BIDDING DOCUMENTS

FOR THE

REHABILITATION AND IMPROVEMENT OF MULTI-PURPOSE HALL (PHASE II) AT BARANGAY LIBSONG WEST, LINGAYEN, PANGASINAN

MUNICIPALITY OF LINGAYEN

Sixth Edition
July 2020

TABLE OF CONTENTS

GLOSSARY OF 4

TERMS, ABBREVIATIONS, AND ACRONYMS 4

SECTION I. INVITATION TO BID 7

SECTION II. INSTRUCTIONS TO BIDDERS 9

1. Scope of Bid 9
2. Funding Information 9
3. Bidding Requirements 9
4. Corrupt, Fraudulent, Collusive, Coercive, and Obstructive Practices 9
5. Eligible Bidders 10
6. Bidders Responsibilities 10
7. Origin of Associated Goods 11
8. Subcontracts 11
9. Pre-Bid Conference 11
10. Clarification and Amendment of Bidding Documents 11
11. Documents Comprising the Bid: Eligibility and Technical Components 11
12. Documents Comprising the Bid: Financial Component 12
13. Alternative Bids 12
14. Bid Prices 12
15. Bid and Payment Currencies 12
16. Bid Security 13
17. Sealing and Marking of Bids 13
18. Deadline for Submission of Bids 13
19. Opening and Preliminary Examination of Bids 14
20. Detailed Evaluation and Comparison of Bids 15
21. Post Qualification 15
22. Signing of the Contract 15

SECTION III. BID DATA SHEET 16

SECTION IV. GENERAL CONDITIONS OF CONTRACT 18

1. Scope of Contract 18
2. Sectional Completion of Works 18
3. Possession of Site 18
4. The Contractor's Obligations 19

5. Performance Security 19
6. Site Investigation Reports 19
7. Warranty 19
8. Liability of the Contractor 20
9. Termination for Other Causes 20
10. Dayworks 20
11. Program of Work 20
12. Instructions, Inspections and Audits 20
13. Advance Payment 20
14. Progress Payments 21
15. Operating and Maintenance Manuals 21

SECTION V. SPECIAL CONDITIONS OF CONTRACT 22

SECTION VI. SPECIFICATIONS 23

SECTION VII. DRAWINGS 23

SECTION VIII. BILL OF QUANTITIES 58

SECTION IX. CHECKLIST OF TECHNICAL AND FINANCIAL DOCUMENTS 60

SECTION X. BID FORMS 62

Glossary of Terms, Abbreviations, and Acronyms

ABC –Approved Budget for the Contract.

ARCC – Allowable Range of Contract Cost.

BAC – Bids and Awards Committee.

Bid – A signed offer or proposal to undertake a contract submitted by a bidder in response to and in consonance with the requirements of the bidding documents. Also referred to as *Proposal* and *Tender.* (2016 revised IRR, Section 5[c])

Bidder – Refers to a contractor, manufacturer, supplier, distributor and/or consultant who submits a bid in response to the requirements of the Bidding Documents. (2016 revised IRR, Section 5[d])

Bidding Documents – The documents issued by the Procuring Entity as the bases for bids, furnishing all information necessary for a prospective bidder to prepare a bid for the Goods, Infrastructure Projects, and/or Consulting Services required by the Procuring Entity. (2016 revised IRR, Section 5[e])

BIR – Bureau of Internal Revenue.

BSP – Bangko Sentral ng Pilipinas.

CDA – Cooperative Development Authority.

Consulting Services – Refer to services for Infrastructure Projects and other types of projects or activities of the GOP requiring adequate external technical and professional expertise that are beyond the capability and/or capacity of the GOP to undertake such as, but not limited to: (i) advisory and review services; (ii) pre-investment or feasibility studies; (iii) design; (iv) construction supervision; (v) management and related services; and (vi) other technical services or special studies. (2016 revised IRR, Section 5[i])

Contract – Refers to the agreement entered into between the Procuring Entity and the Supplier or Manufacturer or Distributor or Service Provider for procurement of Goods and Services; Contractor for Procurement of Infrastructure Projects; or Consultant or Consulting Firm for Procurement of Consulting Services; as the case may be, as recorded in the Contract Form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.

Contractor – is a natural or juridical entity whose proposal was accepted by the Procuring Entity and to whom the Contract to execute the Work was awarded. Contractor as used in these Bidding Documents may likewise refer to a supplier, distributor, manufacturer, or consultant.

CPI – Consumer Price Index.

DOLE – Department of Labor and Employment.

DTI – Department of Trade and Industry.

Foreign-funded Procurement or Foreign-Assisted Project –Refers to procurement whose funding source is from a foreign government, foreign or international financing institution as specified in the Treaty or International or Executive Agreement. (2016 revised IRR, Section 5[b]).

GFI – Government Financial Institution.

GOCC –Government-owned and/or –controlled corporation.

Goods – Refer to all items, supplies, materials and general support services, except Consulting Services and Infrastructure Projects, which may be needed in the transaction of public businesses or in the pursuit of any government undertaking, project or activity, whether in the nature of equipment, furniture, stationery, materials for construction, or personal property of any kind, including non-personal or contractual services such as the repair and maintenance of equipment and furniture, as well as trucking, hauling, janitorial, security, and related or analogous services, as well as procurement of materials and supplies provided by the Procuring Entity for such services. The term "related" or "analogous services" shall include, but is not limited to, lease or purchase of office space, media advertisements, health maintenance services, and other services essential to the operation of the Procuring Entity. (2016 revised IRR, Section 5[r])

GOP – Government of the Philippines.

Infrastructure Projects – Include the construction, improvement, rehabilitation, demolition, repair, restoration or maintenance of roads and bridges, railways, airports, seaports, communication facilities, civil works components of information technology projects, irrigation, flood control and drainage, water supply, sanitation, sewerage and solid waste management systems, shore protection, energy/power and electrification facilities, national buildings, school buildings, hospital buildings, and other related construction projects of the government. Also referred to as *civil works or works*. (2016 revised IRR, Section 5[u])

LGUs – Local Government Units.

NFCC – Net Financial Contracting Capacity.

NGA – National Government Agency.

PCAB – Philippine Contractors Accreditation Board.

PhilGEPS - Philippine Government Electronic Procurement System.

Procurement Project – refers to a specific or identified procurement covering goods, infrastructure project or consulting services. A Procurement Project shall be described, detailed, and scheduled in the Project Procurement Management Plan prepared by the agency which shall be consolidated in the procuring entity's Annual Procurement Plan. (GPPB Circular No. 06-2019 dated 17 July 2019)

PSA – Philippine Statistics Authority.

SEC – Securities and Exchange Commission.

SLCC – Single Largest Completed Contract.

UN – United Nations.

Section I. Invitation to Bid

Republic of the Philippines
Province of Pangasinan
Municipality of Lingayen

Invitation to Bid for *the REHABILITATION AND IMPROVEMENT OF MULTI-PURPOSE HALL (PHASE II) AT BARANGAY LIBSONG WEST, LINGAYEN, PANGASINAN*

The ***Local Government Unit (LGU) of Lingayen*** through the General Fund- Capital Outlay, 20% Development Fund intends to apply the sum of ***Two Million Pesos (P2,000,000.00) only*** being the Approved Budget for the Contract (ABC) to payments under the contract for *the* ***REHABILITATION AND IMPROVEMENT OF MULTI-PURPOSE HALL (PHASE II) AT BARANGAY LIBSONG WEST, LINGAYEN, PANGASINAN with Purchase Request no. 100-22-10-362.*** Bids received in excess of the ABC shall be automatically rejected at bid opening.

The ***Local Government Unit (LGU) of Lingayen*** now invites bids for the above Procurement Project. Completion of the Works is required *ONE HUNDRED TWENTY (120) CALENDAR days*. Bidders should have completed a contract similar to the Project. The description of an eligible bidder is contained in the Bidding Documents, particularly, in Section II (Instructions to Bidders).

Bidding will be conducted through open competitive bidding procedures using non-discretionary "*pass/fail*" criterion as specified in the 2016 revised Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 9184.

Interested bidders may obtain further information from *BAC Office, Municipal Hall Building, Lingayen, Pangasinan* from 7*:00 in the morning to 6:00 in the afternoon, Mondays to Thursday except holidays.*

A complete set of Bidding Documents may be acquired by interested bidders starting ***November 3, 2022 – November 29, 2022 from*** the BAC Office, Municipal Hall Building, Lingayen, Pangasinan *and upon payment of the applicable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB, in the amount of* ***Five Thousand Pesos (P5,000.00) Only.*** The Bidder or authorize representative shall present its proof of payment for the fees personally to the BAC Office before Bidding Documents will be released.

The ***Local Government Unit of Lingayen*** will hold a Pre-Bid Conference on *November 16, 2022, 10:30 in the morning* at *Municipal Conference Room, Municipal Hall, Building, Lingayen, Pangasinan* which may be attended by prospective bidders.

Bids must be duly received by the BAC Secretariat through manual submission at the office of Bids and Awards Committee, Local Government Unit of Lingayen, Municipal Hall, Lingayen, Pangasinan 2401 on or before 10:30 in the morning November 29, 2022. Late bids shall not be accepted.

All bids must be accompanied by a Bid Security in any of the acceptable forms and in the amount stated in **ITB** Clause 15.

Bid opening shall be at the Municipal Conference Hall, 2nd Floor, Municipal Hall Building, Lingayen, Pangasinan on **November 29, 2022**, *after the closing time of the submission of bids*. Bids will be opened in the presence of the bidders' representatives and observers who choose to attend the activity.

The ***Local Government Unit of Lingayen*** reserves the right to reject any and all bids, declare a failure of bidding, or not award the contract at any time prior to contract award in accordance with Sections 35.6 and 41 of the 2016 revised Implementing Rules and Regulations (IRR) of RA No. 9184, without thereby incurring any liability to the affected bidder or bidders.

Any provision in the Instruction to Bidders that is not complied with shall be a ground for disqualification, except when allowed by R.A. 9184, its Implementing Rules and Regulations or pertinent GPPB Resolutions.

For further information, please refer to:

ARNULFO S. BERNARDO
Head BAC Secretariat
LGU Lingayen
Barangay Poblacion
Lingayen, Pangasinan

You may visit the following websites:

For downloading of Bidding Documents:*www.lingayen.gov.ph*

November 3, 2022
Date of Issue

JOAN JUDE R. LOPEZ, LLB, MDM
BAC Chairperson

Section II. Instructions to Bidders (ITB)

1. Scope of Bid

The Procuring Entity, *the Local Government Unit of Lingayen* invites Bids for **the *Rehabilitation and Improvement of Multi-Purpose Hall (Phase II) at Barangay Libsong West, Lingayen, Pangasinan Purchase* Request No. 100-22-10-362.**

The Procurement Project (referred to herein as "Project") is for the *Rehabilitation and Improvement of Multi-Purpose Hall (Phase II)* as described in Section VI (Specifications).

2. Funding Information

2.1. The GOP through the source of funding as indicated below for *CY 2022* in the amount of *Two Milllion Pesos (P2,000, 000.00) Only.*

2.2. The source of funding is: LGU's General Fund – Capital Outlay, 20% Development Fund

3. Bidding Requirements

The Bidding for the Project shall be governed by all the provisions of RA No. 9184 and its 2016 revised IRR, including its Generic Procurement Manual and associated policies, rules and regulations as the primary source thereof, while the herein clauses shall serve as the secondary source thereof.

Any amendments made to the IRR and other GPPB issuances shall be applicable only to the ongoing posting, advertisement, or invitation to bid by the BAC through the issuance of a supplemental or bid bulletin.

The Bidder, by the act of submitting its Bid, shall be deemed to have inspected the site, determined the general characteristics of the contracted Works and the conditions for this Project, such as the location and the nature of the work; (b) climatic conditions; (c) transportation facilities; (c) nature and condition of the terrain, geological conditions at the site communication facilities, requirements, location and availability of construction aggregates and other materials, labor, water, electric power and access roads; and (d) other factors that may affect the cost, duration and execution or implementation of the contract, project, or work and examine all instructions, forms, terms, and project requirements in the Bidding Documents.

4. Corrupt, Fraudulent, Collusive, Coercive, and Obstructive Practices

The Procuring Entity, as well as the Bidders and Contractors, shall observe the highest standard of ethics during the procurement and execution of the contract. They or through an agent shall not engage in corrupt, fraudulent, collusive, coercive, and obstructive

practices defined under Annex "I" of the 2016 revised IRR of RA No. 9184 or other integrity violations in competing for the Project.

5. Eligible Bidders

5.1. Only Bids of Bidders found to be legally, technically, and financially capable will be evaluated.

5.2. The Bidder must have an experience of having completed a Single Largest Completed Contract (SLCC) that is similar to this Project, equivalent to at least fifty percent (50%) of the ABC adjusted, if necessary, by the Bidder to current prices using the PSA's CPI, except under conditions provided for in Section 23.4.2.4 of the 2016 revised IRR of RA No. 9184.

A contract is considered to be "similar" to the contract to be bid if it has the major categories of work stated in the **BDS**.

5.3. The Bidders shall comply with the eligibility criteria under Section 23.4.2 of the 2016 IRR of RA No. 9184.

6. Bidder's Responsibilities

6.1 The Bidder is responsible for the following:

(a) Having acknowledged all conditions, local or otherwise, affecting the implementation of the contract;

(b) Having complied with its responsibility to inquire or secure Supplemental/Bid Bulletin(s).

(c) Ensuring that it is not "blacklisted" or barred from bidding by the GOP or any of its agencies, offices, corporations, or LGUs, including foreign government/foreign or international financing institution whose blacklisting rules have been recognized by the GPPB;

(d) Ensuring that each of the documents submitted in satisfaction of the bidding requirements is an authentic copy of the original, complete, and all statements and information provided therein are true and correct;

(e) Ensuring that the signatory is the duly authorized representative of the Bidder, and granted full power and authority to do, execute and perform any and all acts necessary and/or to represent the Bidder in the bidding, with the duly notarized Secretary's Certificate attesting to such fact, if the Bidder is a corporation, partnership, cooperative, or joint venture;

(f) Complying with the disclosure provision under Section 47 of RA 9184 and its IRR in relation to other provisions of RA 3019;

6.2 The Bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding Documents.

6.3 The Procuring Entity shall not assume any responsibility regarding erroneous interpretations or conclusions by the prospective or eligible bidder out of the data furnished by the procuring entity.

6.4 Before submitting their bids, the Bidder is deemed to have become familiar with all existing laws, decrees, ordinances, acts and regulations of the Philippines which may affect this Project in any way.

6.5 The Bidder should note that the Procuring Entity will accept bids only from those that have paid the applicable fees for the Bidding Documents at the office indicated in the Invitation to Bid.

7. Origin of Associated Goods

There is no restriction on the origin of Goods other than those prohibited by a decision of the UN Security Council taken under Chapter VII of the Charter of the UN.

8. Subcontracts

The Procuring Entity has prescribed that:

a. Subcontracting is not allowed.

9. Pre-Bid Conference

The Procuring Entity will hold a pre-bid conference is on ***November 16, 2022, 10:30*** in the morning at Municipal Conference Room, Municipal Hall Building, Lingayen, Pangasinan**.**

10. Clarification and Amendment of Bidding Documents

Prospective bidders may request for clarification on and/or interpretation of any part of the Bidding Documents. Such requests must be in writing and received by the Procuring Entity, either at its given address or through electronic mail indicated in the **IB**, at least ten (10) calendar days before the deadline set for the submission and receipt of Bids.

11. Documents Comprising the Bid: Eligibility and Technical Components

11.1 The first envelope shall contain the eligibility and technical documents of the Bid as specified in **Section IX. Checklist of Technical and Financial Documents**.

11.2 If the eligibility requirements or statements, the bids, and all other documents for submission to the BAC are in foreign language other than English, it must be accompanied by a translation in English, which shall be authenticated by the appropriate Philippine foreign service establishment, post, or the equivalent office having jurisdiction over the foreign bidder's affairs in the Philippines. For Contracting Parties to the Apostille Convention, only the translated documents shall be authenticated through an apostille pursuant to GPPB Resolution No. 13-2019 dated 23 May 2019. The English translation shall govern, for purposes of interpretation of the bid.

11.3A valid PCAB License is required, and in case of joint ventures, a valid special PCAB License, and registration for the type and cost of the contract for this Project. Any additional type of Contractor license or permit shall be indicated in the **BDS**.

11.4.A List of Contractor's key personnel (e.g., Project Manager, Project Engineers, Materials Engineers, and Foremen) assigned to the contract to be bid, with their complete qualification and experience data shall be provided. These key personnel must meet the required minimum years of experience set in the **BDS**.

11.5A List of Contractor's major equipment units, which are owned, leased, and/or under purchase agreements, supported by proof of ownership, certification of availability of equipment from the equipment lessor/vendor for the duration of the project, as the case may be, must meet the minimum requirements for the contract set in the **BDS**.

12. Documents Comprising the Bid: Financial Component

12.1The second bid envelope shall contain the financial documents for the Bid as specified in **Section IX. Checklist of Technical and Financial Documents**.

12.2Any bid exceeding the ABC indicated in paragraph 1 of the **IB** shall not be accepted.

13. Alternative Bids

Bidders shall submit offers that comply with the requirements of the Bidding Documents, including the basic technical design as indicated in the drawings and specifications. Unless there is a value engineering clause in the **BDS**, alternative Bids shall not be accepted.

14. Bid Prices

All bid prices for the given scope of work in the Project as awarded shall be considered as fixed prices, and therefore not subject to price escalation during contract implementation, except under extraordinary circumstances as determined by the NEDA and approved by the GPPB pursuant to the revised Guidelines for Contract Price Escalation guidelines.

15. Bid and Payment Currencies

15.1Bid prices may be quoted in the local currency or tradeable currency accepted by the BSP at the discretion of the Bidder. However, for purposes of bid evaluation, Bids denominated in foreign currencies shall be converted to Philippine currency based on the exchange rate as published in the BSP reference rate bulletin on the day of the bid opening.

15.2Payment of the contract price shall be made in:

a. Philippine Pesos.

16. Bid Security

16.1 The Bidder shall submit a Bid Securing Declaration or any form of Bid Security in the amount indicated in the **Bid Data Sheet (BDS)**, which shall be not less than the percentage of the ABC in accordance with the following schedule.

Form of Bid Security	Amount of Bid Security (Not Less than the Percentage of the ABC)
a. Cash or cashier's/manager's check issued by a Universal or Commercial Bank. *For biddings conducted by LGUs, the Cashier's/Manager's Check may be issued by other banks certified by the BSP as authorized to issue such financial instrument.*	Two percent (2%)
b. Bank draft/guarantee or irrevocable letter of credit issued by a Universal or Commercial Bank: Provided, however, that it shall be confirmed or authenticated by a Universal or Commercial Bank, if issued by a foreign bank. *For biddings conducted by LGUs, Bank Draft/Guarantee, or Irrevocable Letter of Credit may be issued by other banks certified by the BSP as authorized to issue such financial instrument.*	
c. Surety bond callable upon demand issued by a surety or insurance company duly certified by the Insurance Commission as authorized to issue such security.	Five percent (5%)

16.2 The Bid and bid security shall be valid until ***one hundred twenty days upon the date of opening of bids.*** Any bid not accompanied by an acceptable bid security shall be rejected by the Procuring Entity as non-responsive.

17. Sealing and Marking of Bids

Each Bidder shall submit one original copy and additional copy of the technical and financial components of its bid.

Bidders shall enclose the original copy of their technical documents in one long brown envelope marked "ORIGINAL – TECHNICAL DOCUMENTS", and shall do the same to the original copy of the financial components of their bid; marked "ORIGINAL – FINANCIAL DOCUMENTS" on a long brown envelope as well. These two brown envelopes shall be sealed in a long brown envelope marked "**ORIGINAL BID**".

The other copy of the Technical and Financial Documents shall be similarly sealed on a long brown envelope duly marked as "COPY – TECHNICAL DOCUMENT" and "COPY – FINANCIAL DOCUMENT" enclosed in a long brown envelope marked "**COPY BID**".

The checklist of Technical and Financial Documents shall be attached on the back side (under the seal flap) of each long brown envelope.

All of the documents (original copy and the other copy) shall bear the signature or initials of the authorized representative on every page as proof of its authenticity.

These two long brown envelopes (ORIGINAL BID and COPY) shall now be enclosed in one final expanding envelope properly marked and sealed with affixed signature of bidder.

All envelopes (long brown and expanding) shall:

a.) contain the name of the contract to be bid in capital letters;

b.) bear the name and address of the bidder in capital letters;

c.) be addressed to the Procuring Entity's BAC as follows;

BIDS AND AWARDS COMMITTEE
LOCAL GOVERNMENT UNIT OF LINGAYEN
MUNICIPAL HALL, LINGAYEN, PANGASINAN 2401

d.) bear a warning "DO NOT OPEN BEFORE…" the date and time of the Opening of Bids written at the front side of each envelope.

18. Deadline for Submission of Bids

The deadline of submission of Bids is on November 29, 2022 at exactly 10:30 in the morning. Only manual submission of Bids is allowed.

19. Opening and Preliminary Examination of Bids

19.1 The BAC shall open the Bids in public on ***November 29, 2022, after the closing time of the submission of bids at Municipal Conference Hall, 2nd Floor, Municipal Hall Building, Lingayen, Pangasinan***. The Bidders' authorize representatives who are present must present their Special Power of Attorney (SPA) and shall sign a register evidencing their attendance.

In case the Bids cannot be opened as scheduled due to justifiable reasons, the rescheduling requirements under Section 29 of the 2016 revised IRR of RA No. 9184 shall prevail.

19.2 The preliminary examination of Bids shall be governed by Section 30 of the 2016 revised IRR of RA No. 9184.

20. Detailed Evaluation and Comparison of Bids

20.1 The Procuring Entity's BAC shall immediately conduct a detailed evaluation of all Bids rated "*passed*" using non-discretionary pass/fail criteria. The BAC shall consider the conditions in the evaluation of Bids under Section 32.2 of 2016 revised IRR of RA No. 9184.

20.2 If the Project allows partial bids, all Bids and combinations of Bids as indicated in the **BDS** shall be received by the same deadline and opened and evaluated simultaneously so as to determine the Bid or combination of Bids offering the lowest calculated cost to the Procuring Entity. Bid Security as required by **ITB** Clause 16 shall be submitted for each contract (lot) separately.

20.3 In all cases, the NFCC computation pursuant to Section 23.4.2.6 of the 2016 revised IRR of RA No. 9184 must be sufficient for the total of the ABCs for all the lots participated in by the prospective Bidder.

21. Post Qualification

Within a non-extendible period of five (5) calendar days from receipt by the Bidder of the notice from the BAC that it submitted the Lowest Calculated Bid, the Bidder shall submit its latest income and business tax returns filed and paid through the BIR Electronic Filing and Payment System (eFPS), and other appropriate licenses and permits required by law and stated in the **BDS**. Subject to GPPB Circular No. 03-2012 dated August 17, 2012

22. Signing of the Contract

The documents required in Section 37.2 of the 2016 revised IRR of RA No. 9184 shall form part of the Contract. Additional Contract documents are indicated in the **BDS**.

Section III. Bid Data Sheet (BDS)

.

Bid Data Sheet

<table>
<tr><th>ITB Clause</th><th></th></tr>
<tr><td>5.2</td><td>For this purpose, contracts similar to the Project refer to contracts which have the same major categories of work, which shall be consist of:

OTHER GENERAL REQUIREMENTS
I. Project Billboards
II. Construction Health and Safety
CIVIL WORKS
III. Concreting Works
IV. Forms & Falseworks
V. Reinforcing Steel Bar Works
VI. Masonry Works
VII. Roofing Works
VIII. Electrical Works
IX. Plumbing Works
X. Carpentry Works
XI. Tile Works
XII. Painting Works
XIII. Doors and Windows
XIV. Pre-Fabricated Materials
XV. Railing Works</td></tr>
<tr><td>&</td><td>Sub-contracting is not allowed</td></tr>
<tr><td>10.3</td><td>PCAB, DTI, Mayor’s Permit</td></tr>
<tr><td>10.4</td><td>The contractor shall employ the following Key Personnel
Key Personnel General Experience Relevant Experience
Construction Foreman
Skilled Laborer
Partime Safety Practitioner
First Aider
Unskilled Laborer</td></tr>
<tr><td>10.5</td><td>The minimum major equipment requirements are the following:
<table>
<tr><th>Equipment</th><th>Capacity</th><th>No. of units</th></tr>
<tr><td>Concrete Mixer</td><td>N/A</td><td>one (1)</td></tr>
<tr><td>Concrete Vibrator</td><td>N/A</td><td>one (1)</td></tr>
<tr><td>Rebar Cutter</td><td>N/A</td><td>one (1)</td></tr>
<tr><td>Welding Machine</td><td>N/A</td><td>one (1)</td></tr>
<tr><td>Boom Truck</td><td>N/A</td><td>one (1)</td></tr>
<tr><td>Bar Bender</td><td>N/A</td><td>one (1)</td></tr>
</table></td></tr>
<tr><td>12</td><td>Value Engineering clause not included. Alternative bids shall not be included.</td></tr>
<tr><td>15.1</td><td>The bid security shall be in the form of a Bid Securing Declaration or any of the following forms and amounts:</td></tr>
</table>

	a. The amount of not less than ***Forty Thousand Pesos (P40,000.00) Only*** *two percent (2%) of ABC],* if bid security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit; b. The amount of not less than ***One Hundred Thousand Pesos (P100,000.00) Only*** *five percent (5%) of ABC]* if bid security is in Surety Bond.
19.2	Partial bids is not allowed .
20	*Pertinent documents to be submitted by the winning supplier to the BAC Office before the issuance of Notice of Award* *1. Philgeps Certificate* *2. Mayor's Permit* *3. Latest Income and Business Tax Return* *4. Tax Clearance*
21	Additional contract documents relevant to the Project that may be required by existing laws and/or the Procuring Entity, such as construction schedule and S-curve, manpower schedule, construction methods, equipment utilization schedule, construction safety and health program approved by the DOLE, and other acceptable tools of project scheduling.

Section IV. General Conditions of Contract

1. Scope of Contract

This Contract shall include all such items, although not specifically mentioned, that can be reasonably inferred as being required for its completion as if such items were expressly mentioned herein. All the provisions of RA No. 9184 and its 2016 revised IRR, including the Generic Procurement Manual, and associated issuances, constitute the primary source for the terms and conditions of the Contract, and thus, applicable in contract implementation. Herein clauses shall serve as the secondary source for the terms and conditions of the Contract.

This is without prejudice to Sections 74.1 and 74.2 of the 2016 revised IRR of RA No. 9184 allowing the GPPB to amend the IRR, which shall be applied to all procurement activities, the advertisement, posting, or invitation of which were issued after the effectivity of the said amendment.

2. Sectional Completion of Works

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

3. Possession of Site

3.1 The Procuring Entity shall give possession of all or parts of the Site to the Contractor based on the schedule of delivery indicated in the **SCC,** which corresponds to the execution of the Works. If the Contractor suffers delay or incurs cost from failure on the part of the Procuring Entity to give possession in accordance with the terms of this clause, the Procuring Entity's Representative shall give the Contractor a Contract Time Extension and certify such sum as fair to cover the cost incurred, which sum shall be paid by Procuring Entity.

3.2 If possession of a portion is not given by the above date, the Procuring Entity will be deemed to have delayed the start of the relevant activities. The resulting adjustments in contract time to address such delay may be addressed through contract extension provided under Annex "E" of the 2016 revised IRR of RA No. 9184.

4. The Contractor's Obligations

The Contractor shall employ the key personnel named in the Schedule of Key Personnel indicating their designation, in accordance with **ITB** Clause 10.3 and specified in the **BDS**, to carry out the supervision of the Works.

The Procuring Entity will approve any proposed replacement of key personnel only if their relevant qualifications and abilities are equal to or better than those of the personnel listed in the Schedule.

5. Performance Security

5.1. Within ten (10) calendar days from receipt of the Notice of Award from the Procuring Entity but in no case later than the signing of the contract by both parties, the successful Bidder shall furnish the performance security in any of the forms prescribed in Section 39 of the 2016 revised IRR.

5.2. The Contractor, by entering into the Contract with the Procuring Entity, acknowledges the right of the Procuring Entity to institute action pursuant to RA No. 3688 against any subcontractor be they an individual, firm, partnership, corporation, or association supplying the Contractor with labor, materials and/or equipment for the performance of this Contract.

6. Site Investigation Reports

The Contractor, in preparing the Bid, shall rely on any Site Investigation Reports referred to in the **SCC** supplemented by any information obtained by the Contractor.

7. Warranty

7.1. In case the Contractor fails to undertake the repair works under Section 62.2.2 of the 2016 revised IRR, the Procuring Entity shall forfeit its performance security, subject its property(ies) to attachment or garnishment proceedings, and perpetually disqualify it from participating in any public bidding. All payables of the GOP in his favor shall be offset to recover the costs.

7.2. The warranty against Structural Defects/Failures, except that occasioned-on force majeure, shall cover the period from the date of issuance of the Certificate of Final Acceptance by the Procuring Entity. Specific duration of the warranty is found in the **SCC**.

7.3. Retention Money: Progress payments are subject to retention of ten percent (10%) referred to as the retention money. Such retention shall be based on the total amount due to the contractor prior to any deduction and shall be retained from every progress payment. The total retention money shall be due for release upon final acceptance of the works

8. Liability of the Contractor

Subject to additional provisions, if any, set forth in the **SCC**, the Contractor's liability under this Contract shall be as provided by the laws of the Republic of the Philippines.

If the Contractor is a joint venture, all partners to the joint venture shall be jointly and severally liable to the Procuring Entity.

9. Termination for Other Causes

Contract termination shall be initiated in case it is determined *prima facie* by the Procuring Entity that the Contractor has engaged, before, or during the implementation of the contract, in unlawful deeds and behaviors relative to contract acquisition and implementation, such as, but not limited to corrupt, fraudulent, collusive, coercive, and obstructive practices as stated in **ITB** Clause 4.

10. Dayworks

Subject to the guidelines on Variation Order in Annex "E" of the 2016 revised IRR of RA No. 9184, and if applicable as indicated in the **SCC**, the Dayworks rates in the Contractor's Bid shall be used for small additional amounts of work only when the Procuring Entity's Representative has given written instructions in advance for additional work to be paid for in that way.

11. Program of Work

11.1. The Contractor shall submit to the Procuring Entity's Representative for approval the said Program of Work showing the general methods, arrangements, order, and timing for all the activities in the Works. The submissions of the Program of Work are indicated in the **SCC.**

11.2. The Contractor shall submit to the Procuring Entity's Representative for approval an updated Program of Work at intervals no longer than the period stated in the **SCC.** If the Contractor does not submit an updated Program of Work within this period, the Procuring Entity's Representative 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 of Work has been submitted.

12. Instructions, Inspections and Audits

The Contractor shall permit the GOP or the Procuring Entity to inspect the Contractor's accounts and records relating to the performance of the Contractor and to have them audited by auditors of the GOP or the Procuring Entity, as may be required.

13. Advance Payment

The Procuring Entity shall, upon a written request of the Contractor which shall be submitted as a Contract document, make an advance payment to the Contractor in an amount not exceeding fifteen percent (15%) of the total contract price, to be made in

lump sum, or at the most two installments according to a schedule specified in the **SCC**, subject to the requirements in Annex "E" of the 2016 revised IRR of RA No. 9184.

14. Progress Payments

The Contractor may submit a request for payment for Work accomplished. Such requests for payment shall be verified and certified by the Procuring Entity's Representative/Project Engineer. Except as otherwise stipulated in the **SCC**, materials and equipment delivered on the site but not completely put in place shall not be included for payment.

15. Operating and Maintenance Manuals

15.1. If required, the Contractor will provide "as built" Drawings and/or operating and maintenance manuals as specified in the **SCC.**

15.2. If the Contractor does not provide the Drawings and/or manuals by the dates stated above, or they do not receive the Procuring Entity's Representative's approval, the Procuring Entity's Representative may withhold the amount stated in the **SCC** from payments due to the Contractor.

Section V. Special Conditions of Contract

Special Conditions of Contract

GCC Clause	
2	*The Intended Completion Date is one hundred twenty **(120)** calendar days*
4.1	*The Local Government Unit of Lingayen shall give possession of all parts of the site to the contractor upon signing of the Contract.*
6	The site investigation reports are: *None*
7.2	*In case of permanent structures, such as buildings of types 4 and 5 as classified under the National Building Code of the Philippines and other structures made of steel, iron, or concrete which comply with relevant structural codes (e.g., DPWH Standard Specifications), such as, but not limited to, steel/concrete bridges, flyovers, aircraft movement areas, ports, dams, tunnels, filtration and treatment plants, sewerage systems, power plants, transmission and communication towers, railway system, and other similar permanent structures:]* Fifteen (15) years.
10	Dayworks are applicable at the rate shown in the Contractor's original Bid.
11.1	The Contractor shall submit the Program of Work to the Procuring Entity's Representative within ***ten (10) calendar*** days of delivery of the Notice of Award.
11.2	The amount to be withheld for late submission of an updated Program of Work is ***ten percent (10%) of the contract amount***..
13	The amount of the advance payment is ***fifteen (15%) percent of the contract amount***
14	*Materials and equipment delivered on the site but not completely put in place shall be included for payment* ***Not Applicable***
15.1	The date by which "as built" drawings are required is *before final payment*
15.2	The amount to be withheld for failing to produce "as built" drawings and/or operating and maintenance manuals by the date required is *one (1) percent(1%) of the contract amount*.

Section VI. Specifications

Project : **Rehabilitation and Improvement of Multi-Purpose Hall (Phase II)**
Location : **Brgy. Libsong West, Lingayen,Pangasinan**

Approved Technical Specifications

ITEM 407– CONCRETE WORKS

407.1 Description

This Item shall consist of the general description of the materials, equipment, workmanship and construction requirements of concrete structures and the concrete portions of composite structures conforming to the alignment, grades, design, dimensions and details shown on the Plans and in accordance with the Specifications for piles, reinforcing steel, structural steel, structural concrete and other items which constitute the completed structure. The class of concrete to be used in the structure or part of the structure shall be as specified in Item 405, Structural Concrete.

407.2 Material Requirements

1. Concrete and Concrete Ingredients

Concrete and concrete materials shall conform to the requirements in Item 405, Structural Concrete. Unless otherwise shown on the Plans or specified in Special Provisions, concrete shall be of Class A.

2. Reinforcing Steel

Reinforcing steel shall conform to the requirements in Item 404, Reinforcing Steel.

3. Structural Steel

Structural steel shall conform to the requirements of corresponding materials in Item 403, Metal Structures.

4. Bridge Bearing (Elastomeric Bearing Pad)

Elastomeric bearing pads shall conform to Item 412, Elastomeric Bearing Pads.

5. Paints

Paints shall conform to the requirements in Item 411, Paint.

6. Waterproofing and Dampproofing

Unless otherwise shown on the Plans or indicated in Special Provisions, materials for waterproofing and dampproofing shall conform to the requirements of the following specifications:

a. AASHTO M 115 Asphalt for dampproofing and waterproofing.
b. AASHTO M 116 Primer for the use with Asphalt in dampproofing and waterproofing.
c. AASHTO M 117 Woven cotton fabrics saturated with bituminous substances for use in waterproofing.

d. AASHTO M 118 Coal-Tar pitch for roofing, dampproofing and waterproofing.
e. AASHTO M 121 Creosote for priming coat with coal-tar pitch dampproofing and waterproofing.
f. AASHTO M 159 Woven burlap fabric saturated with bituminous substances for use in waterproofing.
g. AASHTO M 166 Numbered cotton duck and array duck.
h. AASHTO M 239 Asphalt for use in waterproofing membrane construction.

7. Concrete Curing

Compound Curing compound shall conform to the requirements of AASHTO M 148 Liquid membrane-forming compounds for curing concrete.

8. Joint Filler

Unless otherwise shown on the Plans or in Special Provisions, materials for expansion joint filler shall conform to the requirements of the following specifications:

a. AASHTO M 33 Preformed expansion joint filler for concrete.
b. AASHTO M 153 Preformed sponge rubber and cork expansion joint fillers for concrete paving and structural construction.
c. AASHTO M 173 Concrete joint sealer hot poured elastic type.
d. AASHTO M 213 Preformed expansion joint filler for concrete paving and structural construction-non-extruding and resilient bituminous types.
e. AASHTO M 220 Preformed elastomeric compression joint seals for concrete

407.2.1 Proportioning and Strength of Structural Concrete

This shall be in accordance with Item 405, Structural Concrete.

407.2.2 Sampling and Testing

This shall be in accordance with Item 405, Structural Concrete.

407.3 Construction and Requirements

407.3.1 Handling and Placing Concrete: General

Concrete shall not be placed until forms and reinforcing steel have been checked and approved by the Engineer.

If lean concrete is required in the Plan or as directed by the Engineer prior to placing of reinforcing steel bar, the lean concrete should have a minimum compressive strength of 13.8 MPa.

In preparation for the placing of concrete all sawdust, chips and other construction debris and extraneous matter shall be removed from inside the formwork. Struts, stays and braces, serving temporarily to hold the forms in correct shape and alignment, pending the placing of concrete at their locations, shall be removed when the concrete placing has reached an elevation rendering their service unnecessary. These temporary members shall be entirely removed from the forms and not buried in the concrete.

No concrete shall be used which does not reach its final position in the forms within the time stipulated under “Time of Hauling and Placing Mixed Concrete”.

Concrete shall be placed so as to avoid segregation of the materials and the displacement of the reinforcement. The use of long troughs, chutes, and pipes for conveying concrete to the forms shall be permitted only on written

authorization of the Engineer. The Engineer shall reject the use of the equipment for concrete transportation that will allow segregation, loss of fine materials, or in any other way will have a deteriorating effect on the concrete quality.

Open troughs and chutes shall be of metal lined; where steep slopes are required, the chutes shall be equipped with baffles or be in short lengths that reverse the direction of movement to avoid segregation.

All chutes, troughs and pipes shall be kept clean and free from coatings of hardened concrete by thoroughly flushing with water after each run. Water used for flushing shall be discharged clear of the structure.

When placing operations would involve dropping the concrete more than 1.5 m, concrete shall be conveyed through sheet metal or approved pipes. As far as practicable, the pipes shall be kept full of concrete during placing and their lower end shall be kept buried in the newly placed concrete. After initial set of the concrete, the forms shall not be jarred and no strain shall be placed on the ends of projecting reinforcement bars.

The concrete shall be placed as nearly as possible to its final position and the use of vibrators for moving of the mass of fresh concrete shall not be permitted.

407.3.1.1 Placing Concrete by Pneumatic Means

Pneumatic placing of concrete will be permitted only if specified in the Special Provisions or authorized by the Engineer. The equipment shall be so arranged that vibration will not damage freshly placed concrete.

Where concrete is conveyed and placed by pneumatic means, the equipment shall be suitable in kind and adequate in capacity for the work. The machine shall be located as close as practicable to the work. The discharge lines shall be horizontal or inclined upwards from the machine. The discharge end of the line shall not be more than 3 m from the point of deposit.

At the conclusion of placing the concrete, the entire equipment shall be thoroughly cleaned.

407.3.1.2 Placing of Concrete by Pumping

The placing of concrete by pumping will be permitted only if specified or if authorized by the Engineer. The equipment shall be so arranged that vibration will not damage freshly placed concrete.

Where concrete is conveyed and placed by mechanically applied pressure the equipment shall be suitable in kind and adequate in capacity for the work. The operation of the pump shall be such that a continuous stream of concrete without air pockets is produced. When pumping is completed, the concrete remaining in the pipeline, if it is to be used, shall be ejected in such a manner that there will be no contamination of the concrete or separation of the ingredients. After this operation, the entire equipment shall be thoroughly cleaned.

407.3.1.3 Placing Concrete in Water

Concrete shall not be placed in water except with approval of the Engineer and under his immediate supervision. In this case the method of placing shall be hereinafter specified.

Concrete deposited in water shall be Class A concrete with a minimum cement content of 400 kg/m3 of concrete. The slump of the concrete shall be maintained between 10 and 20 cm. To prevent segregation, concrete shall be carefully placed in a compact mass, in its final position, by means of a tremie, a bottom-dump bucket, or other approved means, and shall not be disturbed after being placed.

A tremie shall consist of a tube having a diameter of not less than 250 mm constructed in sections having flanged couplings fitted with gaskets with a hopper at the top. The tremie shall be supported so as to permit free movement of the discharge and over the entire top surface of the work and so as to permit rapid lowering when necessary to retard or stop the flow of concrete. The discharge end shall be closed at the start of work so as to prevent water entering the tube and shall be completely submerged in concrete at all times. The tremie tube shall be kept full to the bottom of the hopper. When a

batch is dumped into the hopper, the flow of concrete shall be induced by lightly raising the discharge end, but always keeping it in the placed concrete. The flow shall be continuous until the work is completed.

When the concrete is placed with a bottom-dump bucket, the top of the bucket shall be open. The bottom doors shall open freely downward and outward

when tripped. The buckets shall be completely filled and slowly lowered to avoid backwash. It shall not be dumped until it rests on the surface upon which the concrete is to be deposited and when discharged shall be withdrawn slowly until well above the concrete.

407.3.2 Compaction of Concrete

Concrete during and immediately after placing shall be thoroughly compacted. The concrete in walls, beams, columns and the like shall be placed in horizontal layers not more than 30 cm thick except as hereinafter provided. When less than a complete layer is placed in one operation, it shall be terminated in a vertical bulkhead. Each layer shall be placed and compacted before the preceding layer has taken initial set to prevent injury to the green concrete and avoid surfaces of separation between the layers. Each layer shall be compacted so as to avoid the formation of a construction joint with a preceding layer.

The compaction shall be done by mechanical vibration. The concrete shall be vibrated internally unless special authorization of other methods is given by the Engineer or is provided herein. Vibrators shall be of a type, design, and frequency approved by the Engineer. The intensity of vibration shall be such as to visibly affect a mass of concrete with a 3 cm slump over a radius of at least 50 cm. A sufficient number of vibrator shall be provided to properly compact each batch immediately after it is placed in the forms. Vibrators shall be manipulated so as to thoroughly work the concrete around the reinforcement and embedded fixtures and into the corners and angles of the forms and shall be applied at the point of placing and in the area of freably placed concrete. The vibrators shall be inserted into and withdrawn from the concrete slowly. The vibration shall be of sufficient duration and intensity to compact the concrete thoroughly but shall not be continued so as to cause segregation and at any one point to the extent that localized areas of grout are formed. Application of vibrators shall be at points uniformly spaced, and not farther apart than twice the radius over which the vibration is visibly effective. Vibration shall not be applied directly or thru the reinforcement to sections or layers of concrete that have hardened to the degree that the concrete ceases to be plastic under vibration. It shall not be used to make concrete flow in the forms over distances so great as to cause segregation, and vibrators shall not be used to transport concrete in the forms of troughs or chutes.

407.3.3 Casting Sections and Construction Joints

The concrete in each form shall be placed continuously. Placing of concrete in any such form shall not be allowed to commence unless sufficiently inspected and approved materials for the concrete is at hand, and labor and equipment are sufficient to complete the pour without interruption.

Joints in the concrete due to stopping work shall be avoided as much as possible. Such joints, when necessary, shall be constructed to meet the approval of the Engineer.

When the placing of concrete is temporarily discontinued, the concrete, after becoming firm enough to retain its shape, shall be cleaned of laitance and other objectionable material to a sufficient depth to expose sound concrete. Where a “faster edge” might be produced at a construction joint, as in the sloped top surface of a wingwall, an inset formwork shall be used to produce an edge thickness of not less than 15 cm in the succeeding layer. Work shall not be discontinued within 50 cm of the top of any face, unless provision has been made for a coping less than 50 cm thick, in which case if permitted by the Engineer, the construction joint may be made at the underside of coping.

Immediately following the discontinuance of placing concrete, all accumulations of mortar splashed upon the reinforcing steel and the surfaces of forms shall be removed. Dried mortar chips and dust shall not be puddled into the unset concrete. Care shall be exercised, during the cleaning of the reinforcing steel, not to injure or break the concrete-steel bond at and near the surface of the concrete.

407.3.4 Casting Box Culverts

In general, the base slab of box culverts shall be placed and allowed to set before the remainder of the culvert is constructed. In the construction of box culverts the side walls and top slab may be constructed as a monolith.

If the concrete in the walls and top slab is placed in two separate operations, special care shall be exercised in order to secure bonding in the construction joint and appropriate keys shall be left in the sidewalls for anchoring the top slab. Each wingwall shall be constructed, if possible, as a monolith. Construction joints where unavoidable, shall be horizontal and so located that no joints will be visible in the exposed face of the wingwall above the ground line.

Vertical construction joints shall be at right angles to the axis of the culverts.

407.3.5 Casting Columns, Slabs and Girders

Concrete in columns shall be placed in one continuous operation, unless otherwise directed. The concrete shall be allowed to set for at least 20 hours before the caps are placed.

Unless otherwise permitted by the Engineer, no concrete shall be placed in the superstructure until the column forms have been stripped sufficiently to determine the condition of the concrete in the column. The load of the superstructure shall not be allowed to come upon the bents until they have been in place at least 14 days, unless otherwise permitted by the Engineer.

Concrete in slab spans shall be placed in one continuous operation for each span unless otherwise provided.

Concrete in T-Beam or deck girder spans shall be placed in one continuous operation unless otherwise directed. If it is permitted to place the concrete in two separate operations, each of the operations, shall be continuous: first, to the top of the girder stems, and second, to completion. In the latter case, the bond between stem and slab shall be secured by means of suitable shear keys which may be formed by the use of timber blocks approximately 50 mm x 100 mm in crosssection having a length of 100 mm less than the width of the girder stem. These key blocks shall be placed along the girder stems as required, but the spacing shall not be greater than 300 mm center to center. The blocks shall be beveled and oiled in such a manner as to insure their ready removal, and they shall be removed as soon as the concrete has set sufficiently to retain its shape. If the contractor wishes to place the concrete in two separate operations, he shall, with his request for permission to do so, submit plans and proposals of the required changes to the reinforcement, which plans and proposals shall be subject to the approval of the Engineer.

In box girders, the concrete in the bottom slab shall be poured first, as a separate operation.

The concrete in the webs and the top slab shall be placed in one continuous operation unless otherwise specified. If it is permitted to place the concrete in more than one operation, the requirements for T-beam shall apply.

407.3.6 Construction Joints

Construction joints shall be made only where shown on the Plans or called for in the pouring schedule, unless otherwise approved by the Engineer. Shear keys or reinforcement shall be used, unless otherwise specified, to transmit shear or to bond the two sections together.

Before depositing new concrete on or against concrete which has hardened, the forms shall be retightened. The surface of the hardened concrete shall be roughened as required by the Engineer, in a manner that will not leave

loose particles of aggregate or damage concrete at the surface. It shall be thoroughly cleaned of foreign matter and laitance. When directed by the Engineer, the surface of the hardened concrete which will be in contact with new concrete shall be washed with water to this satisfaction. To insure an excess of mortar at the juncture of the hardened and the newly deposited concrete, the cleaned and saturated surfaces, including vertical and inclined surfaces shall first be thoroughly covered with a coating of mortar of the same proportion of sand and cement as the class of concrete used against which the new concrete shall be placed before the grout or mortar has attained its initial set.

The placing of concrete shall be carried continuously from joint to joint. The face edges of all joints which are exposed to view shall be carefully finished true to line and elevation.

407.3.7 Concrete Surface Finishing

Surface finishing shall be classified as follows:

Class 1, Ordinary Finish

Class 2, Rubbed Finish

Class 3, Floated Finish

All concrete shall be given Class 1, Ordinary Finish and additionally any further finish as specified.

Unless otherwise specified, the following surfaces shall be given a Class 2, Rubbed Finish.

1. The exposed faces of piers, abutments, wingwalls, and retaining walls.
2. The outside faces of girders, T-beams, slabs, columns, brackets, curbs, headwalls, railings, arch rings, spandrel walls and parapets.

Excluded, however, are the tops and bottoms of floor slabs and sidewalks, bottoms of beams and girders, sides of interior beams and girders, backwalls above bridge seats or the underside of copings. The surface finish on piers and abutments shall include all exposed surfaces below the bridge seats to 20 cm below low water elevation or 50 cm below finished ground level when such ground level is above the water surface. Wingwalls shall be finished from the top to 50 cm below the finished slope lines on the outside face and shall be finished on top and for a depth of 20 cm below the top on the back sides.

Unless otherwise specified, the surface of the traveled way shall be Class

3. Floated Finish.

Class 1 ,Concrete Ordinary Finish

Immediately following the removal of forms, all fins and irregular protection shall be removed from all surface except from those which are not to be exposed or are not to be waterproofed. On all surfaces the cavities produced by form ties and all other holes, honeycomb spots, broken corners or edges and other defects shall be thoroughly cleaned, and after having been kept saturated with water for a period of not less than three hours shall be carefully pointed and made true with a mortar of cement and fine aggregate mixed in the proportions used in the grade of the concrete being finished. Mortar used in pointing shall not be more than one hour old. The mortar patches shall be cured as specified under Subsection 407.3.8. All construction and expansion joints in the completed work shall be left carefully tooled and free of all mortar and concrete. The joint filler shall be left exposed for its full length with a clean and true edges.

The resulting surface shall be true and uniform. All repaired surfaces, the appearance of which is not satisfactory to the Engineer, shall be “rubbed” as specified below.

Class 2, Concrete Rubbed Finish

After removal of forms, the rubbing of concrete shall be started as soon as its condition will permit. Immediately before starting this work, the concrete shall be kept thoroughly saturated with water for a minimum period of three hours. Sufficient time shall have elapsed before the wetting down to allow the mortar used in the pointing of road holes and defects to thoroughly set. Surfaces to be finished shall be rubbed with a minimum coarse carborundum stone using a small amount of mortar on each face. The mortar shall be composed of cement and fine sand mixed in the proportions used in the concrete being finished. Rubbing shall be continued until all form marks, protections and irregularities have been removed, all voids have been filled, and a uniform surface has been obtained. The face produced by this rubbing shall be left in place at this time.

After all concrete above the surface being created has been cast, the final finish shall be obtained by rubbing with a fine carborundum stone and water. This rubbing shall be continued until the entire surface is of smooth texture and uniform color.

After the final rubbing is completed and the surface has dried, it should be rubbed with burlap to remove loose powder and shall be left free from all unsound patches, paste, powder and objectionable marks.

Class 3, Concrete Floated

Finish After the concrete is compacted as specified in Subsection 407.3.2, Compaction of Concrete, the surface shall be carefully struck off with a strike board to conform to the cross-section and grade shown on the Plans. Proper allowance shall be made for camber if required. The strike board may be operated longitudinally or transversely and shall be moved forward with a combined longitudinal and transverse motion, the manipulation being such that neither is raised from the side forms during the process. A slight excess of concrete shall be kept in front of the cutting edge at all times. After striking off and consolidating as specified above, the surface shall be made uniform by longitudinal or transverse floating or both. Longitudinal floating will be required except in places where this method is not feasible.

The longitudinal float, operated from foot bridges, shall be worked with a sawing motion while held in a floating position parallel to the road centerline and passing gradually from one side of the pavement to the other. The float shall then be moved forward one-half of each length and the above operation repeated. Machine floating which produces an equivalent result may be substituted for the above manual method.

The transverse float shall be operated across the pavement by starting at the edge and slowly moving to the center and back again to the edge. The float shall then be moved forward one-half of each length and the above operation repeated. Care shall be taken to preserve the crown and cross-section of the pavement.

After the longitudinal floating has been completed and the excess water removed, but while the concrete is still plastic, the slab surface shall be tested for trueness with a straight-edge. For the purpose, the Contractor shall furnish and use an accurate 3 m straight-edge swing handless 1 m longer than one half the width of the slab.

The straight-edge shall be held in successive positions parallel to the road centerline and in contact with the surface and the whole area gone over from one side of the slab to the other as necessary. Advancement along the deck shall be in successive stages of not more than one-half the length of the straight-edge. Any depression found shall be immediately filled with freshly mixed concrete, struck off, consolidated and refinished. The straight-edge testing and refloating shall continue until the entire surface is found to be free from observable departure from the straight-edge and the slabs has the required grade and contour, until there are no deviations of more than 3 mm under the 3 m straightedge.

When the concrete has hardened sufficiently, the surface shall be given a broom finish. The broom shall be an approved type. The strokes shall be square across the slabs from edge to edge, with adjacent strokes slightly overlapped, and shall be made by drawing the broom without tearing the concrete, but so as to produce regular corrugations not over 3 mm in depth. The surface as thus finished shall be free from porous spots, irregularities, depressions and small pockets or rough spots such as may be caused by accidental disturbing, during the final brooming of particles of coarse aggregate embedded near the surface.

Concrete Surface Finish for Sidewalk.

After the concrete has been deposited in place, it shall be compacted. The surface shall be struck off by means of strike board and floated with a wooden or cork float. An edging tool shall be used on all edges and at all expansion joints. The surface shall not vary more than 3 mm under a 3 m straight-edge. The surface shall have a granular or matted texture which will not slick when wet.

407.3.8 Curing Concrete

All newly placed concrete shall be cured in accordance with this Specification, unless otherwise directed by the Engineer. The curing method shall be one or more of the following:

1. Water Method

The concrete shall be kept continuously wet by the application of water for a minimum period of 7 days after the concrete has been placed.

The entire surface of the concrete shall be kept damp by applying water with an atomizing nozzle. Cotton mats, rugs, carpets, or earth or sand blankets may be used to retain the moisture. At the expiration of the curing period the concrete surface shall be cleared of the curing medium.

2. Curing Compound

Surfaces exposed to the air may be cured by the application of an impervious membrane if approved by the Engineer.

The membrane forming compound used shall be practically colorless liquid. The use of any membrane-forming compound that will alter the natural color of the concrete or impart a slippery surface to any wearing surface shall be prohibited. The compound shall be applied with a pressure spray in such a manner as to cover the entire concrete surface with a uniform film and shall be of such character that it will harden within 30 minutes after application. The amount of compound applied shall be ample to seal the surface of the concrete thoroughly. Power-operated spraying equipment shall be equipped with an operational pressure gauge and means of controlling the pressure.

The curing compound shall be applied to the concrete following the surface finishing operation immediately after the moisture sheen begins to disappear from the surface, but before any drying shrinkage or craze cracks begin to appear. In the event of any delay, in the application of the curing compound, which results in any drying or cracking of the surface, application of water with an atomizing nozzle as specified under "Water Method", shall be started immediately and shall be continued until the application of the compound is resumed or started, however, the compound shall not be applied over any resulting free standing water. Should the film of compound be damaged from any cause before the expiration of 7 days after the concrete is placed in the case of structures, the damaged portion shall be repaired immediately with additional compound.

Curing compound shall not be diluted or altered in any manner after manufacture. At the time of use, the compound shall be in a thoroughly mixed condition. If the compound has not been used within 120 days after the date of manufacture, the Engineer may require additional testing before the use to determine compliance to requirements.

An anti-setting agent or a combination of anti-setting agents shall be incorporated in the curing compound to prevent caking.

The curing compound shall be packaged in clean barrels or steel containers or shall be supplied from a suitable storage tank located on the Site. Storage tank shall have a permanent system designed to completely redisperse any settled material without introducing air or any other foreign substance. Containers shall be well-sealed with ring seals and lug type crimp lids. The linings of the containers shall be of a character that will resist the solvent of the curing compound. Each container shall be labeled with a manufacturer's name, specification number, batch number, capacity and date of manufacture, and shall have label warning concerning flammability. The label shall also warn that the curing compound shall be well-stirred before use. When the curing compound is shipped in tanks or tank trunks, a shipping invoice shall accompany each load. The invoice shall contain the same information as that required herein for container labels.

Curing compound may be sampled by the Engineer at the source of supply and on the Site.

3. Waterproof Membrane Method

The exposed finished surfaces of concrete shall be sprayed

with water, using a nozzle that so atomizes the flow that a mist and not a spray is formed until the concrete has set, after which a curing membrane of waterproof paper or plastic sheeting shall be placed. The curing membrane shall remain in place for a period of not less than 72 hours.

Waterproof paper and plastic sheeting shall conform to the specification of AASHTO M 171.

The waterproof paper or plastic sheeting shall be formed into sheets of such width as to cover completely the entire concrete surface.

All joints in the sheets shall be securely cemented together in such a manner as to provide a waterproof joint. The joint seams shall have a minimum lap of 100 mm.

The sheets shall be securely weighed down by placing a bank of earth on the edges of the sheets or by other means satisfactory to the Engineer.

Should any portion of the sheets be broken or damaged within 72 hours after being placed, the broken or damaged portions shall be immediately repaired with new sheets properly cemented into place.

Sections of membrane which have lost their waterproof qualities or have been damaged to such an extent as to render them unfit for curing, the concrete shall not be used.

4. Forms-in-Place Method

Formed surfaces of concrete may be cured by retaining the form-inplace. The forms shall remain in place for a minimum period of 7 days after the concrete has been placed, except that for

Members over 50 cm in least dimensions, the forms shall remain in place for a minimum period of 5 days. Wooden forms shall be kept wet by watering during the curing period.

5. Curing Cast-In-Situ Concrete

All newly placed concrete for cast-in-situ structures, other than highway bridge deck, shall be cured by the water method, the forms-inplace method, or as permitted herein, by the curing compound method, all in accordance with the requirements of Subsection, 407.3.8 Curing Concrete.

The curing compound method may be used on concrete surfaces which are to be buried under ground and surfaces where only Ordinary Surface Finish is to be applied and on which a uniform color is not required and which will not be visible from public view.

The top surface of highway bridge decks shall be cured by either the curing compound method or the water method. The curing compound shall be applied progressively during the deck finishing operations. The water cure shall be applied not later than 4 hours after completion of the deck finishing.

When deemed necessary by the Engineer during periods of hot weather, water shall be applied to concrete surface being cured by the curing compound method or by the forms-in-place method until the Engineer determine that a cooling effect is no longer required.

6. Curing Pre-Cast Concrete (except piles)

Pre-cast concrete members shall be cured for not less than 7 days by the water method or by steam curing. Steam curing for pre-cast members shall conform to the following provisions:

After placement of the concrete, members shall be held for a minimum 4-hour pre-steaming period.

a. To prevent moisture loss on exposed surfaces during the presteaming period, members shall be covered immediately after casting or the exposed surface shall be kept wet by fog spray or wet blankets.
b. Enclosures for steam curing shall allow free circulation of steam about the member and shall be constructed to contain the live steam with a minimum moisture loss. The use of tarpaulins or similar flexible covers will be permitted, provided they are kept in good condition and secured in such a manner to prevent the loss of steam and moisture.
c. Steam at jets shall be low pressure and in a saturated condition. Steam jets shall not impinge directly on the concrete, test cylinders, or forms. During application of the steam, the temperature rise within the enclosure shall not exceed 20oC per hour. The curing temperature throughout the enclosure shall not exceed 65oC and shall be maintained at a constant level for a sufficient time necessary to develop the required compressive strength. Control cylinders shall be covered to prevent moisture loss and shall be placed in a location where temperature of the enclosure will be the same as that of the concrete.

d. Temperature recording devices that will provide an accurate continuous permanent record of the curing temperature shall be provided. A minimum of one temperature recording device per 50 m of continuous bed length will be required for checking temperature.

e. Curing of pre-cast concrete will be considered completed after the termination of the steam curing cycle.

7. Curing Pre-cast Concrete Piles

All newly placed concrete for pre-cast concrete piles, conventionally reinforced or prestressed shall be cured by the "Water Method" as described in Subsection 407.3.8, Curing Concrete, except that the concrete shall be kept under moisture for at least 14 days. At the option of the Contractor, steam curing may be used in which case the steam curing provisions of Subsection 407.3.8 (6), Curing Pre-Cast Concrete (except piles) shall apply except that the concrete shall be kept wet for at least 7 days including the holding and steaming period.

Item 414 - Forms and Falseworks

414.1 Description

This Item shall consist of designing, constructing and removing forms and falsework to temporarily support concrete, girders and other structural elements until the structure is completed to the point it can support itself.

414.2 Material Requirements

414.2.1 Formwork

The materials used for smooth form finish shall be plywood, tempered concrete-form-grade hardboard, metal, plastic, paper or other acceptable materials capable of producing the desired finish for form-facing materials. Formfacing materials shall produce a smooth, uniform texture on the concrete. Formfacing materials with raised grain, torn surfaces, worn edges, patches, dents, or other defects that will impair the texture of concrete surfaces shall not be permitted. No form-facing material shall be specified for rough form finish.

414.2.1.1 Formwork Accessories

Formwork accessories that are partially or wholly embedded in concrete, including ties and hangers shall be commercially manufactured. The use of non fabricated wire form ties shall not be permitted. Where indicated in the Contract, use form ties with integral water barrier plates in walls.

414.2.1.2 Formwork Release Agents

Commercially manufactured formwork release agents shall be used to prevent formwork absorption of moisture, prevent bond with concrete, and not stain the concrete surfaces.

414.2.2 Falsework

The materials to be used in the falsework construction shall be of the quantity and quality necessary to withstand the stresses imposed; it may be timber or steel or a combination of both. The workmanship shall be of such quality that the falsework will support the loads imposed on it without excessive settlement or take-up beyond as shown on the falsework drawings.

414.3. Construction Requirements

414.3.1 Design

Falsework and Formworks design and drawings shall be in accordance, with Item 407, Concrete Structures, Subsection 407.3.9 and 407.3.12, respectively.

414.3.1.1 Formwork and Falsework Drawings

When complete details for forms and falseworks are not shown, prepare and submit drawings to the Engineer showing the following:

1. Details for constructing safe and adequate forms and falsework that provide the necessary rigidity, support the loads imposed, and produce in the finished structure the required lines and grades. See subsection 414.3.1.2 for design loads. See Subsection 414.3.1.3 for design stresses, loadings and deflections. See Subsection 414.3.2 for manufactured assemblies.

2. The maximum applied structural load on the foundation material. Include a drainage plan or description of how foundations will be protected from saturation, erosion, and/or scour see Subsection 414.3.3.1.

3. The description of all proposed material. Describe the material that is not describable by standard nomenclature (such as AASHTO or ASTM specified) based on manufacturer's test and recommended working loads. Provide evaluation data for falsework material showing that the physical properties and conditions of the material can support the loads assumed in the design.

4. The design calculations and material specifications showing that the proposed system will support the imposed concrete pressures and other loads. Provide an outline of the proposed concrete placement operation listing the equipment, labor, and procedures to be used for the duration of each operation. A superstructure placing diagram showing the concrete placing sequence and construction joint locations is included.

5. Design calculations for proposed bridge falsework. A registered professional engineer proficient in structural design shall design, sign, and seal the drawings. The falsework design calculations shall show the stresses and deflections in load supporting members.

6. Anticipated total settlements of falsework and forms shall be shown. Include falsework footing settlement and joint take-up. Design for anticipated settlements not to exceed 20 millimeters. Design and detail on falsework supporting deck slabs and overhangs on girder bridges so that there will be no differential settlement between the girders and the deck forms during placement of deck concrete. Design and construct the falsework to elevations that include anticipated settlement during concrete placement and required camber to compensate for member deflections during construction.

7. Support system for form panels supporting concrete deck slabs and overhangs on girder bridges.

8. Details for strengthening and protecting falsework over or adjacent to roadways and railroads during each phase of erection and removal. See Subbsection 414.3.3.2.

9. Intended steel erection procedures with calculations in sufficient detail to substantiate that the girder geometry will be correct. See Subsection 414.3.3.3.

Details of proposed anchorage and ties for void forms shall be submitted. See Subsection 414.3.4 for void form requirements.

Separate Falsework drawings for each structure shall be submitted to the Engineer for approval, except for identical structures with identical falsework design and details.

414.3.1.2 Design Loads for Forms and Falsework

414.3.1.2.1 Vertical Design Loads

Dead loads include the mass of concrete, reinforcing steel, forms and falsework. Consider the entire superstructure, or any concrete mass being supported by falsework to be a fluid dead load with no ability to support itself. If the concrete is to be prestressed, design the falsework to support any increase or readjusted loads caused by the prestressing forces.

The assumed density of concrete, reinforcing steel, and forms shall be not less than 2600 kilograms per cubic meter for normal concrete and not less than 2100 kilograms per cubic meter for lightweight concrete.

Consider live loads to be actual mass of equipment to be supported by falsework applied as concentrated loads at the point of contact plus a uniform load of not less than 1000 pascals applied over the area supported, plus 1100 newtons per meter applied at the outside edge of the deck falsework overhangs.

The total vertical design load for falsework shall be the sum of vertical dead and live loads. The total vertical design load used shall be not less than 4800 pascals.

414.3.1.2.2 Horizontal Design Loads

Use an assumed horizontal design load on falsework towers, bents frames and other falsework structures to verify lateral stability. The assumed horizontal load is the sum of the actual horizontal loads due to equipment construction sequence, or other causes and an allowance for wind. However, in no case is the assumed horizontal load shall be less than 2 percent of the total supported dead load at the location under consideration.

The minimum wind allowance for each heavy-duty steel shoring having a vertical load carrying capacity exceeding 130 kilonewtons per leg is the sum of the products of the wind impact area, shape factor and the applicable wind pressure value for each height zone. The wind impact area is the total projected area of all elements in the tower face normal to the applied wind. Assume the shape factor for heavy duty shoring to be 2.2. Determine wind pressure value from Table 1.

Table 1
Design Wind Pressure-Heavy Duty Steel Shoring

Height Zone Above Ground Meter	Wind Pressure Value-Pa	
	Adjacent to Traffic	At Other Locations
0	960	720
9-15	1200	960
15-30	1450	1200
Over 30	1675	1450

The minimum wind allowance on all other types of falsework, including falsework supported on heavy-duty shoring, is the sum of the products of the wind impact area and the applicable wind pressure value for each height zone. The wind impact area is the gross projected area of the falsework and unrestrained portion of the permanent structure, excluding the areas between falsework posts or towers where diagonal bracing is not used. Used design wind pressures from Table 2.

Table 2
Design Wind Pressure-Other Types of Falsework

Height Zone Above Ground Meter	Wind Pressure Value-Pa	
	For Members Over and Bents Adjacent to Traffic Openings	At Other Locations
0	320 Q	240 Q
9-15	400 Q	320 Q
15-30	480 Q	400 Q
Over 30	560 Q	480 Q

Note: $Q=0.3+0.2W$, but not more than 3. W is the width of the falsework system in meters measured in the direction of the wind force being considered

414.3.1.2.3 Lateral Fluid Pressure

For concrete with retarding admixture, fly ash or other pozzolan replacement for cement, design form, form ties and bracing for a lateral fluid pressure based on concrete with a density of 2400 kilograms per cubic meter. For concrete containing no pozzolans or admixtures, which affect the time to initial set, the lateral fluid pressure shall be determined based on concrete temperature and rate of placement according to ACI Standard 347R, Guide for Formwork for Concrete.

414.3.1.3 Design Stresses, Loads and Deflections for Forms and Falsework

The allowable maximum design stresses and loads listed in this section are based on the use of undamaged high-quality material. If lesser quality material is used, reduce the allowable stresses and loads. The following maximum stresses, loads and deflections in the falsework design shall not be exceeded.

414.3.1.3.1 For Timber

Compression perpendicular to the grain = 3100 kilopascals

Compression parallel to the grain (1) $= \frac{3309}{(L/d)^2}$ megapascals

Note: (1) Not to exceed 11 megapascals

Where:

L = Unsupported length

d = Least dimension of a square or rectangular column or the width of a square of equivalent cross-sectional area for round columns

Flexural stress = 12.4 megapascals

Note: Reduced to 10 megapascals for members with a nominal depth of 200 millimeters or less

Horizontal shear = 1300 kilopascals

Axial tension = 8.3 megapascals

Deflection due to the mass of concrete may not exceed 1/500 of the span even if the deflection is compensated for by camber strips

Modulus of elasticity (E) for timber = 11.7 gigapascals

Maximum axial loading on timber piles = 400 kilonewtons

Protect the foundation from adverse effects for the duration of its use.

414.3.3.2 Falsework Over or Adjacent to Roadways and Railroads

Falsework shall be designed and constructed with protection from vehicle impact. This includes falsework posts that support members crossing over a roadway or railroad and other falsework posts if they are located in the row of falsework posts nearest to the roadway or railroad and if the horizontal distance from the traffic side of the falsework to the edge of pavement or to a point 3 meters from the centerline of track is less than the total height of the falsework.

Additional features shall be provided to ensure that this falsework will remain stable if subjected to impact by vehicles. Use vertical design loads for these falsework posts, columns, and towers (but not footings) that are greater than or equal to either of the following:

1. 150 percent of the design load calculated according to Subsection 414.3.1.2 but not including any increased or readjusted loads caused by prestressing forces.

2. The increased or readjusted loads caused by prestressing forces.

Temporary traffic barriers shall be installed before erecting falsework towers or columns adjacent to an open public roadway. Barriers shall be located so that falsework footings or pile caps are at least 75 millimeters clear of concrete traffic barriers and all other falsework members are at least 300 mm clear. Do not remove barriers until approved.

Use falsework columns that are steel with a minimum section modulus about each axis of 156,000 cubic millimeters or sound timbers with a minimum section modulus about each axis of 4,100,000 cubic millimeters.

Mechanically connect the base of each column or tower frame supporting falsework over or immediately adjacent to an open public road to its supporting footing or provide other lateral restraint to withstand a force of not less than 9 kilonewtons applied to the base of the column in any direction. Mechanically connect such columns or frames to the falsework cap or stringer to resist a horizontal force of not less than 4.5 kilonewtons in any direction. Neglect the effects of frictional resistance.

Brace or tie exterior girders, upon which overhanging bridge deck falsework brackets are hung, to the adjacent interior girders as necessary to prevent rotation of exterior girders or overstressing the exterior girder web.

Mechanically connect all exterior falsework stringers and stringers adjacent to the end of discontinuous caps, the stringer or stringers over points of minimum vertical clearance and every fifth remaining stringer, to the falsework cap or framing. Provide mechanical connections capable of resisting load in any direction, including uplift on the stringer, if not less than 2.2 kilonewtons. Connections shall be installed before traffic is allowed to pass beneath the span.

16 millimeters diameter or larger bolts to connect timber members shall be used to brace falsework bents located adjacent to roadways or railroads.

Sheath falsework bents within 6 meters of the centerline of a railroad track solid in the area between 1 and 5 meters above the track on the side facing the track. Construct sheathing of plywood not less than 16 millimeters thick or lumber not less than 25 millimeters nominal thickness. Adequate bracing shall be provided on such bents so that the bent resists the required assumed horizontal load or 22 kilonewtons, whichever is greater, without the aid of sheathing.

Provide at least the minimum required vertical and horizontal clearances through falsework for roadways, railroads, pedestrians, and boats.

414.3.4 Forms

The forms construction shall be in accordance whenever applicable, with Item 407, Concrete Structures Subsection 407.3.13, Formwork Construction.

Form panels to be used shall be in good condition free of defects on exposed surfaces. If form panel material other than plywood is used, it shall have

flexural strength, modulus of elasticity and other physical properties equal to or greater than the physical properties for the type of plywood specified.

Furnish and place form panels for exposed surfaces in uniform widths of not less than 1 meter and in uniform lengths of not less than 2 meters except where the width of the member formed is less than 1 meter.

Arrange panels in symmetrical patterns conforming to the general lines of the structure. Place panels for vertical surfaces with the long dimension horizontal and with horizontal joints level and continuous. For walls with sloping footings which do not abut other walls, panels may be placed with the long dimension parallel to the footing.

Form panels shall be precisely aligned on each side of the panel joint by means of supports or fasteners common to both panels.

Use form ties and anchors that can be removed without damaging the concrete surface. Construct metal ties or anchorages within the forms to permit their removal to a depth of at least 25 millimeters from the face without damage to the concrete. Fill cavities with cement mortar and finish to a sound, smooth, uniform colored surface.

Support roadway slab forms of box girder type structures on wales or similar supports fastened, as nearly as possible, to the top of the web walls.

Form exposed curved surfaces to follow the shape of the curve, except on retaining walls that follow a horizontal curve. The wall stems may be a series of short chords if all of the following apply:

1. Chords within the panel are the same length.

2. Chord do not vary from a true curve by more than 15 millimeters at any point.

3. All panel points are on the true curve

When architectural treatment is required, make the angle points for chords in wall stems fall at vertical rustication joints.

Earth cuts as forms for vertical or sloping surfaces shall not be used unless otherwise required or permitted by the Contract.

4.3.4.1 Stay in Place Deck Forms

Use permanent or stay inplace forms only when permitted by the contract.

Fabricate permanent steel bridge deck forms and supports from steel conforming to ASTM A 653M coating designation 2600, any grade except grade 340 class 3.

Install forms according to accepted fabrication and erection drawings. Do not rest form sheets directly on the top of stringer or floor beam flanges. Securely fasten sheets to form supports. Place form supports in direct contact with the stringer flange or floor beam. Make all attachments with permissible welds, bolts or clips. Do not weld form supports to flanges of steels not considered weldable or to portions of flanges subject to tensile stresses.

Clean with wire brush and paint 2 coats of zinc dust zinc-oxide primer (FSS TT-P-641 type II no color added) any permanently exposed form metal where the galvanized coating has been damaged. Minor heat discoloration in areas of welds need not be touched up.

Locate transverse construction joints in slabs at the bottom of a flute. Field drill 6 millimeter diameter weep holes at not less than 300 millimeters on center along the line of the joint.

414.3.4.2 Void Forms

Store void forms in a dry location to prevent distortion. Secure the forms using anchors and ties which leave a minimum of metal or other supporting material exposed at the bottom of finished slab.

Make the outside surface of the forms waterproof. Cover the ends with waterproof mortar tight caps. Use premolded 6 millimeters thick rubber joint filler around the perimeter of the caps to permit expansion.

Provide a PVC vent near each void form. Construct vents so the vent tube shall not extend more than 13 millimeters below the bottom surface of the finished concrete after form removal. Protect void from the weather until concrete is placed.

414.3.4.3 Metal Forms

The specification for forms relative to design, mortar tightness, filleted corners, beveled projection, bracing, alignment, removal, reuse and oiling also apply to metal forms.

414.3.5 Removal of Forms and Falsework

The removal of forms and falsework shall be in accordance whenever applicable, with Item 407 Concrete Structures, Subsection 407.3.11 Removing Falsework and Subsection 407.3.14 Removal of Forms and Falsework.

Where necessary remove all forms except the following:

1. Interior soffit forms for roadway deck slabs of cast-in-place box girders.

2. Forms for the interior voids of precast members

3. Forms for abutments or piers when no permanent access is available into the cells or voids

Install a reshoring system if falsework supporting the sides of girders stems with slopes steeper than 1:1 are removed before placing deck slab concrete. Design the reshoring system with lateral supports which resist all rotational forces acting on the stem, including those caused by the placement of deck slab concrete. Install the lateral supports immediately after each form panel is removed and before release of supports for the adjacent form panel.

414.3.6 Acceptance

Forms and falsework (including design, construction, and removal) shall be evaluated and approved by the Engineer.

When the falsework installation is complete and before concrete placement or removal begins, the falsework shall be inspected by the Engineer. The Engineer shall certify in writing that the installation conforms to the contract, the approved falsework drawings (including approved changes) and acceptable engineering practices.

414.4 Method of Measurement

When the Contract stipulates that payment will be made for forms and falsework on lump-sum basis, the Pay Item will include all materials and accessories needed in the work.

Whenever the Bill of Quantities does not contain an item for form and falsework, the work will not be paid directly but will be considered as a subsidiary obligation of the contractor under other Contract Items.

414.5 Basis of Payment

The accepted quantities measured as prescribe in Subsection 414.4, shall be paid for at the Contract lump-sum price for Forms and Falsework which price and payment shall be full compensation for designing, constructing and removing forms and falsework, all materials and accessories needed and for furnishing all

labor equipment tools and incidentals necessary to complete the item.

Payment will be made under:

Pay Item Number	Description	Unit of Measurement
414	Forms and Falsework	Lump Sum

ITEM 710 – REINFORCING STEEL AND WIRE ROPE

710.1 Reinforcing Steel

Reinforcing steel shall conform to the requirements of the following Specifications:

Deformed Billet-Steel Bars for Concrete Reinforcement	AASHTO M 31 (ASTM A 615/PNS 49)
Deformed Steel Wire for Concrete Reinforcement	AASHTO M 225 (ASTM A 496)
Welded Steel Wire Fabric for Concrete Reinforcement	AASHTO M 55 (ASTM A 185)
Cold-Drawn Steel Wire for Concrete Reinforcement	AASHTO M 32 (ASTM A 82)
Fabricated Steel Bar or Rod Mats for Concrete Reinforcement	AASHTO M 54 (ASTM A 184)
Welded Deformed Steel Wire Fabric of Concrete Reinforcement	AASHTO M 221 (ASTM A 497)
Plastic Coated Dowel Bars	AASHTO M 254 Type A
Low Alloy Steel Deformed Bars for Concrete Reinforcement	ASTM A 206

Bar reinforcement for concrete structures, except No. 2 bars shall be deformed in accordance with AASHTO M 42, M 31 and M 53 for Nos. 3 to 11.

Dowel and tie bars shall conform to the requirements of AASHTO M 31 (ASTM A 615/PNS 49) or AASHTO M 42 except that rail steel shall not be used for tie bars that are to be bent and restraightened during construction. Tie bars shall be deformed bars. Dowel bars shall be plain round bars. They shall be free from

burring or other deformation restricting slippage in the concrete. Before delivery to the site of the work, a minimum of one half (1/2) the length of each dowel bar shall be painted with one coat of approved lead or tar paint.

The sleeves for dowel bars shall be metal of an approved design to cover 50 mm, plus or minus 6.3 mm of the dowel, with a closed end, and with a suitable stop to hold the end of the sleeve at least 25 mm from the end of the dowel bar. Sleeves shall be of such design that they do not collapse during construction.

Plastic coated dowel bar conforming to AASHTO M 254 may be used.

710.2 Wire Rope or Wire Cable

The wire rope or wire cable shall conform to the requirements of AASHTO M 30 for the specified diameter and strength class.

710.3 Prestressing Reinforcing Steel

Prestressing reinforcing steel shall conform to the requirements of the following Specifications:

High-tensile wire	AASHTO M 204 (ASTM A 421)
High-tensile wire strand or rope	AASHTO M 203 (ASTM A 416)

High-tensile alloy bars as follows:

High-tensile-strength alloy bars shall be cold stretched to a minimum of 895.7 MPa. The resultant physical properties shall be as follows:

Minimum ultimate tensile strength	1000 MPa followed by stress relieving
Minimum yield strength, measured by the 0.7 percent extension under load method shall not be less than	895.7 MPa
Minimum modulus of elasticity	25,000,000
Minimum elongation in 20 bar diameters after rupture	4 percent
Diameters tolerance	+0.762 mm – 0.254 mm

If shown on the Plans, type 270 k strand shall be used, conforming to AASHTO M 203.

ITEM 704 – MASONRY UNITS

704.1 Clay or Shale Brick

Brick shall conform to the requirements of one of the following specifications:

Sewer Brick - AASHTO M 91, Grade SM

Sewer Brick - ASTM C 32, Grade SM

Building Brick - AASHTO M 114, Grade SW,

or ASTM C 62, Grade SW

The grade will be shown on the Plans or in the Special Provisions.

704.2 Concrete Brick

Concrete brick shall conform to the requirements of ASTM C 55, Grade A.

704.3 Concrete Masonry Blocks

Concrete masonry blocks may be rectangular or segmented and, when specified, shall have ends shaped to provide interlock at vertical joints.

Solid blocks shall conform with the requirements of ASTM C 139 or ASTM C 145, grade as specified. Hollow blocks shall conform to the requirements of ASTM C 90, grade as specified.

Dimensions and tolerances shall be as individually specified on the Plans.

PAINTING WORKS

ITEM 709 – PAINTS

709.1 Description

This Item covers all paint materials including vehicles, pigments, pastes, driers, thinners and mixed paints for steel and wooden structures.

709.2 Material Requirements

709.2.1 General

Paint, except, aluminum paint, shall consist of pigments of the required fineness and composition ground to the desired consistency in linseed oil in a suitable grinding machine, to which shall be added additional oil, thinner and drier as required.

Aluminum paint shall consist of aluminum bronze powder or paste of the required fineness and composition to which shall be added the specified amount of vehicle.

The paint shall be furnished for use in ready mixed, paste or powder form.

All paint shall meet the following general requirements:

a. The paint shall show no excessive settling and shall easily be redispersed with a paddle to a smooth, homogenous state. The paint shall show no curdling, livering, caking or color separation and shall be free from lumps and skins.

b. The paint as received shall brush easily, possess good levelling properties and shall show no running or sagging when applied to a smooth vertical surface.

c. The paint shall dry to a smooth uniform finish free from roughness grit, uneveness and other imperfections.

d. The paint shall not skin within 48 hours in three quarters filled closed container.

e. The paint shall show no thickening, curdling, gelling or hard caking after six (6) months storage in full, tightly covered container at a temperature of 210C.

709.2.2 The paint shall conform to the requirements of the indicated specifications as follows:

Red Lead Ready-Mixed Paint	AASHTO M 72 Type I, II, III and IV
Aluminum Paint	AASHTO M 69 Type I and II
White & Tinted Ready-Mixed Paint	AASHTO M 70
Foliage Green Bridge Paint	AASHTO M 67
Black Paint for Bridges and Timber Structures	AASHTO M 68
Basic Lead Silicon Chromate, Ready-Mixed Primer	AASHTO M 229

709.2.3 The constituent parts of the paint shall meet the following specifications:

Red Lead (97% Pb_3O_4)	ASTM D 83
Iron Oxide (85% Fe_2O_3)	ASTM D 84
Aluminum Powder and Paste	ASTM D 962
Magnesium Silicate	ASTM D 605
Mica Pigment	ASTM D 607
Titanium Dioxide	ASTM D 476
Chrome Yellow	ASTM D 211
Calcium Carbonate	ASTM D 1199
Basic Lead-Silicon Chromate	ASTM D 1638
Basic Carbonate White Lead	ASTM D 81
Zinc Oxide	ASTM D 79
Chrome Oxide Green	ASTM D 263
Carbon Black	ASTM D 561
Lampblack	ASTM D 209
Prussian Blue	ASTM D 261
Boiled Linseed Oil	ASTM D 260
Raw Linseed Oil	ASTM D 234
Pale Heat Bodied Linseed Oil	Fed Spec. TT-0-367
Alkyd Resin	Fed. Spec. TT-R-266
Mineral Spirit	ASTM D 235
Driers	ASTM D 600
Turpentine	ASTM D 13

709.2.4 Drier

These specifications cover both straight oil drier (material free from resins and "gums"), and Japan drier (material containing varnish "gums"). The drier shall be composed of lead manganese or cobalt, or a mixture of any of these elements, combined with a suitable fatty oil, with or without resins of "gums" and mineral spirits of turpentine, or a mixture of these solvents. The drier shall conform to the following requirements:

a. Appearance – Free from sediment and suspended matter.

b. Flash Point – (Tag close cup) not less than 300C.

c. Elasticity – The drier when flowed on metal and baked for 2 hours at 1000C shall have an elastic film.

d. Drying – It shall mix with pure raw linseed oil in the proportion of 1 volume of drier to 19 volumes of oil without curdling, and the resulting mixture when flowed on glass shall dry in not more than 18 hours.

e. Color – When mixed with pure, raw linseed oil in the proportion of 1 volume of drier to 8 volumes of oil, the resulting mixture shall be darker than a solution of 6 g of potassium dichromate in 13 cc of pure sulfuric acid (sp. gr. 1.84).

709.3 Proportion for Mixing

It is the intent of these Specifications to provide a paint of proper brushing consistency, which will not run, streak or sag and which will have satisfactory drying qualities.

709.3.1 Aluminum

Paint, Field Coats on Structural Steel The paint shall be mixed in the proportion of 0.242 kg of aluminum powder of paste per litre of vehicle of long oil

spar varnish producing a paint containing 21 mass percent pigment and 79 percent vehicle. The weighed amount of powder or paste shall be placed in a suitable mixing container and the measured volume of vehicle then poured over it. The paste or powder shall be incorporated in the paint by vigorous stirring with a paddle. The powder or paste will readily disperse in the vehicle. Before removing any paint from the container, the paint shall be thoroughly stirred to insure a uniform mixture and the paint shall be suitably stirred during the use. The amount of paint enough for one day's use only shall be mixed at one time.

When two field coats of aluminum paint are specified, the first coat shall be tinted with lampblack paste or Prussian blue paste in the quantity of 0.024 kg/L or more of paints. The exact quantity used shall be sufficient to give a contrast in color which can be readily distinguished. When three field coats of aluminum paint are specified the second coat shall be tinted.

709.3.2 Aluminum Paint, Field Coats on Creosoted Timber

This paint shall be mixed as specified for Aluminum Paint for Structural Steel except that the proportions shall be 0.272 kg of aluminum powder or paste per litre of vehicle.

Other paint composition may be used when and as stipulated in the Special Provisions.

709.4 Containers and Markings

All paints shall be shipped in strong, substantial containers plainly marked with mass, color and volume in litres of the paint content, a true statement of the percentage composition of the pigment, the proportions of the pigment to vehicle, the name and address of the manufacturers and the stencil of the authorized inspecting agency. Any package or container not so marked will not be accepted for use under this Specification.

TILE WORKS

PREPARATION

A. Substrate Preparation: Prepare and clean substrate in accordance with installation standards

1. Remove protrusions, bumps and ridges by grinding or chipping.

2. Repair, fill, and level cracks, holes, depressions and rough or chipped areas in substrate using patching material.

INSTALLATION

Perform work in compliance with standard accepted installation guidelines and setting materials

General Installation Standards: Install tile in accordance with standards, appropriate methods,

and written instructions of the specified manufacturers.

Installing Tile:

1. Install tile in grid pattern plumb and level. Align joints when adjoining tiles on floor, base, walls, and trim. Adjust to minimize tile cutting and to avoid tile less than half size.

2. When possible, smooth cut edges of tile and/or use appropriate cutter or wet saw to produce smooth cuts. Provide straight cuts which align with adjacent materials.

3. Extend tile into recesses and under equipment and fixtures to form a complete covering without interruption.

4. Terminate tile neatly at obstructions, edges, and corners, without disruption of pattern or joint alignment.

5. Provide tile joints uniform in width, subject to variance in tolerance allowed in tile size. Make joints smooth and even, without voids, cracks, or excess mort align wall tile joints with floor tile joints.

DOORS AND WINDOWS

Use ¼" Thick Glass with Brown Shade

Sliding Glass Window, Aluminum Frame, Analok Style Window

Refer to the plan for the specifications and sizes of windows to be installed

For Doors

Use the Door Classifications as stated in the Plans and specifications.

Door sets includes Door Jambs, locks and knobs.

Painted Finish

CARPENTRY WORKS

This includes cabinetries, wall partition/drywall, and corner detachable tables.

Use ¾"THK Marine Plywood for cabinetries and tables, ½" thk for Dry wall partition. Painted Finish.

PLUMBING WORKS

Grades of horizontal Pipings:

Run all horizontal pipings in perfect alignment and at a form grade of not less than two percent 2%

Change in direction:

All change in direction shall be made by appropriate use of Forty Five degrees (45°) wyes, long sweep quarter bend, six-eight or sixteenth bends. When the change of flow is from horizontal to vertical

1/8 bend combination maybe used on vertical stacks and short quarter bends maybe used on waste line. Tee and crosses maybe used in vent pipes.

Prohibited Fittings:

No double hub or tee branch shall be used on horizontal wastes lines. The drillings and tapings of house drains, waste or vent pipes and used of saddle hub and bend are prohibited

Sleeves

Provide pipe sleeves at walls, columns or slabs one size bigger than the actual size passing through the walls, columns or under slab to protect pipe from breakage

Pipe Cleanouts

Pipe Cleanouts are required under following conditions:

A. Every change in horizontal directions exceeding twenty-two and one-half degrees (22-1/2°)
B. One and one-half meters (1.50m) inside the property line before the house drainage connection

C. Every fifteen meters (15m) in horizontal run of pipes
D. At the end of any horizontal pipe lines

The Digestion chamber of septic vault must be waterproofed

Not less than 300mm of air space must be left between the top of the sewage and the under part of the vault roof slab

No septic vault must be constructed under the building

All plumbing works shall be done by a license master plumber and licensed plumbing contractor

Installation of plumbing fixtures and accessories, including flush control valves intended for people with disabilities, shall be in accordance with ada requirements.

Installation of plumbing piping shall be fully coordinated with structural, architectural, electrical, and hvac drawings to avoid conflict.

No plumbing (water, drains, vent, or gas piping) shall be installed directly above any electrical panels. Coordinate with other divisions before proceeding with installation.

If non design base equipment is selected, contractor shall bear additional costs for modifications to the original system(s).

Provide water hammer arresters at plumbing fixtures and groups of plumbing fixtures that are standard.

Contractor shall furnish and install all materials, labor and equipment permit fees, required for, or incidental to the installation of a complete and operational plumbing system as indicated in the contract documents including specifications.

All plumbing services going into the building and leaving the building shall be connected to the site utilities, coordinate with site utilities drawings. Coordinate all exterior underground plumbing work drawings.

All plumbing work shall be in conformance with the ohio plumbing code, latest edition adopted by the state of ohio with ohio amendments, municipal or city codes, and the authority having jurisdiction.

Install ball valve close to water main on each branch and riser serving plumbing equipment and fixtures.

Sanitary/vent fitting types shall be as required by the Ohio building and plumbing code. First floor 100'-0" is equivalent to 891.15 finished floor elevation.

ROOFING WORKS

ITEM 1014 - PREPAINTED METAL SHEETS

1014.1 Description

This item shall consist of furnishing all prepainted metal sheet materials, tools and equipment, plant including labor required in undertaking the proper installation complete as shown on the Plans and in accordance with this Specification.

1014.2 Material Requirements

All prepainted metal sheet and roofing accessories shall be oven baked painted true to profiles indicated on the Plans as per approval of the Engineer

1014.2.1 Prepainted Roofing Sheets

Prepainted roofing sheets shall be fabricated from cold rolled galvanized iron sheets specially tempered steel for extra strength and durability. It shall conform to the material requirements defined in PNS 67:2014 Hot-dip Metallic-Coated Steel Sheets for Roofing - Specification. Profile section in identifying the architectural moulded rib to be used is as follows: Regular corrugated, Quad-rib, Tri-wave, Rib-wide, Twin-rib, and others. Desired color shall be subject to the approval of the Architect/Engineer.

Gutters, Valleys, Flashings Hip and Ridge roll shall be fabricated from gauge 24 (0.600 mm thick) cold-rolled plain galvanized iron sheets specially tempered steel. Profile section shall be as indicated on the Plans. Fastening hardware shall be of galvanized iron straps, rivets or bolts. G.I. straps are of 0.500 mm thick x 16 mm wide x 267 mm long (gauge 26 x 5/8" x 10-1/2") and standard rivets

Base metal thickness shall correspond to the following gauge designation available locally as follows:

1.	Base Metal Thickness	Designated Gauge
	0.400 mm thick	Gauge 28
	0.500 mm thick	Gauge 26
	0.600 mm thick	Gauge 24
	0.800 mm thick	Gauge 22
2.	Protective coatings	Thickness
	1. Zinc *(minimum)*	14 microns ($100\ gm/m^2$)
	2. Paint coatings	
	Top coat	15.20 microns
	Bottom coat	6.8 microns
3.	Base Metal Thickness	Overall thickness with protective coats
	0.400 mm	0.427-451 mm
	0.500 mm	0.532-551 mm
	0.600 mm	0.638-651 mm

ELECTRICAL WORKS

All electrical works herein shall be done in accordance with the national building code, provisions of the latest approved Philippine.

Electrical code, the laws and ordinances of the local code enforcing authorities and requirements of the local electric, telephone company and building administration requirements.

1. Contractor shall secure all wiring permit and all fees required for the works and furnish the owner the certificate of final electrical inspection,
2. Contractor shall conduct earth ground test, wire insulation and load test upon completion ofworks,
3. Incase of discrepancy between plans and site condition, specifications & revisions changes, the contractor should immediately verify & consult to with the electrical engineer of the municipal engineering office (lgu lingayen),
4. All location & mounting height are subject to approval of electrical engineer of lgu lingayen,
5. Contractor shall be responsible in the preparation of as-built plans duly signed and sealed by professional electrical engineer, and electronic autocad files,
6. Final lighting fixtures and wiring devices shall be approved by lgu lingayen, representative engineer,
7. Contractor shall be responsible for preparation of shop or construction drawing required by owner architech engineer, this includes devices and fixtures elevation,
8. Contractor shall visit site condition and include all cost necessary to complete the system at no cost to owner, including cost of coring service and expenses for the restoration of any damage affected civil architectural finishes or relocation of existing facilities on building,
9. Contractor shall locate all splicing boxes to accessible place or with access panels,
10. Nominated contractor to verify all equipments to be installed or place within the building, and make an adjustment with the municipal engineer or municipal architect consent (lgu lingayen),

11. This drawings are diagramatic layout only, any materials and fittings not shown on this plans but needed to complete the system and operation shall be included with the contractor's scope of works.
12. All works shall be done under the direct supervision of license duly registered electrical engineer or registered master electrician.
13. Additional notes:

· use of mica shall be limited to 150mm maximum

· use of flexible metallic condutit shall be

Limited to 1m maximum

· provide proper conduit support, g.i. wires as

Support shall not be allowed

· provide double coat of rust protective paint

(red oxide primer) on hangers and supports.

Specifications:

1. Power supply to the building shall be 230v, single phase, 3-wires, 60hz.
2. All materials to be used shall be new and approved type for purpose & location.
3. normal and emergency circuit shall not be combined in one raceway or conduit.
4. receptacles for general use shall be duplex 20a, 250vac, ground type.
5. All wires should have a maximum load of 80 percent of wire ampacity.
6. Light switches minimum rating shall be 16a 230vac.
7. All materials to be used shall be brand new and shall have the "p.s." marks.
8. Mounting heights shall be as follows:

A. Light switches - 1.50m above floor finish

B. Convenience outlet - 0.45m above floor finish

C. Telephone outlet - 0.45m above floor finish

D. Panel board - 1.8m above floor finish

9. Conduit embeded within concrete wall shall have a minimum cement plastered of 20mm thick.
10. All conduit pipe above ceiling should have independent hanger supports.
11. All lighting fixtures should have independent hanger supports.
12. All boxes shall be occupied only of 50 percent of wire volume.
13. Voltage drop shall be limited to 2.5 from source to panel board as p.e.c. requirement or acceptable to the laboratory equipment.
14. Circuit breakers serving motors and lighting shall be industrial and commercial bolt-on type respectively with minimum of 10kaic.
15. All wires and cables shall be brand new and approved type.
16. All circuits shall be 3-wires for 1ø and shall be color coded as follows:

Line 1 – black or red hot wire, line 2 – white or blue nuetral wire, line 3 - greenstripe green-yellowgray grounding wire.

17. Preferred distribution boards must be industrial type, bolt-on with 18kaic minimum unless otherwise specified.
18. Use solderless connector, mechanical 1 pressure type copper lugs for connection of wires larger than 8mm².
19. Use filler compound, "scotch fill" or approved equal at sharp edges to provide smooth surface before taping with electrical tape.

Specifications: CCTV ip surveillance fixed network cameras

1. The cameras and server must be a brand new unit and under warranty including spare parts for at least three (3) years issued from the manufacturer.

2. All cameras and server must be manufactured by a known and reputable company with certificate of good manufacturing practice (gmp), tuv or iso or its equivalent for equipment only.
3. Supplier must comply with the following conditions:
   a) Must be the exclusive or authorized distributor of the principal company of the equipment and the necessary consumables in the philippines.
   b) Provide company response within 24-48 hours should the existing equipment/components break down.

4. The supplier must submit the following:

   a) Three (3) copies of the operating and service manuals in english

      During the delivery of the equipment.

   b) Notarized certificate of availability of spare parts and accessories for the next five (5) years

5. The equipment / components must be able to comply with its installation and operation qualification which would be conducted in the presence of the end-users and the technical personnel.

Specifications: fire detection & alarm system (fdas)

1. The fda system shall cover design, engineering, supply, erection, installation, testing & commissioning of the fda system.
2. The fda system shall consist of minimum following equipment: smoke detectors. Heat detectors, and multi criteria detectors combination of rate of rise heat detector & photo electric smoke detector, other types of detectors as per the design criteria.
3. Four main fire alarm control panel (facp) along with accessories to integrate with the firefighting system for automatic actuation.
4. Power supply equipment.
5. Ups system with battery back-up for 24 hours, on case of power failure, shall be provided.
6. All types of cables (frls) and cabling accessories.
7. Testing and training for operation and maintenance of the system, manuals, as –built drawings, commissioning spares till handing over of the system.
8. One year onsite comprehensive warranty.

PRE-FABRICATED MATERIALS

This includes the materials that are already fabricated, materials that completes the establishment and will help serve its purpose.

ITEM 401 – RAILINGS

401.1 Description

This Item shall consist of furnishing or fabricating and/or placing railings, for bridges and other structures of the material or combination of materials shown on the Plans, constructed in reasonably close conformity with this Specification and to the lines, grades and dimensions shown on the Plans. Railings shall be classified as concrete, steel, aluminum or timber in accordance with the predominating material contained in each.

401.2 Material Requirements

401.2.1 Concrete

It shall conform to the applicable requirements prescribed in Item 405, Structural Concrete.

401.2.2 Reinforcing Steel

It shall conform to the requirements of Item 710, Reinforcing Steel and Wire Rope.

401.2.3 Steel

Structural steel consisting of steel and iron plates, shapes, pipes, fittings and castings shall conform to the requirements of Item 403, Metal Structures.

401.2.4 Aluminum

It shall conform to the requirements of AASHTO M 193, ASTM B 221 or ASTM B 308 or as called for on the Plans.

401.2.5 Timber

It shall conform to the requirements of Item 713, Treated and Untreated Timber.

401.2.6 Stones and Bricks

These shall conform to the requirements of Item 506, Stone Masonry and Item 704, Masonry Units.

401.2.7 Paint

It shall conform to the requirements of Item 709, Paints.

401.3 Construction Requirements

401.3.1 General

Railings shall be constructed to the lines and grades shown on the Plans and shall not reflect any unevenness in the structure. All railing posts shall be set plumb in hand or mechanically dug holes, unless driving is permitted. In the latter case, the manner of driving shall be such as to avoid battering or distorting of post. Post holes shall be backfilled with acceptable material placed in layers and thoroughly compacted. When it is necessary to cut post holes in existing pavement, all loose materials shall be removed and the paving replaced in kind. Bridge railings shall not be placed on a span until centering or falsework has been removed, rendering the span self-supporting.

Rail elements shall be erected according to Plans and in a manner resulting in a smooth, continuous installation with laps in the direction of traffic flow. All bolts except adjustment bolts shall be drawn tight. Bolts shall be of sufficient length to extend beyond the nuts by more than 25 mm.

Where painting of railing component is specified, any damage to the shop coat of paint shall be corrected by an application of an approved rust-inhibitive primer prior to painting. Ungalvanized surfaces inaccessible to painting after erection shall be field painted before erection. The railing components shall be given the specified number of coats of paint uniformly applied by thorough brushing or by approved pressure spray.

Galvanized surfaces which have been abraded so that the base metal is exposed, threaded portions of all fittings, fasteners and cut ends of bolts shall be painted with two (2) coats of zinc-dust and zinc oxide paint.

401.3.2 Metal Railing

Fabrication and erection shall be done in accordance with the requirements of Item 403, Metal Structures. In the case of welded railings, all exposed joints shall be finished by grinding or filing after welding to give a neat appearance.

Metal railing shall be carefully adjusted prior to fixing in-place to insure proper matching of abutting joints, correct alignment and camber throughout their length. Holes for field connection shall be drilled with the railing in-place in the structure at proper grade and alignment. Welding may be substituted for rivets or bolts in field connections with the approval of the Engineer.

Payment will be made under:

Pay Item Number	Description	Unit of Measurement
401	Railing	Meter

PROJECT BILLBOARD

1.2.3 For infrastructure projects, a tarpaulin signboard must be suitably framed for outdoor display at the project location and shall be posted as soon as the award has been made. The design and format of the tarpaulin, as ashown in Annex "A," shall have the following specifications:

Tarpulin, white, 8ft x 8ft

Resolution: 70 dpi

Font: Helvetica

Font Size: Main Information– 3"

Sub-Information- 1"

Font Color: Black

Tarpaulin white, 4ft x 8ft

Resolution: 70 dpi

Font: Helevetica

Font Size:Main Information –3"

Sub-Information – 1"

Font Color: Black

CONSTRUCTION SAFETY & HEALTH PROGRAM

B.2 MEDICAL ROOM AND FIRST FACILITIES

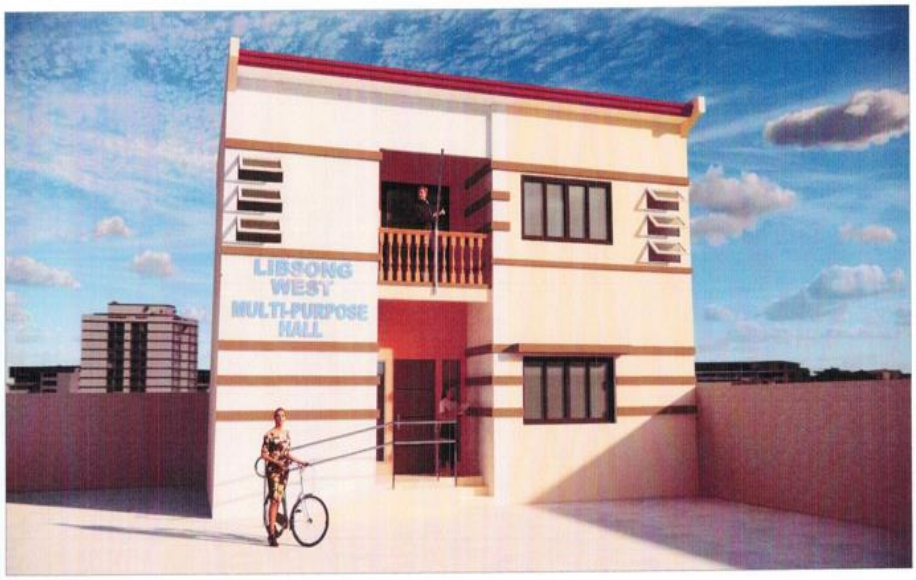
1. The Contactor shall provide and maintain throughout the duration of the Contractor a medical room together with all necessary supplies to be sited in the Contractor's main area. The medical room shall be waterproof; it could be a building or room designated and used exclusively for the purpose. It shall have a floor area of at least square meters and a glazed window area of at least 2 square meters.

2. The contractor shall employ permanently on the site a fully trained Medical Aide, who shall be engaged solely on medical duties.

3. The location of the medical room and any other arrangements shall be made known to all employees by posting on prominent locations suitable notices in the Site.

4. The Contractor's arrangement to comply with this Section shall be subject to the approval of the Engineer and also to the approval of any qualified Medical Officer designated by the Government to supervise medical arrangements on the Site.

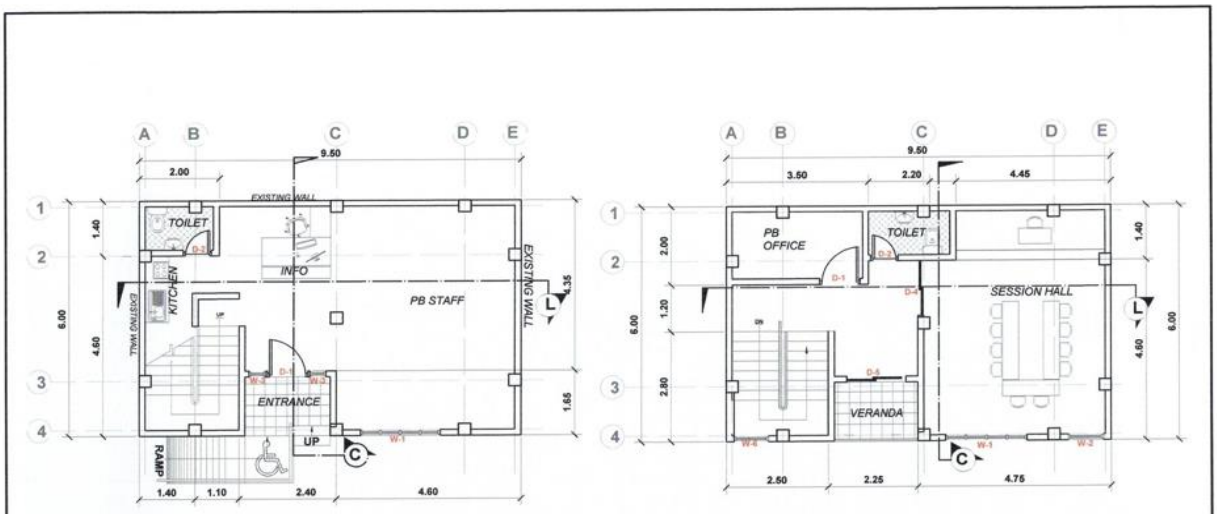
Section VII. Drawings



PERSPECTIVE VIEW

SCALE 1 : 100 M.

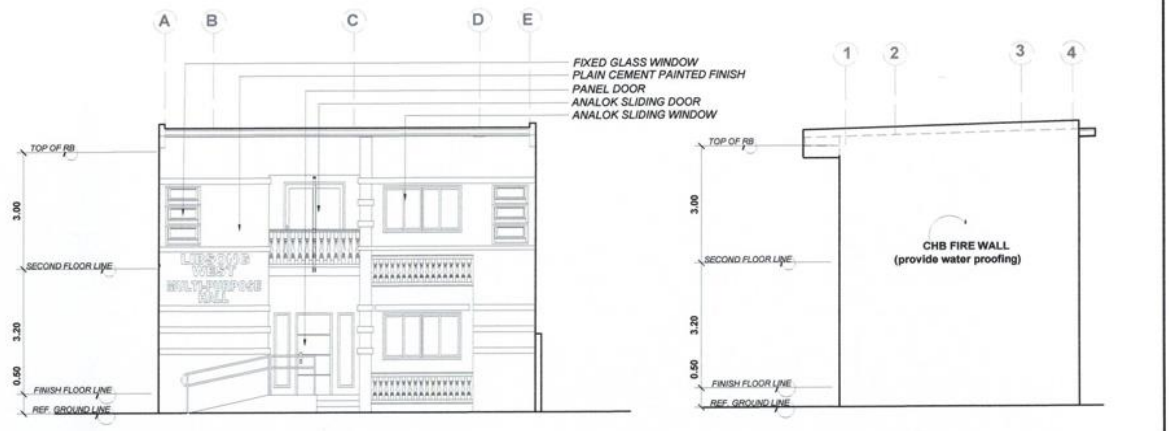
	PROJECT TITLE:	PREPARED AT:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	DRAWING I.D	SHEET #
	REHABILITATION AND IMPROVEMENT OF MULTI PURPOSE HALL (PHASE II)	MUNICIPAL ENGINEERING OFFICE	ROMEL I. MELENDEZ CIVIL ENGINEER	JOHN SILVESTER A. TAPIA CIVIL ENGINEER	HON. LEOPOLDO N. BATAOIL MUNICIPAL MAYOR	APPROVED DESIGN PLAN	1 / 6
	PROJECT LOCATION: BRGY. LIBSONG WEST, LINGAYEN, PANGASINAN	PLANNING & DESIGN SECTION					



GROUND FLOOR PLAN
SCALE 1 : 100 M.

SECOND FLOOR PLAN
SCALE 1 : 100 M.

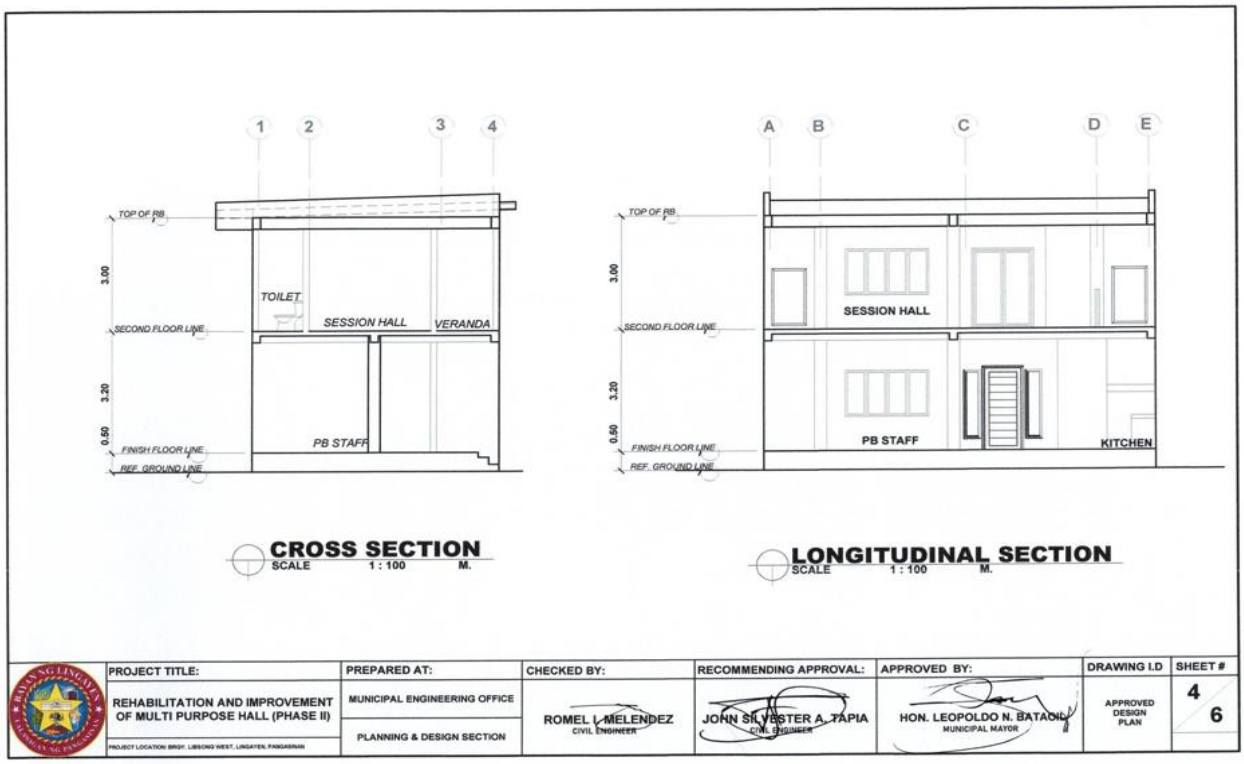
PROJECT TITLE:	PREPARED AT:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	DRAWING I.D	SHEET #
REHABILITATION AND IMPROVEMENT OF MULTI PURPOSE HALL (PHASE II) PROJECT LOCATION: BRGY. LIBSONG WEST, LINGAYEN, PANGASINAN	MUNICIPAL ENGINEERING OFFICE PLANNING & DESIGN SECTION	ROMEL I. MELENDEZ CIVIL ENGINEER	JOHN SILVESTER A. TAPIA CIVIL ENGINEER	HON. LEOPOLDO N. BATAOIL MUNICIPAL MAYOR	APPROVED DESIGN PLAN	2 / 6



FRONT ELEVATION
SCALE 1 : 100 M.

TYP. SIDE ELEVATION
SCALE 1 : 100 M.

PROJECT TITLE:	PREPARED AT:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	DRAWING I.D	SHEET #
REHABILITATION AND IMPROVEMENT OF MULTI PURPOSE HALL (PHASE II) PROJECT LOCATION: BRGY. LIBSONG WEST, LINGAYEN, PANGASINAN	MUNICIPAL ENGINEERING OFFICE PLANNING & DESIGN SECTION	ROMEL I. MELENDEZ CIVIL ENGINEER	JOHN SILVESTER A. TAPIA CIVIL ENGINEER	HON. LEOPOLDO N. BATAOIL MUNICIPAL MAYOR	APPROVED DESIGN PLAN	3 / 6

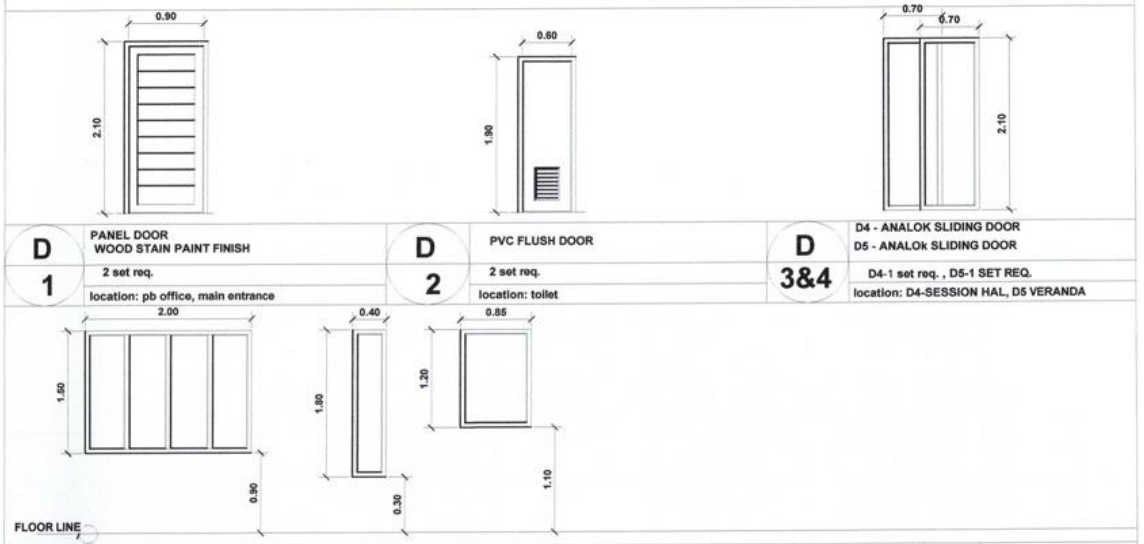


CROSS SECTION SCALE 1 : 100 M.

LONGITUDINAL SECTION SCALE 1 : 100 M.

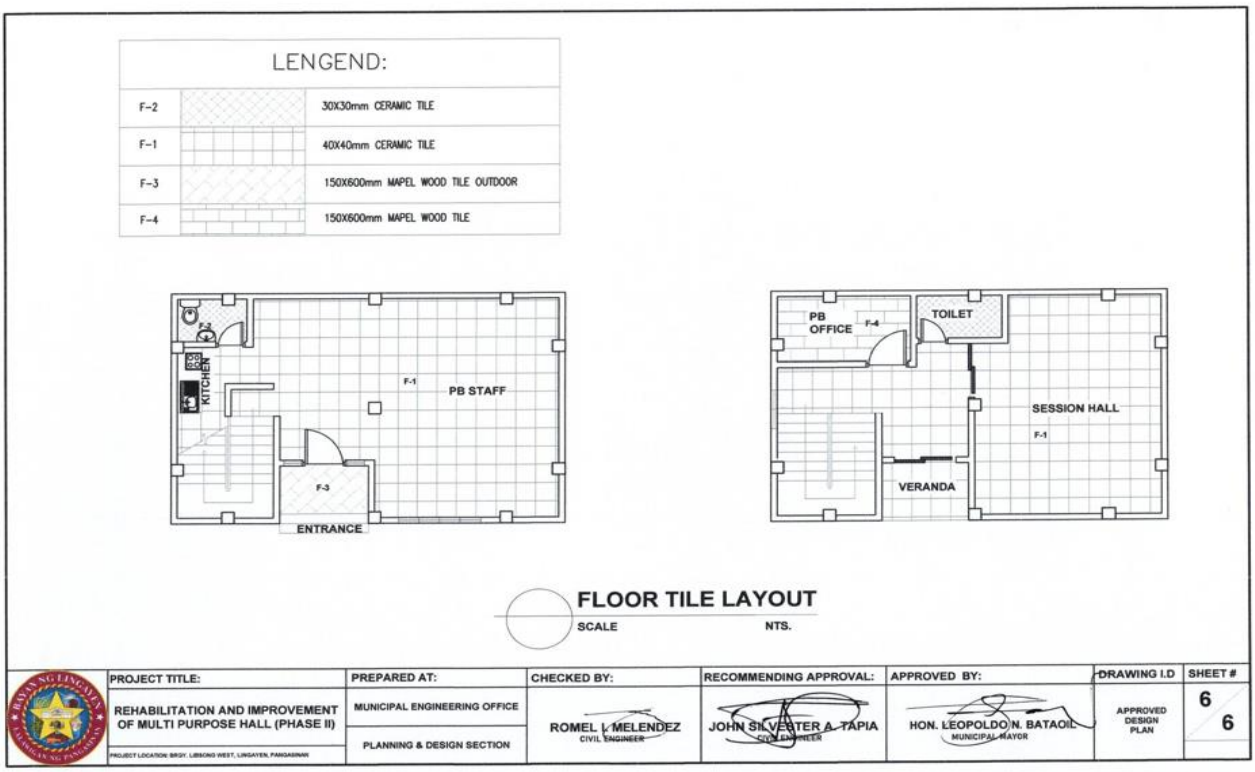
PROJECT TITLE:	PREPARED AT:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	DRAWING I.D	SHEET #
REHABILITATION AND IMPROVEMENT OF MULTI PURPOSE HALL (PHASE II) PROJECT LOCATION: BRGY. LIBSONG WEST, LINGAYEN, PANGASINAN	MUNICIPAL ENGINEERING OFFICE PLANNING & DESIGN SECTION	ROMEL I. MELENDEZ CIVIL ENGINEER	JOHN SILVESTER A. TAPIA CIVIL ENGINEER	HON. LEOPOLDO N. BATACIL MUNICIPAL MAYOR	APPROVED DESIGN PLAN	4 / 6

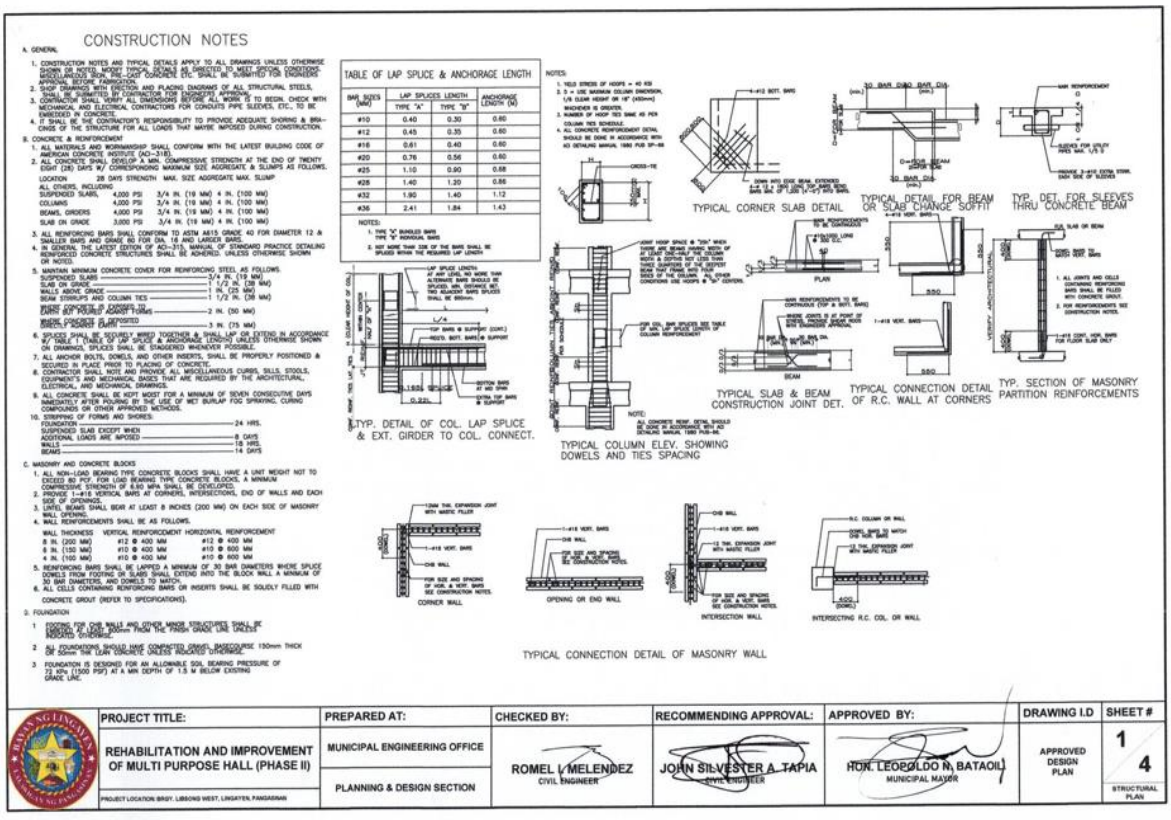
SCHEDULE OF DOOR'S AND WINDOW'S

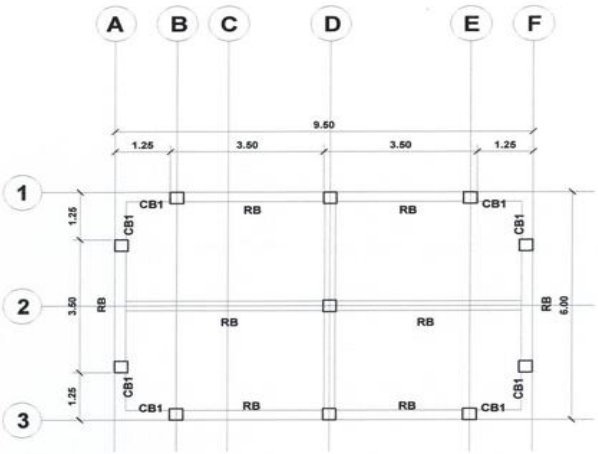


D 1	PANEL DOOR WOOD STAIN PAINT FINISH 2 set req. location: pb office, main entrance	D 2	PVC FLUSH DOOR 2 set req. location: toilet	D 3&4	D4 - ANALOK SLIDING DOOR D5 - ANALOk SLIDING DOOR D4-1 set req. , D5-1 SET REQ. location: D4-SESSION HAL, D5 VERANDA						
W 1	ALUMINUN FRAME SLIDING WINDOW 2 set req. location:	W 2	AWNING WINDOW 2 set req. location:	W 3	ALUMINUM FRAME FIXGLASS WINDOW 2 set req. location:					4 set req. location:	

PROJECT TITLE:	PREPARED AT:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	DRAWING I.D	SHEET #
REHABILITATION AND IMPROVEMENT OF MULTI PURPOSE HALL (PHASE II) PROJECT LOCATION: BRGY. LIBSONG WEST, LINGAYEN, PANGASINAN	MUNICIPAL ENGINEERING OFFICE PLANNING & DESIGN SECTION	ROMEL I. MELENDEZ CIVIL ENGINEER	JOHN SILVESTER A. TAPIA CIVIL ENGINEER	HON. LEOPOLDO N. BATACIL MUNICIPAL MAYOR	APPROVED DESIGN PLAN	5 / 6


LENGEND:
F-2
30X30mm CERAMIC TILE
F-1
40X40mm CERAMIC TILE
F-3
150X600mm MAPEL WOOD TILE OUTDOOR
F-4
150X600mm MAPEL WOOD TILE
KITCHEN
F-1
PB STAFF
F-3
ENTRANCE
PB OFFICE
F-4
TOILET
SESSION HALL
F-1
VERANDA
FLOOR TILE LAYOUT
SCALE
NTS.
PROJECT TITLE:
REHABILITATION AND IMPROVEMENT OF MULTI PURPOSE HALL (PHASE II)
PROJECT LOCATION: BRGY. LIBSONG WEST, LINGAYEN, PANGASINAN
PREPARED AT:
MUNICIPAL ENGINEERING OFFICE
PLANNING & DESIGN SECTION
CHECKED BY:
ROMEL V. MELENDEZ
CIVIL ENGINEER
RECOMMENDING APPROVAL:
JOHN SILVESTER A. TAPIA
CIVIL ENGINEER
APPROVED BY:
HON. LEOPOLDO N. BATAOIL
MUNICIPAL MAYOR
DRAWING I.D
APPROVED DESIGN PLAN
SHEET #
6
6


CONSTRUCTION NOTES
TABLE OF LAP SPLICE & ANCHORAGE LENGTH
TYP. DETAIL OF COL. LAP SPLICE & EXT. GIRDER TO COL. CONNECT.
TYPICAL CORNER SLAB DETAIL
TYPICAL DETAIL FOR BEAM OR SLAB CHANGE SOFFIT
TYP. DET. FOR SLEEVES THRU CONCRETE BEAM
TYPICAL COLUMN ELEV. SHOWING DOWELS AND TIES SPACING
TYPICAL SLAB & BEAM CONSTRUCTION JOINT DET.
TYPICAL CONNECTION DETAIL OF R.C. WALL AT CORNERS
TYP. SECTION OF MASONRY PARTITION REINFORCEMENTS
CORNER WALL
OPENING OR END WALL
INTERSECTION WALL
INTERSECTING R.C. COL. OR WALL
TYPICAL CONNECTION DETAIL OF MASONRY WALL
PROJECT TITLE:
REHABILITATION AND IMPROVEMENT OF MULTI PURPOSE HALL (PHASE II)
PROJECT LOCATION: BRGY. LIBSONG WEST, LINGAYEN, PANGASINAN
PREPARED AT:
MUNICIPAL ENGINEERING OFFICE
PLANNING & DESIGN SECTION
CHECKED BY:
ROMEL V. MELENDEZ
CIVIL ENGINEER
RECOMMENDING APPROVAL:
JOHN SILVESTER A. TAPIA
CIVIL ENGINEER
APPROVED BY:
HON. LEOPOLDO N. BATAOIL
MUNICIPAL MAYOR
DRAWING I.D
APPROVED DESIGN PLAN
SHEET #
1
4
STRUCTURAL PLAN



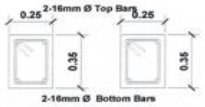
ROOF BEAM PLAN
SCALE 1 : 100

COLUMN SCHEDULE

COLUMN DESIGNATION	DIMENSION LENGTH x WIDTH	VERTICAL BARS	REMARKS
C1	0.30 x 0.30	4–16mm, 4–12mm	Ground to Roof beam
C2	0.30 x 0.30	4–16mm, 4–12mm	Ground to Roof beam
TIES SPACE 1 @ 50MM, 4 @ 100MM, REST AT 200MM			

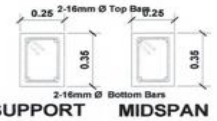
BEAM SCHEDULE

BEAM DESIGNATION	BEAM DIMENSION	@ SUPPORT		@ MIDSPAN	
		TOP BARS	BOTTOM BARS	TOP BARS	BOTTOM BARS
CB–1	250 x 350	2 – 16mm	2 – 16mm	2 – 16mm	2 – 16mm
RB	250 x 350	2 – 16mm	2 – 16mm	2 – 16mm	2 – 16mm



SUPPORT MIDSPAN

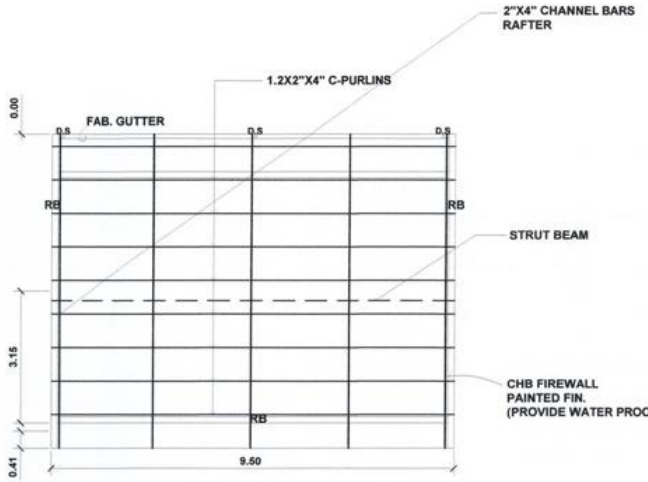
ROOF BEAM DETAILS
SCALE NTS



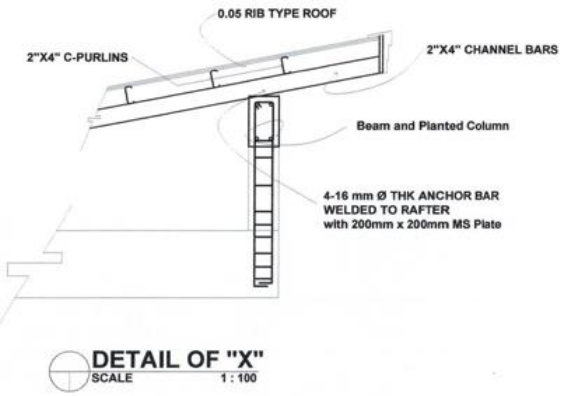
SUPPORT MIDSPAN

CANTILIVER BEAM DETAILS
SCALE NTS

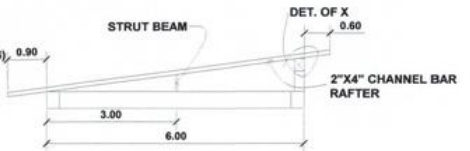
PROJECT TITLE:	PREPARED AT:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	DRAWING I.D	SHEET #
REHABILITATION AND IMPROVEMENT OF MULTI PURPOSE HALL (PHASE II)	MUNICIPAL ENGINEERING OFFICE	ROMEL I. MELENDEZ, CIVIL ENGINEER	JOHN SILVESTER A. TAPIA, CIVIL ENGINEER	HON. LEOPOLDO N. BATAOIL, MUNICIPAL MAYOR	APPROVED DESIGN PLAN	2 / 4 STRUCTURAL PLAN
PROJECT LOCATION: BRGY. LIBSONG WEST, LINGAYEN, PANGASINAN	PLANNING & DESIGN SECTION					



ROOF FRAMING PLAN
SCALE 1 : 100

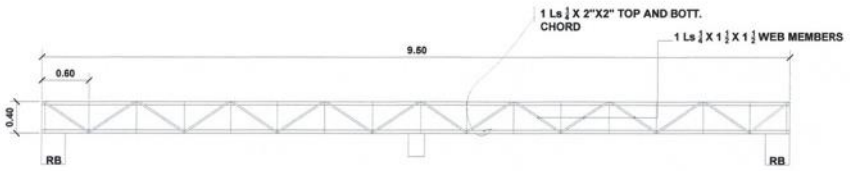


DETAIL OF "X"
SCALE 1 : 100



ROOF BEAM
SCALE 1 : 100

PROJECT TITLE:	PREPARED AT:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	DRAWING I.D	SHEET #
REHABILITATION AND IMPROVEMENT OF MULTI PURPOSE HALL (PHASE II)	MUNICIPAL ENGINEERING OFFICE	ROMEL I. MELENDEZ, CIVIL ENGINEER	JOHN SILVESTER A. TAPIA, CIVIL ENGINEER	HON. LEOPOLDO N. BATAOIL, MUNICIPAL MAYOR	APPROVED DESIGN PLAN	3 / 4 STRUCTURAL PLAN
PROJECT LOCATION: BRGY. LIBSONG WEST, LINGAYEN, PANGASINAN	PLANNING & DESIGN SECTION					



STRUT BEAM DETAILS

SCALE 1 : 50 M.

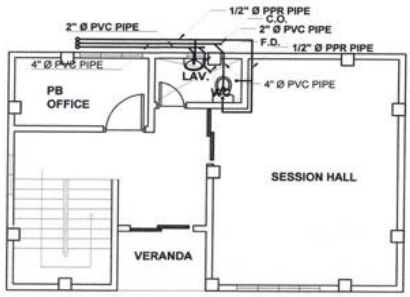
	PROJECT TITLE:	PREPARED AT:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	DRAWING I.D	SHEET #
	REHABILITATION AND IMPROVEMENT OF MULTI PURPOSE HALL (PHASE II)	MUNICIPAL ENGINEERING OFFICE	ROMEL I. MELENDEZ CIVIL ENGINEER	JOHN SILVESTER A. TAPIA CIVIL ENGINEER	HON. LEOPOLDO N. BATAOIL MUNICIPAL MAYOR	APPROVED DESIGN PLAN	4/4 STRUCTURAL PLAN
	PROJECT LOCATION: BRGY. LIBSONG WEST, LINGAYEN, PANGASINAN	PLANNING & DESIGN SECTION					

PLUMBING NOTES:

1. ALL PLUMBING WORKS INCLUDED HERE-IN SHALL BE DONE IN ACCORDANCE TO THE REQUIREMENTS OF THE PHILIPPINE PLUMBING CODE & RULES ANDREGULATIONS OF THE MUNICIPALITY.
2. COORDINATE THE DRAWINGS W/ OTHER RELOCATED FIELDS. THE ENGINEER/MASTER PLUMBER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCRIPANCY FOUND HERE-IN.
3. PIPES SHALL BE INSTALLED AS INDICATED. ANY RELOCATION REQUIRED FOR PROPER EXECUTION OF OTHER TRADES SHALL BE WITH THE PRIOR APPROVAL OF THE ENGINEER.
4. CONSULT THE ENGINEER/ MASTER PLUMBER FOR FURTHER VERIFICATION.

LEGEND :

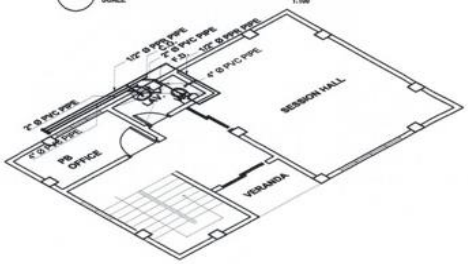
WC	WATER CLOSET	SHO	SHOWER
LAV	LAVATORY	CO	CLEAN OUT
KS	KITCHEN SINK	ST	SEPTIC TANK
FD	FLOOR DRAIN	DS	DOWNSPOUT
CB	CATCH BASIN	VTR	VENT TRU ROOF
		———	SEWER LINE



SECOND FLOOR PLAN

WATER & SANITARY LAYOUT

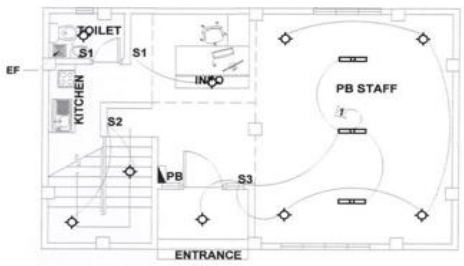
SCALE 1:100



ISOMETRIC VIEW

SCALE 1:100

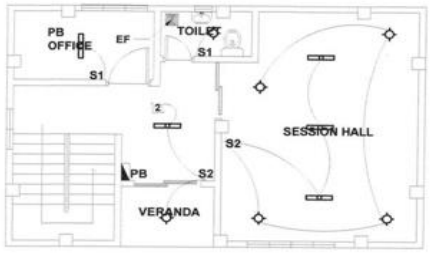
	PROJECT TITLE:	PREPARED AT:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	DRAWING I.D	SHEET #
	REHABILITATION AND IMPROVEMENT OF MULTI PURPOSE HALL (PHASE II)	MUNICIPAL ENGINEERING OFFICE	ROMEL I. MELENDEZ CIVIL ENGINEER	JOHN SILVESTER A. TAPIA CIVIL ENGINEER	HON. LEOPOLDO N. BATAOIL MUNICIPAL MAYOR	APPROVED DESIGN PLAN	1/1 PLUMBING PLAN
	PROJECT LOCATION: BRGY. LIBSONG WEST, LINGAYEN, PANGASINAN	PLANNING & DESIGN SECTION					



LIGHTING LAYOUT

GROUND FLOOR PLAN

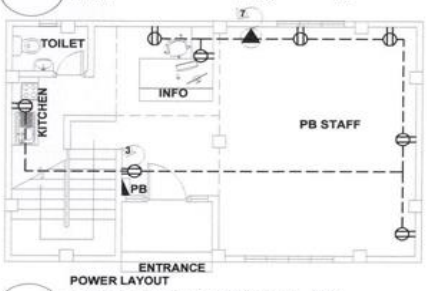
SCALE 1 : 100 M.



LIGHTING LAYOUT

SECOND FLOOR PLAN

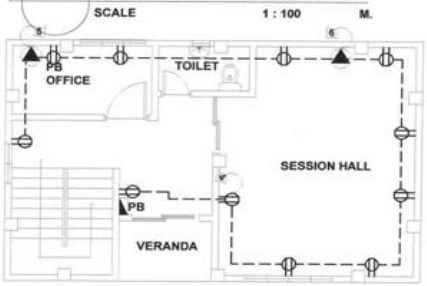
SCALE 1 : 100 M.



POWER LAYOUT

GROUND FLOOR PLAN

SCALE 1 : 100 M.

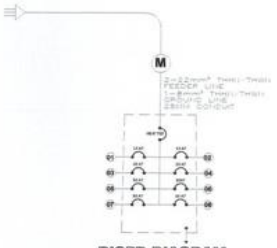


POWER LAYOUT

SECOND FLOOR PLAN

SCALE 1 : 100 M.

PROJECT TITLE:	PREPARED AT:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	DRAWING I.D	SHEET #
REHABILITATION AND IMPROVEMENT OF MULTI PURPOSE HALL (PHASE II) PROJECT LOCATION: BRGY. LIBSONG WEST, LINGAYEN, PANGASINAN	MUNICIPAL ENGINEERING OFFICE PLANNING & DESIGN SECTION	ROMEL I. MELENDEZ CIVIL ENGINEER	JOHN SILVESTER A. TAPIA CIVIL ENGINEER	HON. LEOPOLDO N. BATAOIL MUNICIPAL MAYOR	APPROVED DESIGN PLAN	1 / 2 ELECTRICAL PLAN



RISER DIAGRAM

SCHEDULE OF LOAD

MAIN PANEL (GND Floor.)

CKT. NO.	LOAD DESCRIPTION	NO. OF OUTLET	WATTS	VOLTS	AMP.	CB. RATING	POLE	SIZE & DIAMETER OF CONDUIT
01	LIGHTING OUTLET	12	1200	230	5.21	15	2	2-3.5MM² THHN in 20 mm - PVC
02	LIGHTING OUTLET	11	1100	230	4.78	15	2	2-3.5MM² THHN in 20 mm - PVC
03	C.O.	8	1440	230	6.26	20	2	2-3.5MM² THHN in 20 mm - PVC
04	C.O.	11	1980	230	8.60	20	2	2-3.5MM² THHN in 20 mm - PVC
05	ACU	1	1500	230	6.52	30	2	2-5.5MM² THHN in 20 mm - PVC
06	ACU	1	1500	230	6.52	30	2	2-5.5MM² THHN in 20 mm - PVC
07	ACU	1	1500	230	6.52	30	2	2-5.5MM² THHN in 20 mm - PVC
08	Spare	1	1500	230	6.52	30	2	2-5.5MM² THHN in 20 mm - PVC
	TOTAL:	46	11720	230	50.93			

IFL = 50.93 @ DF 85% WIRE SIZE: 2-22mm² THHN THWN + 1-8.0mm²

IFL = 43.29 Amps PROTECTION: 100AT,230VOLT,2 POLE,BOLT ON TYPE

PROJECT TITLE:	PREPARED AT:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	DRAWING I.D	SHEET #
REHABILITATION AND IMPROVEMENT OF MULTI PURPOSE HALL (PHASE II) PROJECT LOCATION: BRGY. LIBSONG WEST, LINGAYEN, PANGASINAN	MUNICIPAL ENGINEERING OFFICE PLANNING & DESIGN SECTION	ROMEL I. MELENDEZ CIVIL ENGINEER	JOHN SILVESTER A. TAPIA CIVIL ENGINEER	HON. LEOPOLDO N. BATAOIL MUNICIPAL MAYOR	APPROVED DESIGN PLAN	2 / 2 ELECTRICAL PLAN

Section VIII. Bill of Quantities

Republic of the Philippines
Province of Pangasinan
Municipality of Lingayen

Bill of Quantities

REHABILITATION AND IMPROVEMENT OF MULTI-PURPOSE HALL (PHASE II) AT BARANGAY LIBSONG WEST, LINGAYEN, PANGASINAN					
Item No.	Description	Qty.	Unit	Unit Price (Pesos)	Amount (Pesos)
	OTHER GENERAL REQUIREMENTS				
I.	Project Billboards	1.00	l.s.	In words:Pesos	In words:Pesos
II.	Construction Health and Safety	1.00	l.s.	In words:Pesos	In words:Pesos
	CIVIL WORKS				
III.	Concreting Works	21.67	Cu.m.	In words:Pesos	In words:Pesos
IV.	Forms & Falseworks	67.44	Sq.m.	In words:Pesos	In words:Pesos
V.	Reinforcing Steel Bar Works	1,663.76	Kgs	In words:Pesos	In words:Pesos
VI.	Masonry Works	125.41	Sq.m.	In words:Pesos	In words:Pesos
VII.	Roofing Works	1.00	l.s	In words:Pesos	In words:Pesos
VIII.	Electrical Works	1.00	l.s	In words:Pesos	In words:Pesos
IX.	Plumbing Works	1.00	l.s	In words:Pesos	In words:Pesos

X.	Carpentry Works	1.00	l.s	In words:Pesos	In words:Pesos
XI.	Tile Works	110.29	Sq.m.	In words:Pesos	In words:Pesos
XII.	Painting Works	1.00	l.s	In words:Pesos	In words:Pesos
XIII.	Doors and Windows	1.00	l.s	In words:Pesos	In words:Pesos
XIV.	Pre-Fabricated Materials	1.00	l.s	In words:Pesos	In words:Pesos
XV.	Railing Works	1.00	l.s	In words:Pesos	In words:Pesos
TOTAL AMOUNT IN WORDS:					

Submitted by:

_____ Date: _____

Contractor

Section IX. Checklist of Technical and Financial Documents

Checklist of Technical and Financial Documents

I. TECHNICAL COMPONENT ENVELOPE

Class "A" Documents

Legal Documents

☐ (a) Valid PhilGEPS Registration Certificate (Platinum Membership) (all pages);

Or

☐ (b) Registration certificate from Securities and Exchange Commission (SEC), Department of Trade and Industry (DTI) for sole proprietorship, or Cooperative Development Authority (CDA) for cooperatives or its equivalent document;

and

☐ (c) Mayor's or Business permit issued by the city or municipality where the principal place of business of the prospective bidder is located, or the equivalent document for Exclusive Economic Zones or Areas;

and

☐ (e) Tax clearance per E.O. No. 398, s. 2005, as finally reviewed and approved by the Bureau of Internal Revenue (BIR).

Technical Documents

☐ (f) Statement of the prospective bidder of all its ongoing government and private contracts, including contracts awarded but not yet started, if any, whether similar or not similar in nature and complexity to the contract to be bid; **and**

☐ (g) Statement of the bidder's Single Largest Completed Contract (SLCC) similar to the contract to be bid, except under conditions provided under the rules; **and**

☐ (h) Philippine Contractors Accreditation Board (PCAB) License;

or

Special PCAB License in case of Joint Ventures;

and registration for the type and cost of the contract to be bid; **and**

☐ (i) Original copy of Bid Security. If in the form of a Surety Bond, submit also a certification issued by the Insurance Commission;

or

Original copy of Notarized Bid Securing Declaration; **and**

(j) Project Requirements, which shall include the following:

☐ a. Organizational chart for the contract to be bid;

☐ b. List of contractor's key personnel (*e.g.*, Project Manager, Project Engineers, Materials Engineers, and Foremen), to be assigned to the

contract to be bid, with their complete qualification and experience data;

☐ c. List of contractor's major equipment units, which are owned, leased, and/or under purchase agreements, supported by proof of ownership or certification of availability of equipment from the equipment lessor/vendor for the duration of the project, as the case may be; **and**

☐ (k) Original duly signed Omnibus Sworn Statement (OSS);
and if applicable, Original Notarized Secretary's Certificate in case of a corporation, partnership, or cooperative; or Original Special Power of Attorney of all members of the joint venture giving full power and authority to its officer to sign the OSS and do acts to represent the Bidder.

Financial Documents

☐ (l) The prospective bidder's audited financial statements, showing, among others, the prospective bidder's total and current assets and liabilities, stamped "received" by the BIR or its duly accredited and authorized institutions, for the preceding calendar year which should not be earlier than two (2) years from the date of bid submission; **and**

☐ (m) The prospective bidder's computation of Net Financial Contracting Capacity (NFCC).

Class "B" Documents

☐ (n) If applicable, duly signed joint venture agreement (JVA) in accordance with RA No. 4566 and its IRR in case the joint venture is already in existence;
or
duly notarized statements from all the potential joint venture partners stating that they will enter into and abide by the provisions of the JVA in the instance that the bid is successful.

II. FINANCIAL COMPONENT ENVELOPE

☐ (o) Original of duly signed and accomplished Financial Bid Form; **and**

Other documentary requirements under RA No. 9184

☐ (p) Original of duly signed Bid Prices in the Bill of Quantities; **and**

☐ (q) Duly accomplished Detailed Estimates Form, including a summary shee indicating the unit prices of construction materials, labor rates, and equipmen rentals used in coming up with the Bid; **and**

☐ (r) Cash Flow by Quarter.

Section XI. Bid Forms

Bid Form for the Procurement of Infrastructure Projects

[shall be submitted with the Bid]

BIDFORM

Date :_____

To: Bids and Awards Committee
Local Government Unit of Lingayen
Municipal Hall Building,
Lingayen, Pangasinan, 2401

Having examined the Philippine Bidding Documents (PBDs) including the Supplemental or Bid Bulletin Numbers *[insert numbers],* the receipt of which is hereby duly acknowledged, we, the undersigned, declare that:

a. We have no reservation to the PBDs, including the Supplemental or Bid Bulletins, for the Procurement Project: *[insert name of contract];*

b. We offer to execute the Works for this Contract in accordance with the PBDs;

c. The total price of our Bid in words and figures, excluding any discounts offered below is: *[insert information]*;

d. The discounts offered and the methodology for their application are: *[insert information]*;

e. The total bid price includes the cost of all taxes, such as, but not limited to: *[specify the applicable taxes, e.g. (i) value added tax (VAT), (ii) income tax, (iii) local taxes, and (iv) other fiscal levies and duties]*, which are itemized herein and reflected in the detailed estimates,

f. Our Bid shall be valid within the a period stated in the PBDs, and it shall remain binding upon us at any time before the expiration of that period;

g. If our Bid is accepted, we commit to obtain a Performance Security in the amount of *[insert percentage amount]* percent of the Contract Price for the due performance of the Contract, or a Performance Securing Declaration in lieu of the the allowable forms of Performance Security, subject to the terms and conditions of issued GPPB guidelines[12] for this purpose;

h. We are not participating, as Bidders, in more than one Bid in this bidding process, other than alternative offers in accordance with the Bidding Documents;

i. 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; and

j. We understand that you are not bound to accept the Lowest Calculated Bid or any other Bid that you may receive.

k. We likewise certify/confirm that the undersigned, is the duly authorized representative of the bidder, and granted full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for the [Name of Project] of the [Name of the Procuring Entity*].*

l. We acknowledge that failure to sign each and every page of this Bid Form, including the Bill of Quantities, shall be a ground for the rejection of our bid.

Name:

_____

_____

Legal Capacity:

_____

_____

Signature:

_____

_____

Duly authorized to sign the Bid for and behalf of: _____

Date: _____

Omnibus Sworn Statement (Revised)

[shall be submitted with the Bid]

REPUBLIC OF THE PHILIPPINES)
CITY/MUNICIPALITY OF_____)
S.S.

AFFIDAVIT

I, [Name of Affiant], of legal age, [Civil Status], [Nationality], and residing at [Address of Affiant], after having been duly sworn in accordance with law, do hereby depose and state that:

1. *[Select one, delete the other:]*

   [If a sole proprietorship:] I am the sole proprietor or authorized representative of [Name of Bidder] with office address at [address of Bidder];

   [If a partnership, corporation, cooperative, or joint venture:] I am the duly authorized and designated representative of [Name of Bidder] with office address at [address of Bidder];

2. *[Select one, delete the other:]*

   [If a sole proprietorship:] As the owner and sole proprietor, or authorized representative of [Name of Bidder], I have full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for [Name of the Project] of the [Name of the Procuring Entity], as shown in the attached duly notarized Special Power of Attorney;

   [If a partnership, corporation, cooperative, or joint venture:] I am granted full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for [Name of the Project] of the [Name of the Procuring Entity], as shown in the attached [state title of attached document showing proof of authorization (e.g., duly notarized Secretary's Certificate, Board/Partnership Resolution, or Special Power of Attorney, whichever is applicable;)];

3. [Name of Bidder] is not "blacklisted" or barred from bidding by the Government of the Philippines or any of its agencies, offices, corporations, or Local Government Units, foreign government/foreign or international financing institution whose blacklisting rules have been recognized by the Government Procurement Policy Board, **by itself or by relation, membership, association, affiliation, or controlling interest with another blacklisted person or entity as defined and provided for in the Uniform Guidelines on Blacklisting;**

4. Each of the documents submitted in satisfaction of the bidding requirements is an authentic copy of the original, complete, and all statements and information provided therein are true and correct;

Undersigned undertakes that it is compliant with all laws, rules, regulations, and orders of the national government or any of its departments, instrumentalities, agencies, and governing bodies. As such, the undersigned holds the Head of the Procuring Entity and the members of the Bids and Awards Committee and its secretariat free from any liability which might arise from the contractor's non-compliance with the laws, rules, regulations, and orders.

5. [Name of Bidder] is authorizing the Head of the Procuring Entity or its duly authorized representative(s) to verify all the documents submitted;

6. *[Select one, delete the rest:]*

[If a sole proprietorship:] The owner or sole proprietor is not related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

[If a partnership or cooperative:] None of the officers and members of *[Name of Bidder]* is related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

[If a corporation or joint venture:] None of the officers, directors, and controlling stockholders of *[Name of Bidder]* is related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project

Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

7. *[Name of Bidder]* complies with existing labor laws and standards; and
8. *[Name of Bidder]* is aware of and has undertaken the responsibilities as a Bidder in compliance with the Philippine Bidding Documents, which includes:
   a. Carefully examining all of the Bidding Documents;
   b. Acknowledging all conditions, local or otherwise, affecting the implementation of the Contract;
   c. Making an estimate of the facilities available and needed for the contract to be bid, if any; and
   d. Inquiring or securing Supplemental/Bid Bulletin(s) issued for the *[Name of the Project]*.

9. *[Name of Bidder]* did not give or pay directly or indirectly, any commission, amount, fee, or any form of consideration, pecuniary or otherwise, to any person or official, personnel or representative of the government in relation to any procurement project or activity.
10. **In case advance payment was made or given, failure to perform or deliver any of the obligations and undertakings in the contract shall be sufficient grounds to constitute criminal liability for Swindling (Estafa) or the commission of fraud with unfaithfulness or abuse of confidence through misappropriating or converting any payment received by a person or entity under an obligation involving the duty to deliver certain goods or services, to the prejudice of the public and the government of the Philippines pursuant to Article 315 of Act No. 3815 s. 1930, as amended, or the Revised Penal Code.**

IN WITNESS WHEREOF, I have hereunto set my hand this_____day of, 20_____at

_____, Philippines.

[Insert NAME OF BIDDER OR ITS AUTHORIZED REPRESENTATIVE]

[Insert signatory's legal capacity]

Affiant

[Jurat]

[Format shall be based on the latest Rules on Notarial Practice]

Bid Securing Declaration Form

[shall be submitted with the Bid if bidder opts to provide this form of bid security]

REPUBLIC OF THE PHILIPPINES)
CITY OF_____) S.S.

BID SECURING DECLARATION

Project Title: _____

To: *Bids and Awards Committee*
Local Government Unit of Lingayen
Municipal Hall Building
Lingayen, Pangasinan, 2401

I/We, the undersigned, declare that:

1. I/We understand that, according to your conditions, bids must be supported by a Bid Security, which may be in the form of a Bid Securing Declaration.
2. I/We accept that: (a) I/we will be automatically disqualified from bidding for any procurement contract with any procuring entity for a period of two (2) years upon receipt of your Blacklisting Order; and, (b) I/we will pay the applicable fine provided under Section 6 of the Guidelines on the Use of Bid Securing Declaration, within fifteen (15) days from receipt of the written demand by the procuring entity for the commission of acts resulting to the enforcement of the bid securing declaration under Sections 23.1(b), 34.2, 40.1 and 69.1, except 69.1(f),of the IRR of RA No. 9184; without prejudice to other legal action the government may undertake.
3. I/We understand that this Bid Securing Declaration shall cease to be valid on the following circumstances:
    a. Upon expiration of the bid validity period, or any extension thereof pursuant to your request;
    b. I am/we are declared ineligible or post-disqualified upon receipt of your notice to such effect, and (i) I/we failed to timely file a request for reconsideration or (ii) I/we filed a waiver to avail of said right; and
    c. I am/we are declared the bidder with the Lowest Calculated Responsive Bid, and I/we have furnished the performance security and signed the Contract.

IN WITNESS WHEREOF, I/We have hereunto set my/our hand/s this_day of *[month] [year]* at *[place of execution]*.

[Insert NAME OF BIDDER OR ITS AUTHORIZED REPRESENTATIVE]

[Insert signatory's legal capacity]

Affiant

[Jurat]

[Format shall be based on the latest Rules on Notarial Practice]

STATEMENT OF ALL ONGOING PROJECTS

Name of Contract/Location Project Cost	a. Owner Name b. Address c. Telephone Nos.	Nature of works	Contractor's Role		a. Date Awarded b. Date of contract c. Date of Proceed d. Contract Duration	% of Accomplistment		Value of Outstanding Works
			Description	%		Planned	%	
					TOTAL----------			

(Printed Name & signature of Bidder's Authorized Representative)

Designation: Manager