i. for the Contractor's employees is that specified in the Labor act of Nepal and</p> <p>ii. for other people is : 1 million with an unlimited number of occurrences</p>
GCC 20.1	Site Investigation Reports are Not Applicable .
GCC 23.1	The following shall be designed by the Contractor Not Applicable .
GCC 26.1	The Site Possession Date(s) shall be Fourteen days from the date of Contract Agreement Date .
GCC 30.1	The place of arbitration shall be Not Applicable .
B. Time Control	
GCC 34.1	The Contractor shall submit for approval a Program for the Works within 10 days from the date of the Letter of Acceptance.
GCC 34.3	<p>The period between Program updates is 15 days.</p> <p>The amount to be withheld for late submission of an updated Program is NPR. 10,000.00.</p>
C. Quality Control	
GCC 42.1	The Defects Liability Period is 365 days.
D. Cost Control	
GCC 49.1	As per prevailing interest rate fixed by NRB, Nepal.
GCC 53.1	<p>The Contract is not subject to price adjustment, and the following information regarding coefficients does not apply.</p> <p>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.</p>
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 and attached as Annex-1.
GCC 53.7	Not Applicable.
GCC 54.1	The proportion of payments retained is: 5 (FIVE) percent .
GCC 55.1	The liquidated damages for the whole of the Works are 0.05 Percent of the final Contract Price per day . The maximum amount of liquidated damages for the whole of the Works is 10 Percent of the final Contract Price .
GCC 56.1	Not Applicable.

GCC 57.1	Total advance payment shall be 20% of the Accepted Contract Amount
	<p>(Excluding VAT and Provisional Sums) and shall be paid to the Contractor no later than 1st Interim Bill payment in the currencies and proportions in which the Accepted Contract Amount is payable.</p> <ul style="list-style-type: none"> First installment: 10% shall be made to the contractor upon submission of equivalent acceptable Bank Guarantee for advanced payment. After agreement & Insurance Report. Second installment: 10% shall be made after execution of work, Submission of Materials Lab report.
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 40% 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 price.
GCC 58.1	<p>The amount of the of performance Security on the recommendation of Procurement Committee (after consulting with Civil Engineer) is as per given below.</p> <p>1) If bid price of the bidder selected for acceptance is up to 15 (fifteen) percent below the approved cost estimate, the performance security amount shall be 5 (five) percent of the bid price.</p> <p>ii) For the bid price of the bidder selected for acceptance is more than 15 (fifteen) percent below of the cost estimate, the performance security amount shall be determined as follows:</p> <p>Performance Security Amount = [(0.85 x Cost Estimate – Bid Price) x 0.5] + 5% of Bid Price.</p> <p>The Bid Price and Cost Estimate shall be inclusive of Value Added Tax of Price including Provisional and others.</p> <p>If the case of front loading occurs in the items of Boq, then, the employer may impose the additional 8% of performance Security on the recommendation of Procurement Committee (after consulting with Civil Engineer).</p>
G. Finishing the Contract	
GCC 71.1	The date by which operating and maintenance manuals are required is N/A (not applicable as it is not required in this project).
GCC 71.2	<p>The date by which as built drawings are required is with Final Bill Payment.</p> <p>The amount to be withheld for failing to produce as built drawings and/or Operating and maintenance manuals is: Rs.50,000.00</p>
GCC 72.3 (i)	The maximum number of days is: 200

GCC 80	<p>The Project Manager has to obtain the specific approval of the Employer for taking any of the following actions :</p> <ul style="list-style-type: none"> a. Approving subcontracting of any part of the works under General Conditions of Contract Clause 13; b. Certifying additional costs determined under General Conditions of Contract
	<ul style="list-style-type: none"> Clause 50; c. Determining start date under General Conditions of Contract Clause 1; d. Determining the extension of the intended Completion Date under General Conditions of Contract Clause 35; 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. f. Adjustment of rates under General Conditions of Contract Clause 45;

Section IX: 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*.....

This is to notify you that, it is our intention to award the contract *[insert date]*for execution of the.....*[insert name of the 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*date*..... 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 **NPR.** 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

THIS AGREEMENT made theday of.....between..... name of the Employer(hereinafter “the Employer”), of the one part, andname of the Contractor..... (hereinafter “the Contractor”), of the other part:

WHEREAS the Employer desires that the Works known asname of the Contractshould be executed by the Contractor, and has accepted a Bid by the Contractor for the execution and completion of these Works and the remedying of any defects in the sum of NRs **[insert amount of contract price in words and figures including taxes]** (hereinafter “the Contract Price”).

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 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
 - (l)**[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 the Contractor 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 Bank)

..... **Bank's Name, and Address of Issuing Branch or Office**
Beneficiary: Name and Address of Employer
Date:

Performance Guarantee No.:

We have been informed that **[insert name of the Contractor]** (hereinafter called "the Contractor") has been notified by you to sign the Contract No. **[insert reference number of the Contract]** for the execution of **[insert name of contract and brief description of Works]** (hereinafter called "the Contract").

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

At the request of the Contractor, we... **[insert name of the Bank]** hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of **[insert name of the currency and amount in figures*]** (..... **insert amount in words**) such sum being payable in Nepalese Rupees, upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation(s) under the Contract, without your needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire, no later than the Day of **, and any demand for payment under it 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 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.

Advance Payment Security

(On letterhead paper of the Bank)

..... **Bank's Name, and Address of Issuing Branch or Office**.....

Beneficiary..... **Name and address of employer**

Date :

Advance Payment Guarantee No.....

We have been informed thathas entered into Contract No **Name and Address of Employer**.....**name of the Contractor**.....(hereinafter called "the Contractor")..reference number of the Contract.....dated with you, for the execution of ...contract and brief description of Works (hereinafter called "the Contract").

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 to be made against an advance payment guarantee.

At the request of the Contractor, we..... **name of the Bank**..... hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of.....name of the currency and amount in figures*... **amount in words**.....) upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation under the Contract because the Contractor used the advance payment for purposes other than the costs of mobilization in respect of the Works.

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 this guarantee 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.

Retention Money Security

(On letterhead paper of the Bank)

..... *Bank's Name, and Address of Issuing Branch or Office*.....

Beneficiary: _____ *[Insert name and Address of Employer]*

Date: _____ *[Insert date of issue]*

RETENTION MONEY GUARANTEE No.: *[Insert guarantee reference number]*

We have been informed that _____ *[insert name of Contractor, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Applicant") has entered into Contract No. _____ *[insert reference number of the contract]* dated _____ with the Beneficiary, for the execution of _____ *[insert name of contract and brief description of Works]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, the Beneficiary retains moneys up to the limit set forth in the Contract ("the Retention Money"), and that when at least eighty (80) percent of the whole works have been completed, progress of the works is satisfactory in accordance with the Contract as per approved work schedule and it can be assured that the works can be completed at the intended completion date, payment of *[insert the amount of the Retention Money]* is to be made against a Retention Money guarantee.

At the request of the Applicant, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of _____ *[insert amount in figures]* (_____) *[amount in words]*¹ upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without your needing to prove or show grounds for your demand or the sum specified therein.

This guarantee shall expire no later than the day of, 2...², and any demand for payment under it must be received by us at the office indicated above on or before that date.

[Seal of Bank and signature(s)]

Note: *All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.*

¹ _____
The Guarantor shall insert the amount of the Retention Money.

² _____
Insert the same expiry date which is 30 days more than the end of Defect Liability Period. The Employer should note that in the event of an extension of this date 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.