



**Bureau of Soils and Water Management
PHILIPPINE BIDDING DOCUMENTS**

**Construction of NSWRRDC-UpPEZ
Administrative Building at Marilog,
Davao City**

IB NO: BSWM-2022-10-0026

Date issued

October 2022

PHILIPPINE BIDDING DOCUMENTS
(As Harmonized with Development Partners)

**Procurement of
INFRASTRUCTURE
PROJECTS**

Government of the Republic of the Philippines

**Sixth Edition
July 2020**

Preface

These Philippine Bidding Documents (PBDs) for the procurement of Infrastructure Projects (hereinafter referred to also as the “Works”) through Competitive Bidding have been prepared by the Government of the Philippines for use by all branches, agencies, departments, bureaus, offices, or instrumentalities of the government, including government-owned and/or -controlled corporations, government financial institutions, state universities and colleges, local government units, and autonomous regional government. The procedures and practices presented in this document have been developed through broad experience, and are for mandatory use in projects that are financed in whole or in part by the Government of the Philippines or any foreign government/foreign or international financing institution in accordance with the provisions of the 2016 revised Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 9184.

The PBDs are intended as a model for admeasurements (unit prices or unit rates in a bill of quantities) types of contract, which are the most common in Works contracting.

The Bidding Documents shall clearly and adequately define, among others: (i) the objectives, scope, and expected outputs and/or results of the proposed contract; (ii) the eligibility requirements of Bidders; (iii) the expected contract duration; and (iv) the obligations, duties, and/or functions of the winning Bidder.

Care should be taken to check the relevance of the provisions of the PBDs against the requirements of the specific Works to be procured. If duplication of a subject is inevitable in other sections of the document prepared by the Procuring Entity, care must be exercised to avoid contradictions between clauses dealing with the same matter.

Moreover, each section is prepared with notes intended only as information for the Procuring Entity or the person drafting the Bidding Documents. They shall not be included in the final documents. The following general directions should be observed when using the documents:

- a. All the documents listed in the Table of Contents are normally required for the procurement of Infrastructure Projects. However, they should be adapted as necessary to the circumstances of the particular Project.
- b. Specific details, such as the “*name of the Procuring Entity*” and “*address for bid submission*,” should be furnished in the Instructions to Bidders, Bid Data Sheet, and Special Conditions of Contract. The final documents should contain neither blank spaces nor options.
- c. This Preface and the footnotes or notes in italics included in the Invitation to Bid, BDS, General Conditions of Contract, Special Conditions of Contract, Specifications, Drawings, and Bill of Quantities are not part of the text of the final document, although they contain instructions that the Procuring Entity should strictly follow.
- d. The cover should be modified as required to identify the Bidding Documents as to the names of the Project, Contract, and Procuring Entity, in addition to date of issue.

- e. Modifications for specific Procurement Project details should be provided in the Special Conditions of Contract as amendments to the Conditions of Contract. For easy completion, whenever reference has to be made to specific clauses in the Bid Data Sheet or Special Conditions of Contract, these terms shall be printed in bold typeface on Sections I (Instructions to Bidders) and III (General Conditions of Contract), respectively.
- f. For guidelines on the use of Bidding Forms and the procurement of Foreign-Assisted Projects, these will be covered by a separate issuance of the Government Procurement Policy Board.

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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.

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Section I. Invitation to Bid

Notes on the Invitation to Bid

The Invitation to Bid (IB) provides information that enables potential Bidders to decide whether to participate in the procurement at hand. The IB shall be posted in accordance with Section 21.2 of the 2016 revised IRR of RA No. 9184.

Apart from the essential items listed in the Bidding Documents, the IB should also indicate the following:

- a. The date of availability of the Bidding Documents, which shall be from the time the IB is first advertised/posted until the deadline for the submission and receipt of bids;
- b. The place where the Bidding Documents may be acquired or the website where it may be downloaded;
- c. The deadline for the submission and receipt of bids; and
- d. Any important bid evaluation criteria.

The IB should be incorporated into the Bidding Documents. The information contained in the IB must conform to the Bidding Documents and in particular to the relevant information in the Bid Data Sheet.



Republic of the Philippines
Department of Agriculture
BUREAU OF SOILS AND WATER MANAGEMENT
SRDC Bldg., Elliptical Road corner Visayas Avenue,
Diliman, Quezon City

Invitation to Bid for Construction of NSWRRDC-UpPEZ Administrative Building at Marilog, Davao City IB NO: BSWM-2022-10-0026

1. The *Bureau of Soils and Water Management*, through the *General Appropriation Act for CY 2022* intends to apply the sum of *Six Million Six Hundred Fifty Thousand Pesos (Php 6,650,000.00)* being the Approved Budget for the Contract (ABC) to payments under the contract for the *Construction of NSWRRDC-UpPEZ Administrative Building at Marilog, Davao City - IB NO: BSWM-2022-10-0026*. Bids received in excess of the ABC shall be automatically rejected at bid opening.
2. The *Bureau of Soils and Water Management* now invites bids for the above Procurement Project. Completion of the Works is required **within 180 calendar days upon receipt of NTP**. 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).
3. 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.
4. Interested bidders may obtain further information from [*insert name of the Procuring Entity*] and inspect the Bidding Documents at the address given below from [*insert office hours*].
5. A complete set of Bidding Documents may be acquired by interested bidders on **October 8- November 3, 2022** from given address and website/s below and upon payment of the applicable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB, in the amount of **Php. 7,000.00**. The Procuring Entity shall allow the bidder to present its proof of payment for the fees to BAC Secretariat on or before the deadline of Submission and Opening of Bids.
6. The *Bureau of Soils and Water Management* will hold a Pre-Bid Conference¹ on **November 3, 2022, 9:30AM** at *BSWM Convention Hall*. Pre-Bid Conference will be available “live” thru BSWM Procurement Service FB Page (**<https://www.facebook.com/bswmpms>**), which shall be open to prospective bidders. Furthermore, all interested bidders can participate through **videoconferencing**. Please

coordinate with BAC Secretariat at least a day before the meeting at **bac@bswm.da.gov.ph**.

7. Bids must be duly received by the BAC Secretariat through manual submission at the office address indicated below on or before **November 17, 2022, 9:00AM**. Late bids shall not be accepted.
8. All bids must be accompanied by a bid security in any of the acceptable forms and in the amount stated in **ITB** Clause 16.
9. Bid opening shall be on **November 17, 2022, 9:30AM** at the given address below and through videoconferencing/webcasting via ZOOM and streamed live through BSWM Procurement Service Facebook Page. Bids will be opened in the presence of the bidders' representatives who choose to attend the activity.

During the opening of bids, Bidder's representative must present his/her Company Identification Card and Authorization Letter from the Head of the Company.

10. Schedules of the above-mentioned bidding is subject to change due to the Community Quarantine enforced by the government in line with the COVID-19 pandemic. Please refer to the BSWM PhilGEPS posting for updates (<https://www.philgeps.gov.ph/>) and BSWM Procurement Service FB Page (**<https://www.facebook.com/bswmpms>**).
11. The *Bureau of Soils and Water Management* 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.
12. For further information, please refer to:
DENISE A. SOLANO
BIDS AND AWARDS COMMITTEE SECRETARIAT'S OFFICE
2ND FLOOR, SRDC BLDG.,
VISAYAS AVE. COR. ELLIPTICAL ROAD, DILIMAN, QUEZON CITY
TELEFAX NUMBER: +63-2-8273-2474 Loc 3218
EMAIL ADDRESS: bac@bswm.da.gov.ph WEBSITE: www.bswm.gov.ph
FB Page: <https://www.facebook.com/bswmpms>
13. You may visit the following websites: For downloading of Bidding Documents:
PhilGEPS- <https://notices.philgeps.gov.ph/>, BSWM Website- www.bswm.gov.ph or
BSWM Procurement Service Facebook Page- <https://www.facebook.com/bswmpms>

ENGR. EDUARDO V. ALBERTO

BAC Chairperson

Section II. Instructions to Bidders

Notes on the Instructions to Bidders

This Section on the Instruction to Bidders (ITB) provides the information necessary for bidders to prepare responsive bids, in accordance with the requirements of the Procuring Entity. It also provides information on bid submission, eligibility check, opening and evaluation of bids, post-qualification, and on the award of contract.

1. Scope of Bid

The Procuring Entity, *Bureau of Soils and Water Management* invites Bids for the **Construction of NSWRRDC-UpPEZ Administrative Building at Marilog, Davao City - IB NO: BSWM-2022-08-0026.**

The Procurement Project (referred to herein as “Project”) is for the construction of Works, as described in Section VI (Specifications).

2. Funding Information

2.1. The GOP through the source of funding as indicated for *Six Million Six hundred Fifty Thousand Pesos (Php 6,650,000.00).*

2.2. The source of funding is:

NGA, the General Appropriations Act or Special Appropriations.
GAA 2022.

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. For Foreign-funded Procurement, the Procuring Entity and the foreign government/foreign or international financing institution may agree on another track record requirement, as specified in the Bidding Document prepared for this purpose.
- 5.4. The Bidders shall comply with the eligibility criteria under Section 23.4.2 of the 2016 IRR of RA No. 9184.

6. 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.

7. Subcontracts

- 7.1. The Bidder may subcontract portions of the Project to the extent allowed by the Procuring Entity as stated herein, but in no case more than fifty percent (50%) of the Project.

The Procuring Entity has prescribed that:

- a. ~~Subcontracting is allowed. The portions of Project and the maximum percentage allowed to be subcontracted are indicated in the **BDS**, which shall not exceed fifty percent (50%) of the contracted Works.~~
 - b. Subcontracting is not allowed.
- 7.1. *[If Procuring Entity has determined that subcontracting is allowed during the bidding, state:]* ~~The Bidder must submit together with its Bid the documentary requirements of the subcontractor(s) complying with the eligibility criteria stated in **ITB** Clause 5 in accordance with Section 23.4 of the 2016 revised IRR of RA No. 9184 pursuant to Section 23.1 thereof.~~
 - 7.2. *[If subcontracting is allowed during the contract implementation stage, state:]* ~~The Supplier may identify its subcontractor during the contract implementation stage. Subcontractors identified during the bidding may be changed during the implementation of this Contract. Subcontractors must submit the documentary~~

~~requirements under Section 23.1 of the 2016 revised IRR of RA No. 9184 and comply with the eligibility criteria specified in ITB Clause 5 to the implementing or end-user unit.~~

~~7.3. Subcontracting of any portion of the Project does not relieve the Contractor of any liability or obligation under the Contract. The Supplier will be responsible for the acts, defaults, and negligence of any subcontractor, its agents, servants, or workmen as fully as if these were the Contractor's own acts, defaults, or negligence, or those of its agents, servants, or workmen.~~

8. Pre-Bid Conference

The Procuring Entity will hold a pre-bid conference for this Project on the specified date and time and either at its physical address and through videoconferencing/webcasting} as indicated in paragraph 6 of the **IB**.

9. 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.

10. Documents Comprising the Bid: Eligibility and Technical Components

- 10.1. The first envelope shall contain the eligibility and technical documents of the Bid as specified in **Section IX. Checklist of Technical and Financial Documents**.
- 10.2. 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.
- 10.3. A 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**.
- 10.4. 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**.

- 10.5. A 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**.

11. Documents Comprising the Bid: Financial Component

- 11.1. The second bid envelope shall contain the financial documents for the Bid as specified in **Section IX. Checklist of Technical and Financial Documents**.
- 11.2. Any bid exceeding the ABC indicated in paragraph 1 of the **IB** shall not be accepted.
- 11.3. For Foreign-funded procurement, a ceiling may be applied to bid prices provided the conditions are met under Section 31.2 of the 2016 revised IRR of RA No. 9184.

12. 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.

13. 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.

14. Bid and Payment Currencies

- 14.1. Bid 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.

- 14.2. *Payment of the contract price shall be made in:*

- a. Philippine Pesos.

15. Bid Security

- 15.1. The Bidder shall submit a Bid Securing Declaration or any form of Bid Security in the amount indicated in the **BDS**, which shall be not less than the percentage of the ABC in accordance with the schedule in the **BDS**.
- 15.2. The Bid and bid security shall be valid until *120 Calendar Days from Opening of Bids*. Any bid not accompanied by an acceptable bid security shall be rejected by the Procuring Entity as non-responsive.

16. Sealing and Marking of Bids

Each Bidder shall submit one copy of the first and second components of its Bid.

The Procuring Entity may request additional hard copies and/or electronic copies of the Bid. However, failure of the Bidders to comply with the said request shall not be a ground for disqualification.

If the Procuring Entity allows the submission of bids through online submission to the given website or any other electronic means, the Bidder shall submit an electronic copy of its Bid, which must be digitally signed. An electronic copy that cannot be opened or is corrupted shall be considered non-responsive and, thus, automatically disqualified.

17. Deadline for Submission of Bids

The Bidders shall submit on the specified date and time and either at its physical address or through online submission as indicated in paragraph 7 of the **IB**.

18. Opening and Preliminary Examination of Bids

- 18.1. The BAC shall open the Bids in public at the time, on the date, and at the place specified in paragraph 9 of the **IB**. The Bidders' representatives who are present shall sign a register evidencing their attendance. In case videoconferencing, webcasting or other similar technologies will be used, attendance of participants shall likewise be recorded by the BAC Secretariat.

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.

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

19. Detailed Evaluation and Comparison of Bids

- 19.1. 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.

- 19.2. 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.
- 19.3. 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.

20. 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**.

21. 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

Notes on the Bid Data Sheet (BDS)

The Bid Data Sheet (BDS) consists of provisions that supplement, amend, or specify in detail, information, or requirements included in the ITB found in Section II, which are specific to each procurement.

This Section is intended to assist the Procuring Entity in providing the specific information in relation to corresponding clauses in the ITB and has to be prepared for each specific procurement.

The Procuring Entity should specify in the BDS information and requirements specific to the circumstances of the Procuring Entity, the processing of the procurement, and the bid evaluation criteria that will apply to the Bids. In preparing the BDS, the following aspects should be checked:

- a. Information that specifies and complements provisions of the ITB must be incorporated.
- b. Amendments and/or supplements, if any, to provisions of the ITB as necessitated by the circumstances of the specific procurement, must also be incorporated.

Bid Data Sheet

ITB Clause			
5.2	For this purpose, contracts similar to the Project refer to contracts which have the same major categories of work, which shall be Construction of Building or its equivalent completed within the last five (5) years, at least one (1) rehabilitation project.		
7.1	Subcontracting is not allowed.		
10.1	Additional requirement under Section VII. Technical Specification ✓ Certificate of Site Inspection		
10.3	Valid PCAB License: <i>Classification: General Building</i> <i>Size Range: at least Small B</i> <i>License Category: Class “C”</i>		
10.4	The key personnel must meet the required minimum years of experience set below:		
	<u>Key Personnel</u>		
	<u>General Experience</u>		
	<u>Relevant Experience</u>		
	PERSONNEL	GENERAL EXPERIENCE	RELEVANT EXPERIENCE
	One (1) Project Manager	Licensed Architect or Engineer with at least 5 years cumulative experience as Project Manager	Similar or comparable projects, with proven record of managerial capability and experience through directing/ managing major civil engineering works, including projects of a similar magnitude.
	One (1) Electrical Engineer	Licensed Professional Electrical Engineer with at least 5 years cumulative experience in the field of electrical engineering.	supervision of installation of lighting, power distribution, with knowledge in developments in efficient lighting technologies and energy management.
Construction Engineers	Licensed Civil Engineer with at least 5 years	Similar or comparable projects	
	cumulative experience in construction supervision of buildings		
Safety Officer	Must be an accredited safety practitioner by DOLE with at least three (3) years cumulative experience as safety officer in construction projects.	Have undergone the prescribed 40-hour Construction Safety and Health Training (COSH)	

	Other Skilled Personnel (Foreman, Labor, etc.)	with at least 3 years cumulative experience in building construction	Similar or comparable projects
10.5	<p>The minimum major equipment requirements are the following:</p> <p>The list of equipment which is owned, leased, and/or purchased agreement to be utilized for the project shall be, and to be supported with proof of ownership, purchase agreement and certification of availability from the equipment lessor/vendor for the duration of the project.</p>		
12	<i>[Insert Value Engineering clause if allowed.]</i>		
15.1	<p>The bid security shall be in the form of a Bid Securing Declaration <u>or</u> any of the following forms and amounts:</p> <p>a. The amount of not less than <u>Php 40,000.00</u> (2%) of ABC, if bid security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit;</p> <p>b. The amount of not less than <u>Php 100,000.00</u> (5%) of ABC if bid security is in Surety Bond.</p>		
19.2	Partial bids are not allowed.		
20	other appropriate licenses and permits required by law		
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

Notes on the General Conditions of Contract

The General Conditions of Contract (GCC) in this Section, read in conjunction with the Special Conditions of Contract in Section V and other documents listed therein, should be a complete document expressing all the rights and obligations of the parties.

Matters governing performance of the Contractor, payments under the contract, or matters affecting the risks, rights, and obligations of the parties under the contract are included in the GCC and Special Conditions of Contract.

Any complementary information, which may be needed, shall be introduced only through the Special 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

4.1. 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.

4.2. 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**.

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

Notes on the Special Conditions of Contract

Similar to the BDS, the clauses in this Section are intended to assist the Procuring Entity in providing contract-specific information in relation to corresponding clauses in the GCC found in Section IV.

The Special Conditions of Contract (SCC) complement the GCC, specifying contractual requirements linked to the special circumstances of the Procuring Entity, the Procuring Entity's country, the sector, and the Works procured. In preparing this Section, the following aspects should be checked:

- a. Information that complements provisions of the GCC must be incorporated.
- b. Amendments and/or supplements to provisions of the GCC as necessitated by the circumstances of the specific purchase, must also be incorporated.

However, no special condition which defeats or negates the general intent and purpose of the provisions of the GCC should be incorporated herein.

Special Conditions of Contract

GCC Clause	
2	<i>[If different dates are specified for completion of the Works by section, i.e. “sectional completion,” these dates should be listed here.]</i>
4.1	<i>[Specify the schedule of delivery of the possession of the site to the Contractor, whether full or in part.]</i>
6	The site investigation reports are: <i>[list here the required site investigation reports.]</i>
7.2	<p><i>[Select one, delete the other.]</i></p> <p><i>[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:]</i> Fifteen (15) years.</p> <p><i>[In case of semi-permanent structures, such as buildings of types 1, 2, and 3 as classified under the National Building Code of the Philippines, concrete/asphalt roads, concrete river control, drainage, irrigation lined canals, river landing, deep wells, rock causeway, pedestrian overpass, and other similar semi-permanent structures:]</i> Five (5) years.</p> <p><i>[In case of other structures, such as bailey and wooden bridges, shallow wells, spring developments, and other similar structures:]</i> Two (2) years.</p>
10	<p><i>[Select one, delete the other:]</i></p> <p>a. Dayworks are applicable at the rate shown in the Contractor’s original Bid.</p> <p>b. No dayworks are applicable to the contract.</p>
11.1	The Contractor shall submit the Program of Work and detailed Drawings for Approval of the Procuring Entity’s Representative within Ten (10) 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 <i>1% of contract amount</i> .
13	The amount of the advance payment is (15% of the total Contract price)
14	<i>[If allowed by the Procuring Entity, state:]</i> Materials and equipment delivered on the site but not completely put in place shall be included for payment.
15.1	<p>The date by which operating and maintenance manuals are required is <i>[date]</i>.</p> <p>The date by which “as built” drawings are required is <i>[date]</i>.</p>

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 <i>[amount in local currency]</i> .
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Section VI. Specifications

Notes on Specifications

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

Samples of specifications from previous similar projects are useful in this respect. The use of metric units is mandatory. Most specifications are normally written specially by the Procuring Entity or its representative to suit the Works at hand. There is no standard set of Specifications for universal application in all sectors in all regions, but there are established principles and practices, which are reflected in these PBDs.

There are considerable advantages in standardizing General Specifications for repetitive Works in recognized public sectors, such as highways, ports, railways, urban housing, irrigation, and water supply, in the same country or region where similar conditions prevail. The General Specifications should cover all classes of workmanship, materials, and equipment commonly involved in construction, although not necessarily to be used in a particular Works Contract. Deletions or addenda should then adapt the General Specifications to the particular Works.

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

Sample Clause: Equivalency of Standards and Codes

Wherever reference is made in the Contract to specific standards and codes to be met by the goods and materials to be furnished, and work performed or tested, the provisions of the latest current edition or revision of the relevant standards and codes in effect shall apply, unless otherwise expressly stated in the Contract. Where such standards and codes are national, or relate to a particular country or region, other authoritative standards that ensure a substantially equal or higher quality than the standards and codes specified will be accepted

subject to the Procuring Entity's Representative's prior review and written consent. Differences between the standards specified and the proposed alternative standards shall be fully described in writing by the Contractor and submitted to the Procuring Entity's Representative at least twenty-eight (28) days prior to the date when the Contractor desires the Procuring Entity's Representative's consent. In the event the Procuring Entity's Representative determines that such proposed deviations do not ensure substantially equal or higher quality, the Contractor shall comply with the standards specified in the documents.

These notes are intended only as information for the Procuring Entity or the person drafting the Bidding Documents. They should not be included in the final Bidding Documents.

TERMS OF REFERENCE

CONSTRUCTION OF R4D RESEARCH FACILITY OF BSWM NSWRRDC- UpPEZ

OCTOBER 2022

TERMS OF REFERENCE

**CONSTRUCTION OF R4D RESEARCH FACILITY BSWM NSWRRDC
UpPEZ Marahan, Marilog District, Davao City**

1. PROJECT INFORMATION

7.2. 1.1. Project Description

The contract will cover the construction of two storey new R4D Research facility of Bureau of Soils and Water Management, National Soil and Water Resources Research and Development Center for Highland Pedo-Ecological Zone in Marahan, Marilog District, Davao City, including the construction of various rooms and facilities for the implementation of various research and technology demonstration in the Upland Pedo-Ecological Zone.

The project shall have an Approved Budget for the Contract (ABC) of Php 6,650,000.00 inclusive of Overhead Miscellaneous, Contingency Expenses, Contractor's Profit, and Taxes.

The project shall have the following basic components:

- a. The bid shall be based on the complete detailed architectural and engineering design plans, technical specifications, and cost estimates for the implementation of the Project prepared by a third-party engineering design firm.
- b. The contractor shall perform the construction of two-storey new R4D Research Facility bidding with room ,electrical, plumbing and sanitary works, painting, mechanical and architectural finishes from ground floor up to second floor as identified in the engineering design plan shall be provided.

7.3. 1.2. Terminologies

“BSWM” or “Procuring Entity” refers to the Bureau of Soils and Water Management

“NSWRRDC-UpPEZ” refers to the National soil and Water Resources Research and Development Center for Upland Pedo-Ecological Zone

“PROJECT” shall refer to the construction of new R4D Research Facility of BSWM-NSWRRDDC UpPEZ which is located at Marahan, Marilog District, Davao City.

“BIDDER” or “BIDDERS” shall refer to pre-qualified respondent or respondents to this request for bidding, a reputable and experienced construction company.

“CONTRACTOR” shall refer to the winning bidder.

7.4. 1.3. Objective of the Procurement

The objective of this procurement is to engage the services of an experienced contractor (the “Contractor”) with Philippine Contractors Accreditation Board (PCAB) License Category “B”, Size Range of at least “Medium A”, General Building Classification, with at least five (5) years experience in the field of building construction who will execute the construction of new building for R4D research facility.

Eligible bidders should be a construction oriented affiliated group of professionals, who can successfully prepare “The Project”. They should have experience and capability in the type of services, and the field under consideration, specifically on the construction aspect.

The procurement shall be undertaken pursuant to RA 9184 and its Updated Implementing Rules and Regulations (IRR).

2. SCOPE OF CONTRACT

7.5. 2.1. General Requirements

2.1.1. Processing and Securing of Permits and Insurance

2.1.1.1. The contractor shall be responsible for securing all necessary permits related to the project, which shall include but not limited to building permits, occupancy permit, etc. Contractors All Risk Insurance & Third Party Liability and Workman’s Compensation Insurance (CARI), and other insurances required by the Local Government Unit (LGU) and the Procuring Entity, among others, including payment of assessed fees as may be required by the LGU, ECC and/or Regulating Agencies before the implementation of the project.

7.6. 2.2. General Conditions

2.2.1. The execution of this Specification, Plans and other related Contract Documents shall be subjected to the rules and regulations as provided in the General Conditions of the Contract. The Plans and specifications shall be interpreted by the Procuring Entity and or his/her representative. The Contractor is enjoined to confer with the Procuring Entity on items for clarification before submitting his/her bid. No excuses shall be entertained for misinterpretation of the Plans and specifications after the award of contract. All work as deemed required by the Procuring Entity shall be carried out properly by the Contractor.

2.2.1.1. The Contractor shall consult the Procuring Entity on portion of the work not mentioned in the Specification and not illustrated on the Plans. He shall not work without proper instruction or detailed plans approved by the Procuring Entity, otherwise he shall be responsible for the unacceptance of the work done without details. In such case, the Contractor shall make the work good at his own expense.

2.2.1.2. No alteration or addition shall be allowed without the consent and proper documentation approved by the Procuring Entity, even such change is ordered by the Procuring Entity. The Contractor shall bring the case to the Procuring Entity. Request for approval of such changes, alteration, deviation of work shall not be done without the consent of the Procuring Entity. Changes may be presented to the Procuring Entity in the form of shop drawings.

2.2.2. Two (2) sets of clean plans and specification shall always be kept at the job site to be available to the Procuring Entity or their representative upon his request during the construction.

7.7. 2.3. Obligations of the Winning Bidder/Contractor

2.3.1. The Contractor shall bear the responsibility of checking all the numbers and units as indicated in the Bill of Quantities. It is understood that the Contractor shall supply and install the required units in accordance with the Plans and the Specifications.

2.3.2. In their bid proposal, the bidders may propose materials or equipment or makes other than those specified in the BOQ and/or Specifications, provided they are of equivalent specifications and functionalities.

2.3.3. During project implementation, the winning bidder/contractor may propose substitution of materials or equipment or makes other than those specified in the Contract documents shall be subject to the approval of the Procuring Entity for the following reasons only:

2.3.3.1. That the materials or equipment proposed for substitution is equal or superior to the materials or equipment specified in construction efficiency and utility provided that any and all costs relative thereof shall be shouldered by the Contractor.

2.3.3.2. Or that the materials or equipment specified cannot be delivered to the job site on time to complete the work of the other Contractors due to conditions beyond the control of the Contractor.

2.3.3.3. In case of a price difference, the Procuring Entity shall receive all benefits of the difference in cost involved in any substitution and the Contract shall be altered by Change Order to credit the Procuring Entity with any savings so obtained.

2.3.3.4. To receive consideration, request(s) for substitution shall be accompanied by documentary proof of equality or difference in price and delivery, if any, in the form of certified quotations and guaranteed date of delivery from suppliers of either the proposed substituted materials or equipment.

7.8. 2.4. Obligations of the BSWM-NSWRRDC-HIGHPEZ

2.4.1. Provide full information on all requirements for the Project;

2.4.2. Give prompt written notice thereof to Winning Bidder or Contractor, if it observes or becomes aware of any defect in the Project;

2.4.3. Designate when necessary, representatives authorized to act on its behalf. It shall examine documents submitted by the Winning Bidder or Contractor and render

decisions pertaining thereto promptly, to avoid unreasonable delay in the progress of their work. It shall observe the procedure of issuing orders to the Winning Bidder or Contractor;

2.4.4. Supervise and monitor the implementation of the project

7.9. 2.5. Bidding Documents

The Bidding Documents for the Project shall govern the conduct of the procurement of the Project.

3. *SCOPE OF WORK*

The Contractor shall provide all the necessary labor, materials, instrument/equipment, vehicles, temporary office, safety equipment/procedures, including protection of adjacent/adjoining structures or areas, etc. necessary to perform satisfactorily the required works.

7.10. 3.1. General

16. 3.1.1. Provisions

3.1.1.1. The Contractor shall conduct thorough inspection of the existing job site conditions.

3.1.1.2. The scope of work shall include all additions necessary in order to implement the whole set of approved Plans, Working Drawings and Specifications.

3.1.1.3. The Contractor shall secure and do all the legwork necessary for all pertinent permits needed for the Procuring Entity to occupy and use the building.

- 3.1.1.4. The Contractor shall construct All Architectural, Structural, Electrical, , Sanitary/Plumbing, Mechanical/Fire Protection works in accordance with the Plans and Specifications. All items shown on the Plans but not mentioned in the Specifications shall be included. Discrepancies shall be verified with the Procuring Entity.
- 3.1.1.5. The Contractor shall have a licensed surveyor to locate benchmarks. Shop drawings of stake out plan and actual reference marks shall be verified and approved by the Procuring Entity prior to any permanent construction. He shall refer to the General Nature and Scope of Work and other Bid Documents for more extensive description of the work.
- 3.1.1.6. The Contractor shall submit details and shop drawings, templates, and schedules required for the coordination of the work of the various trades. Drawings should include information on all working dimensions, arrangement and sectional views, connections and materials.
- 3.1.1.7. Final Cleaning as Pre-Requisite to Final Acceptance: Final cleaning of the work by a reputable building maintenance company shall be employed by the General Contractor prior to the Procuring Entity's final inspection for certification of final acceptance. Final Cleaning shall be applied on each surface or unit of work and shall be of condition expected for a first class building cleaning and maintenance program.
- 3.1.1.8. The Contractor shall be responsible for the safety and safe working practices of its respective employees, servants and agents.
- 3.1.1.9. The Procuring Entity may at any time without invalidating the Contract make changes by altering, adding to or deducting from the work as covered by the drawings, specifications, and general scope in written instructions.
- Provisions under General Conditions of the contract cover such circumstances.
- 3.1.1.10. In case discrepancies exist between this Section and its corresponding elaborated sections, notify the Procuring Entity immediately for clarification; their decision shall be final.

7.11. 3.2. Outline

Refer to Detailed Engineering Design for the complete Scope of Works stipulated in this outline.

7.12. 3.3. Site Work

3.3.1. Visit and Accept Site, As Is. The following works shall be included:

3.3.1.1. Site Clearing: Protection and/or removal of existing structures with the approval from the Procuring Entity.

3.3.1.2. Removal of improvements above and below grade (if any) necessary to permit construction and other work as indicated. The Procuring Entity and Lessor must be consulted prior to any demolition. Coordination with Bureau of Soils and Water Management and proper investigation is to be conducted to avoid damage on existing utilities. Rubbish shall be legally and properly disposed of. Other items for relocation / demolition will be discussed in the Pre-Bid Conference.

3.3.2. Site Safety Requirements:

3.3.2.1. The Contractor shall, maintain a temporary board – up, security for the proper execution of site up-keeping. Such board-up shall be built where necessary and required by for its full length except for such openings as may be necessary for the proper execution of the work, in such case, openings shall be provided with doors which shall be kept closed at all times except in actual use. Which shall be made of painted 12mm thick gypsum board on metal.

17. 3.3.3. Temporary Site Facilities

3.3.3.1. Temporary Facilities: The contractor shall provide an office for the following:

3.3.3.1.1. Construction site office: complete Resident Architect's / Engineers office for business related to the supervision of the project.

3.3.3.2. Other Temporary Provisions:

3.3.3.2.1. The General Contractor shall provide all temporary lighting, power, water supply and all necessary facilities sufficient enough for the simultaneous use of all possible fields of work to complete the project.

3.3.3.2.2. The General Contractor shall provide the necessary number of warehousemen to ensure security of construction site.

3.3.3.2.3. The General Contractor shall provide necessary number of units of fire extinguishers.

3.3.3.2.4. The General Contractor shall provide Billboards for precautions for Public Safety.

3.3.3.2.5. Other provisions as required by the National Building Code and BESC.

3.3.3.2.6. All others required as discussed in the Pre-Bid Conference or as issued Supplemental Bid Bulletins

3.3.3.3. Storage and Filing of Materials

3.3.3.3.1. Delivery: General Contractor shall ensure that materials are properly turned over and delivered on site in good quality and condition. A time and delivery record shall be available.

3.3.3.3.2. Storage: General Contractor shall designate and/or allot a space to sub-contractors for storage of their materials and for erection of their

sheds and tool houses (if necessary). Materials shall be arranged properly and accordingly in terms of sizes, quality, quantity, category and time of use.

3.3.3.3.3. Warehouse shall be maintained properly by a designated person of the General Contractor.

3.3.3.3.4. All cement, lime and other materials affected by moisture shall be stored on platforms and protected from weather. Materials shall be stored as to insure the preservation of their quality and fitness for their work. Stored materials shall be located so as to facilitate prompt inspection.

3.3.3.3.5. Should it be necessary at any time to move materials, sheds or storage platforms, the Contractor shall do so at his own expense.

18. 3.3.4. Masonry

3.3.4.1. Concrete Masonry Units

3.3.4.1.1. Should it be necessary at any time to move materials, sheds or storage platforms, the Contractor shall do so at his own expense.

3.3.4.1.1.1. Supplier: Allied Concrete, Rock built or Jack built

3.3.4.1.1.2. Where full height walls are constructed with concrete hollow blocks, these shall extend up to the bottom of beam or slab unless otherwise indicated on plans. Provide stiffener columns & lintel beams as specified in the structural drawings or as specified or as deemed required to assure a stabilized wall due to height & other considerations.

3.3.4.1.2. Sand: S-1, washed, clean and greenish in color.

3.3.4.1.3. Mortar: One part "Portland" cement and two parts sand and water but not more than three parts sand and water.

3.3.4.1.4. Plaster bond: N and H Plaster bond - Apply to all wall areas prior to plastering.

19. 3.3.5. Metal

3.3.5.1. Stainless Steel

3.3.5.1.1. Stainless Steel Push Plate: Refer to Doors Schedule

3.3.5.2. Light Galvanized Steel Framing for Gypsum Drywall, Ceiling & Fiber Cement Ceiling

3.3.5.2.1. Light Galvanized Steel Framing Members shall be formed from cold-rolled steel with the minimum tensile strength of 50 ksi & a minimum yield point of 33 ksi. Light Galvanized Steel Framing Members shall be formed from cold-rolled steel having a minimum galvanized coating of 180 g/sqm both sides and shall be lock-forming quality. Should Conform to the ASTM C645A Standard Specification for Nonstructural Steel Framing Members.

3.3.5.3. Miscellaneous Metal Works

3.3.5.3.1. Submit Professional Shop Drawings for fabrication, connections and erection of miscellaneous metal fabrications.

3.3.5.3.2. Pipe hangers: Galvanized steel angular bars, hot dipped. Refer to Sanitary / Electrical drawings for sizes and dimension.

20. 3.3.6. Wood and Plastics

3.3.6.1. Lumber and Architectural Woodworks

3.3.6.1.1. Schedule of Lumber and Plywood Works

3.3.6.1.1.1. Medium Density Fiberboard: As per manufacturer's specifications.

21. 3.3.7. Doors

3.3.7.1. Main Door of Server Room – Heavy Duty Floor Hinge Glass door, 12mm thick tempered, frameless glass door.

3.3.7.2. Glass and Glazing

3.3.7.2.1. Caulking, Weather stripping, Sealing and Glazing Compound: refer to Sealants

3.3.7.2.2. Schedule: All glass should match color of building. The contractor shall submit glass sample with performance data and certifications from the manufacturer.

22. 3.3.8. Finishes

3.3.8.1. Refer to Architectural Plans for location. Verify plans for other finishes not specified or omitted herein. Sample of all materials shall be submitted to the Procuring Entity for approval as to color and quality workmanship.

3.3.8.1.1. Floor Finishes

3.3.8.1.1.1. Supply and application of chemical resistant seamless floor finish - epoxy base. See floor plan for Legend & Call-out Specifications as to where to be applied. Submit sample for Procuring Entity's approval.

3.3.8.1.2. Wall Finishes

3.3.8.1.2.1. Plain Cement Plaster Finish: 10 mm. thick. on vertical, on masonry and for all concrete hollow block surfaces, painted finish as indicated in the Drawings and for all areas not otherwise noted with other finishes.

3.3.8.1.3. Ceiling Finishes

3.3.8.1.3.2. Gypsum Board: Supply and installation of Gypsum ceiling on a 400mm x 400mm G.I. Framing Suspended Ceiling System complete with all accessories and acrylic diffuser lighting system. Please see ceiling details in all conference rooms and library.

3.3.8.1.4. Painting Works

3.3.8.1.4.1. All materials shall be Environmental protection Agency (EPA) certified and approved.

3.3.8.1.4.1.1. Painting Materials

3.3.8.1.4.1.1.1. Submit various painting materials specification

data and sample to be used for Procuring Entity's approval.

3.3.8.1.4.1.1.2. All primers, thinners and putty, also waterproofing for internal and external application shall be the same brand as the specified material.

3.3.8.1.4.1.1.3. Painting materials including its application must be covered with minimum of five- (5) year guarantee to be rendered by the painting manufacturer.

3.3.8.1.4.1.1.4. Use BOYSEN or DAVIES only for all painted works.

3.3.8.1.4.1.2. Application

3.3.8.1.4.1.2.1. All sample paint shall be submitted on at least 300-mm x 300mm plywood panel, color and shade as per approval by the Procuring Entity.

3.3.8.1.4.1.2.2. Application shall be as per paint Manufacturer's specification and recommendation.

3.3.8.1.4.1.2.3. Provide all drop cloth and other covering requisite for protection of floors, walls, aluminum, glass, finishes and other works.

3.3.8.1.4.1.2.4. All applications and methods used shall strictly follow the Manufacturer's Instructions and Specifications. All surfaces including masonry wall shall be thoroughly cleaned, puttied, sandpapered, rubbed and polished; masonry wall shall be treated with Neutralizer.

3.3.8.1.4.2. All exposed finish hardware, lighting fixtures and accessories, glass and the like shall be adequately protected so that these are not stained with paint and other painting materials prior to painting works. All other surfaces endangered by stains and paint marks should be taped and covered with craft paper.

3.3.8.1.4.2.1. Painting Schedule

3.3.8.1.4.2.1.1. Interior and Exterior

3.3.8.1.4.2.1.1.1. Concrete or Masonry Painted - Three (3) coats water-based masonry finish chemical resistant seamless floor finish - epoxy base. Sample Shades for Procuring Entity's Approval.

3.3.8.1.4.2.1.1.2. Plain Flat Finish: Acrylic water-based paint on ceilings, three (3) coats. FLAT

23. 3.3.9. Plumbing Fixtures and Accessories

3.3.9.1. All fixtures shall be installed complete with accessories, such as fittings, angle valve, shut-off valve and supply pipe assembly, p-traps flange and others

to make it functional. Submit model and color samples for Procuring Entity's approval of all fixtures and accessories.

3.3.9.2. Plumbing Fixture Colors: Black/orange Verify with Procuring Entity

3.3.9.2.1. Sink: Under the counter type sink with single faucet hole on center w/ front overflow hole.

24. 3.3.10. Electrical Specifications

3.3.10.1. General Specification

3.3.10.1.1. The work to be done under this division of the specifications consist of the fabrication, furnishing delivery and installation, complete in all details of the Electrical Work, at the subject premises and all work materials incidental to the proper completion of the installation, except those portions of the work which are expressly stated to be done by others. All work shall be done in accordance with the governing Codes and Regulations and with the Specifications, except where same shall conflict with such codes etc., which latter shall then govern. The requirements with regards to materials and workmanship specify the required standard for the furnishing of all labor, materials and appliances necessary for the complete installation of the work specified herein and indicated on the drawings. The Specifications are intended to provide a broad outline of the requirement and are not intended to include all details of design and construction.

3.3.10.1.2. Laws/Codes and Regulations:

3.3.10.1.2.1. The work under this division shall be executed in accordance with the latest requirements of the following:

3.3.10.1.2.1.1. Building Code of the Philippines

3.3.10.1.2.1.2. Philippine Electrical Code

3.3.10.1.2.1.3. Laws, ordinances, and regulations of the locality having jurisdiction over the project.

3.3.10.1.2.1.5. UAP Doc. 301

3.3.10.1.2.2. The requirements of the above mentioned governing laws/codes and the requirements of the companies having involvement/participation are hereby made part of this Specifications and the Electrical Contractor is required to comply with the same.

3.3.10.1.2.3. This does not relieve the Electrical Contractor from complying with requirements of specifications or drawings in excess of above laws and ordinances, codes and requirements which are not prohibited by the same.

3.3.10.1.3. Guarantee

3.3.10.1.3.1. The Electrical Contractor shall guarantee that the electrical system is free from all grounds and defective materials and workmanship for a period of one (1) year from the date of acceptance of the work. All defects arising within the guarantee period shall be remedied by the Electrical Contractor at his own expense.

3.3.10.1.3.2. The Electrical Contractor shall indemnify and save harmless Procuring Entity from and against all claims, suits, actions, or liabilities for damages arising from injuries, disabilities or loss of

life to persons or damage to public or private properties resulting from fault or any act of contractor or his representative in the execution of this work.

3.3.10.1.3.3. The partial acceptance of the work for the purpose of making partial payments, based on the estimated cost satisfactorily completed by the Electrical Contractor, shall not be considered as final acceptance of that portion of the work.

3.3.10.1.4. Drawings and Specifications

3.3.10.1.4.1. The electrical plans, which constitute an integral part of these Specifications, shall serve as the working drawings. The plans indicate the general layout and arrangement of the complete electrical system and other works.

3.3.10.1.4.2. The drawings and specifications are meant specifically to be complementary to each other and where it is called for by one shall be binding as if called for by both. Anything which is basically required to complete the installation for proper operation but not expressly mentioned on the drawings and/or specifications shall be furnished and installed by the Electrical Contractor at no extra cost to the Procuring Entity as though specifically stipulated or shown in both.

3.3.10.1.4.3. Procuring Entity shall have the final decision on any apparent conflict between the drawings and specifications or on any under and controversial point in either or both.

3.3.10.1.4.4. All dimensions and locations shown on the plans are approximate and shall be verified in the field, as actual locations, distances, and levels are governed by actual conditions.

3.3.10.2. Scope of Work

3.3.10.2.1. The work to be done under this division shall include the furnishing of all tools, labor, equipment, fixtures and materials, each complete and in proper working condition unless one or other is specifically excluded

or stated otherwise in these Specifications but not limited to the following principal items of work:

3.3.10.2.1.1. Furnish and install a complete wiring system for the entire building.

3.3.10.2.1.2. Furnish and install a complete grounding system.

3.3.10.2.1.4. Complete testing of all electrical systems.

3.3.10.2.1.5. Preparation of “As-built” drawings

3.3.10.2.1.6. If any item of works or material has been omitted which are necessary for the completion of the Electrical Work as outlined herein before, then such items shall be and hereby included in this section of work.

3.3.10.3.1. Workmanship

3.3.10.3.1.1. The Electrical Contractor shall execute the work in the most thorough, prompt and workmanlike manner and in accordance with the plans and specifications. The installations shall be done thru standard methods and good engineering practices.

3.3.10.3.2. Materials

3.3.10.3.2.1. All materials to be installed shall be brand new except as otherwise noted on the plans or specifications. The materials shall be as specified. No substitution of materials is allowed. Should the Electrical Contractor find it necessary to use another type/brand of materials instead of the specified item, he shall first obtain approval from the Procuring Entity prior to installation. Any substituted material installed without the approval of the Procuring Entity shall be subject to replacement.

3.3.10.3.3. Coordination

3.3.10.3.3.1. It is the sole responsibility of the Electrical Contractor to conduct coordination of his activities with the following:

3.3.10.3.3.1.1. Other trades and suppliers

3.3.10.3.3.1.2. Procuring Entity/Engineer

3.3.10.3.3.1.3. Local Government Authority

3.3.10.3.4. Deviation from the Plans

3.3.10.3.4.1. No deviation from the plans is to be made unless given notice or approval by the Procuring Entity.

3.3.10.3.5. Record Drawings and “As-Built” plan.

3.3.10.3.5.1. The Electrical Contractor is required to keep an active record of the actual installation during the progress of the job. This shall be the reference in the preparation of the “As-Built” plans which shall include all pertinent information, complete in all aspect of the actual installation, and all new information not originally shown in the contract drawings. The “As-Built” plans shall be prepared by the Electrical Contractor at his expense and shall be submitted to the Procuring Entity for approval upon the completion of the work. The approval of the “As-Built” drawings shall be a prerequisite for the final acceptance of the electrical works.

3.3.10.3.5.2. Submit two (2) copies of the “As-Built” drawings signed and dry sealed by the Electrical Contractor. Registered Professional Electrical Engineer. Original tracing/reproducible copy shall also be submitted to the Procuring Entity.

3.3.10.3.6. Samples & Shop Drawings

3.3.10.3.6.1. 30 days prior to the installation or fabrication of materials the Electrical Contractor shall submit to Procuring Entity the following for approval.

3.3.10.3.6.1.1. Shop drawings of panel boards showing arrangements of circuit breakers, bus bar sizes, lugs, etc. Indicate all dimensions.

3.3.10.3.6.1.2. Shop drawings or samples required as noted in the drawings.

3.3.10.3.6.1.3. Samples and catalogs of materials intended to be installed.

3.3.10.3.6.2. The Electrical Contractor shall also submit to the Procuring Entity without delay shop drawings and other submittals

which may be required by Procuring Entity during the progress of construction.

3.3.10.3.6.3. The above requirements shall be submitted to the Procuring Entity at the earliest possible time to give allowance for checking and verification. These shall be complete in all aspects.

3.3.10.3.6.4. Submit four (4) sets of each shop drawings.

3.3.10.3.7. Electric Power

3.3.10.3.7.1. The Electrical Contractor shall be responsible for his own electric power needed for the execution of the job.

3.3.10.3.8. Test

3.3.10.3.8.1. Conduit tests on all electrical conductors installed in the presence of the Procuring Entity's representative.

3.3.10.3.8.1.1. check for grounds

3.3.10.3.8.1.2. insulation resistance test

3.3.10.3.8.1.3. continuity test for all outlets

3.3.10.3.8.1.4. voltage level test

3.3.10.3.8.1.5. phase relationship

3.3.10.3.8.1.6. check circuit connections at panel boards, all single phase circuit shall be connected to phase as shown in the load schedule.

3.3.10.3.9. Submit Reports on Tests

3.3.10.3.9.1. All reports must be formal, typewritten and properly identified.

3.3.10.3.10. All defects found during the test shall be repaired immediately by the Electrical Contractor.

3.3.10.3.11. All tools, equipment and instruments needed to conduct tests shall be on the account of the Contractor.

3.3.10.4. Methods and Materials

3.3.10.4.1. Conduits

3.3.10.4.1.1. Rigid Steel Conduits (RSC) and Intermediate Metal Conduit (IMC):

3.3.10.4.1.1.1. Standard trade sizes, hot dipped galvanized with inside enamel or epoxy coating. Matsushita, Allied, Setsuyo, Pusan and Maruichi.

3.3.10.4.1.1.2. Joints-threaded coupling for joints.

3.3.10.4.1.1.3. Use for power & lighting.

3.3.10.4.1.2. Polyvinyl Chloride Conduit (PVC)

3.3.10.4.1.2.1. Standard trade sizes, schedule 40 “Atlanta”.

3.3.10.4.1.2.2. Coupling & fittings - standard couplings for joints by solvent weld process.

3.3.10.4.1.2.3. Telephone System & other auxiliary system.

3.3.10.4.1.3. Installation of Conduits

3.3.10.4.1.3.1. Installation is in accordance with PEC and of good engineering practice.

3.3.10.4.1.3.2. Use standard trade sizes locknut and bushing at each end terminating in boxes/panel boards. Ensure electrically continuous conduit system.

3.3.10.4.1.3.3. Provide independent conduits supports using hangers, supports or fastenings spaced in accordance with good engineering practice and PEC.

3.3.10.4.1.3.4. Use adjustable trapeze hangers for horizontal parallel runs.

3.3.10.4.1.3.5. Conduits bends shall not be more than the equivalent of three (3) 90-degree bends between pulling points.

3.3.10.4.1.3.6. Conduit threads cut on job shall have same effective lengths, thread dimensions, and taper as factory threads.

3.3.10.4.1.3.7. Cut ends of conduit square with hand or power saw and ream to remove burrs and sharp edges. Do not use wheel cutter.

3.3.10.4.1.3.8. Clamps shall be galvanized malleable iron one-hole straps, beam clamps or other approved device with necessary bolts and expansion shields.

3.3.10.4.1.3.9. Trapeze hangers shall be used for parallel runs of conduits. Install conduit clamps at end of each run and at each elbow.

Paint hangers one prime coat of red lead or zinc chromate, and one finish coat of an approved color. Hangers are not detailed but must be adequate to support combined weight of conduit, conductors and hangers. Submit shop drawings for approval.

3.3.10.4.1.3.10. All underground conduits installed shall be provided with concrete encasement at least 8cm. thick outer face of conduit.

3.3.10.4.2. Wires

3.3.10.4.2.1. Wires shall be annealed copper, 98% or better conductivity, insulated, single, except as noted in the drawings.

3.3.10.4.2.2. 220-volt class type as indicated in the plans

3.3.10.4.2.3. Wires greater than no. 8 mm² shall be stranded.

3.3.10.4.2.4. Minimum size shall be #3.5 TW for power and lighting circuits.

3.3.10.4.2.6. Use standard methods in pulling wires.

3.3.10.4.2.7. Splices of wires/cables shall be done inside junction boxes or auxiliary gutters using standard connectors. No wires shall be spliced inside conduits

3.3.10.4.2.8. All wires and cables shall be color coded as follows:

3.3.10.4.2.8.1. Phase A Red

3.3.10.4.2.8.2. Phase B Yellow

3.3.10.4.2.8.3. Phase C Black

3.3.10.4.2.8.4. Ground Green

3.3.10.4.2.8.5. Neutral White

3.3.10.4.3. Connectors

3.3.10.4.3.1. Use solderless mechanical pressure - type lugs, copper

3.3.10.4.4. Insulation

3.3.10.4.4.1. All splices shall be properly insulated using 3M electrical tape. Application of insulation tape shall be equivalent to the insulation of the wire concerned. Use filler compound, "Scotch fill at sharp edges to provide smooth surface before taping.

3.3.10.4.5. Panel board & Circuit Breaker

3.3.10.4.5.1. NEMA type/enclosure unless noted, PEC rules and regulations, circuit breaker type shall be 230V, number of pole as required.

3.3.10.4.5.2. Panel boards shall contain a single brand of circuit breakers and as manufactured by "Schneider Electric", "Cutler Hammer" or "GE".

3.3.10.4.5.3. All circuit breakers used as main shall be "Bolt on" type molded case, thermal magnetic protective, quick make, quick break, trip free from handle, trip indicating, number and size as shown in the schedule. Internal common trip for 2 and 3 pole breakers.

3.3.10.4.5.4. Breaker minimum interrupting capacities shall be based on NEMA and UL test procedures.

3.3.11.4.5.4.1. 230 volt breakers - 10,000 rms. Symmetrical amperes at 240V A/C (minimum)

3.3.10.4.5.5. All circuit breakers used as branches rated at below 100 AT and specifically installed in lighting panel boards shall be "bolton".

3.3.10.4.5.6. Word "space" indicated in the schedule shall mean that complete bus, insulators, etc. shall be included ready to accept future circuit breaker of the same frame size as the largest branch circuit breaker.

3.3.11.2.10. Maintenance Service

3.3.11.2.10.1. The contractor shall provide free of charge, maintenance service of the system for a period of at least one (1) year reckoned from the date of acceptance of the work by the Engineer.

3.3.11.2.10.2. Upon completion of the work and all tests, the services of one or more qualified engineers shall be provided by the contractor for period of not less than five (5) working days to instruct and train the representative of the owner in the operation and maintenance of the fire protection system.

25. 3.3.12. Guarantee

3.3.12.1. All equipment, materials and workmanship shall be guaranteed for a period of one (1) year from date of acceptance at any time within the period of guarantee and upon notification the contractor shall repair and rectify the deficiencies, including replacement of parts or entire units. Under such guarantee, the Contractor shall make good any defect due to faulty materials or workmanship caused by him without any additional cost to the Owner for the period specified.

3.3.13.2. Contractors' proposal covers all items and other incidental works necessary to complete each item of works mentioned above.

4. BIDDERS QUALIFICATION

4.1. The participating Bidder shall be a registered local firm who may be a sole proprietorship, partnership, corporation, or joint venture pursuant to the 2016 IRR of the RA 9184 (Section 23.4.2.1). The Bidder firm shall have the following minimum qualifications:

PARTICULARS	REQUIRED QUALIFICATIONS
1. PCAB Category	Classification: General Building Size Range: Medium A License Category: Class "B"

2. Experience	With at least five (5) years' experience in the field of building construction
3. Minimum Number of Projects Undertaken	Have successfully undertaken and completed within the last five (5) years, at least one (1) rehabilitation project
4. Single Largest Completed Contract (SLCC)	Have successfully completed at least one (1) building construction project having a cost equivalent to at least 50% of the Approved Budget for the Contract (ABC).

5. PERSONNEL QUALIFICATIONS

5.1. The list and qualifications of the Key and Support Personnel to be assigned to the contract to be bid shall, but not limited to the following:

5.1.1. Key and Support Personnel

PERSONNEL	GENERAL EXPERIENCE	RELEVANT EXPERIENCE
One (1) Project Manager	Licensed Architect or Engineer with at least 5 years cumulative experience as Project Manager	Similar or comparable projects, with proven record of managerial capability and experience through directing/ managing major civil engineering works, including projects of a similar magnitude.
One (1) Electrical Engineer	Licensed Professional Electrical Engineer with at least 5 years cumulative experience in the field of electrical engineering.	supervision of installation of lighting, power distribution, with knowledge in developments in efficient lighting technologies and energy management.
Construction Engineers	Licensed Civil Engineer with at least 5 years	Similar or comparable projects
	cumulative experience in construction supervision of buildings	

Safety Officer	Must be an accredited safety practitioner by DOLE with at least three (3) years cumulative experience as safety officer in construction projects.	Have undergone the prescribed 40-hour Construction Safety and Health Training (COSH)
Other Skilled Personnel (Foreman, Labor, etc.)	with at least 3 years cumulative experience in building construction	Similar or comparable projects

5.1.2. The key professionals listed are mandatory. Prospective bidders shall attach/submit the resume of the above professional key personnel. Said key personnel shall possess and submit together with their resume, their valid license for the practice of engineering issued by the Professional Regulations Commission (PRC).

5.1.3. The Contractor may, as needed and at its own expense, add additional professionals and/or support personnel for the optimal performance of all architectural and engineering services, and construction services, as stipulated in the Terms of Reference for this Project.

5.2. List of Equipment

5.2.1. The list of equipment which is owned, leased, and/or purchased agreement to be utilized for the project shall be, and to be supported with proof of ownership, purchase agreement and certification of availability from the equipment lessor/vendor for the duration of the project.

6. WORKMANSHIP

6.1. All works shall be of the highest quality of engineering practice and in accordance with the provisions of all the existing codes and standards, laws, city rules/ordinances and regulations. Any defects found or imperfections observed as a result of poor workmanship shall be corrected by the Contractor without any additional cost to the contract.

7. WARRANTY

- 7.1.** All works shall be free from material defects and poor workmanship for the period of one (1) year. Any defects or imperfections as a result of inferior materials and poor workmanship, within the specified warranty period, shall be repaired and/or replaced by the Contractor. Any amount incurred in the repair as a result of the above defects shall be the full responsibility and expense of the Contractor.

8. SAFETY AND SECURITY

- 8.1.** All standard safety measures and precautions shall be exercised by the Contractor in the course of the project for the protection of the public and its workers.
- 8.2.** All personnel and workers shall be equipped with proper working uniform, personal identification, and personal protective equipment (PPE) at all times. They must be registered with the BSWM and must comply to the rules and regulations of the Bureau.
- 8.3.** The Contractor must follow COVID-19 protocol, which includes testing all staff and workers on a regular basis to ensure personnel safety on the BSWM premises for the term of the contract.
- 8.4.** The Contractor shall secure his/her own equipment and materials on site. The BSWM shall not be held liable and accountable to any losses and damages incurred during the progress of the work and activity of the Contractor.

9. SUBMITTALS/DELIVERABLES

- 9.1.** The following are the required submittals/deliverables:

PARTICULARS	TIMELINE	REPORT SPECIFICATIONS
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1. Inception Report	Within 15 calendar days from receipt of the Notice to Proceed (NTP)	One (1) original hardcopy and three (3) photocopies respectively marked as copies 1, 2, and 3, printed in A4 size bond paper, properly binded. All drawings that will be attached in the report shall be prepared in AutoCAD, printed in A3 paper size.
2. Detailed Program of Work, Construction Schedule in Gantt Chart format with S-Curve, Cash Flow, including manpower and equipment list/schedule, Sequence of timing for inspections and tests, general description of the	Within 15 calendar days from receipt of the Notice to Proceed (NTP)	a. Draft copy for review: One (1) original hardcopy printed in A1 paper size
	Within 30 calendar days from receipt of the Notice to Proceed (NTP)	b. Final copy for signature/ approval after incorporation of the BSWM comments/ corrections:
construction methods, number and names of personnel to be assigned for each stage of the work, and description of the quality control system to be utilized for the project for approval by the BSWM		One (1) original hardcopy printed in A1 size Mylar Sheet, duly signed by the Contractor.
3. Monthly Progress Report for Construction including Progress Photographs	Start of submission is within 60 calendar days from receipt of the Notice to Proceed (NTP), then monthly thereafter, not later than every fifth day of the month.	One (1) original hardcopy and three (3) photocopies respectively marked as copies 1, 2, and 3, printed in A4 size bond paper, properly binded, duly signed by the Contractor. All drawings that will be attached in the report shall be prepared in AutoCAD, printed in A3 paper size.
4. Draft As-Built Drawings for Review	Within thirty (30) calendar days before end of Contract	One (1) original hardcopy prepared in AUTOCAD, printed in A3 paper size

5. Final As-Built Drawings for Approval after incorporation of the BSWM comments or corrections	Within five (5) calendar days before end of Contract	One (1) original hardcopy printed in A1 size Mylar Sheet, duly-signed by the Contractor, and duly signed/sealed by the discipline engineers and architect. Once approved, the Contractor shall return the approved original sheet to the BSWM for file and safekeeping,
6. Certificate of Occupancy	Within five (5) calendar days before end of Contract	Original Copy
7. Final Report	Within five (5) calendar days after the end of the Contract.	One (1) original hardcopy and three (3) photocopies respectively marked as copies 1, 2, and 3 in A4 size bond paper, properly binded, duly-signed by the Contractor.

10. OWNERSHIP AND CONFIDENTIALITY OF PLANS AND DOCUMENTS

10.1. All reports, drawings, documents, and materials compiled or prepared in the course of the performance of “The Project” by the Contractor shall be absolute properties of the BSWM and shall not be used by the Contractor for other purposes without the prior written consent of the BSWM.

10.2. The Contractor shall, at all times, keep in strict confidence and shall not disclose to any party any information, materials or document provided by the BSWM, or any part of any report, drawings, documents and materials including all confidential information with the Contractor may acquire by reason of its engagement, except those which are generally known or available to the public.

11. TERMS OF PAYMENT

11.1. In consideration of the services required under this Terms of Reference, payment to the Contractor shall be made in the following breakdown. No claims for payment shall be processed and paid unless duly-supported with complete documents.

BILLING PARTICULARS	CONDITIONS/REQUIREMENTS
1. Advance Payment	<p>1. Equivalent to 15% of the accepted contract amount.</p> <p>= 15% of the Total Contract Price</p> <p>2. Payment shall be upon written request and submission to and acceptance by the BSWM of a Bank Guarantee or a Surety Bond callable on demand issued by Surety or Insurance Company duly licensed by the Insurance Commission and confirmed by the BSWM, pursuant to Annex E Section 4.1 of RA 9184.</p> <p>3. Upon submission of Items 1, 2, and 3 of the required deliverables of Section IX. Submittals/Deliverables of the Terms of Reference.</p> <p>4. The advance payment shall be recouped by the Contractor by deducting fifteen percent (15%) from its progress payments a percentage equal to the percentage of the total contract price used for the advance payment, pursuant to Section 4.3 of RA 9184.</p>
2. Progress Payment	<p>1. First Progress Billing covering payment for the Contract Services:</p> <p>Upon complete submission Item 1-4 of the required deliverables of Section IX. Submittals/Deliverables of the Terms of Reference and corresponding request for progress payment with an actual progress accomplishment of the contract of at least twenty percent (20%) with proper documentation of the progress of the works and submission of the Statement of Works Accomplished including corresponding request for progress payment for the works accomplished.</p>
	<p>2. Second Progress Billing:</p> <p>With an additional actual progress accomplishment of the contract of at least twenty percent (20%) with proper documentation of the progress of the works and submission of the Statement of Works Accomplished including corresponding request for progress payment for the works accomplished, including the submission of Item 4 of the required deliverables on Section X, Submittals/Deliverables of the Terms of Reference.</p>

	<p>3. Succeeding Monthly Progress Billings:</p> <p>Upon submission of Item 4 of the required deliverables of Section IX Submittals/Deliverables of the Terms of Reference for the succeeding Progress Billings, with an additional actual progress accomplishment of the contract of at least twenty percent (20%) with proper documentation of the progress of the works including submission of the Statement of Works Accomplished and corresponding request for progress payment for works accomplished.</p> <p>4. Retention money equivalent to 10% of billing amount shall be withheld on each progress billing until fifty percent (50%) of the value of the works, as determined by the BSWM, are completed. If, after fifty percent (50%) completion, the work is satisfactorily done and on schedule, no additional retention shall be made; otherwise, the ten percent (10%) retention shall be imposed, pursuant to Section 6 of RA 9184.</p> <p>5. No billing shall be processed if submission is incomplete</p> <p>6. Progress Payment Amount to be determined by Accounting</p>
3. Final Payment	<p>1. Payment shall be upon complete submission of the required deliverables of Item 5, 6, 7, and 8 of Section IX. Submittals/ Deliverables of the Terms of Reference, and upon rectification of defects noted during punch listing and Final Inspection by BSWM.</p> <p>2. No billing shall be processed if submission is incomplete</p>
4. Ten Percent (10%) Retention Money	Retention Money shall be released upon Final Acceptance of the Project. The Contractor may, however, request for its release prior to Final Acceptance subject to the guidelines set forth in RA 9184 and its Revised Implementing Rules and Regulations.

12. APPROVED BUDGET FOR CONTRACT (ABC)

12.1. The Approved Budget for the Contract (ABC) is Six Million six hundred fifty thousand Pesos (Php 6,650,000.00) inclusive of 12% VAT, other taxes and duties.

12.2. The ABC shall be the upper limit or ceiling for the Bid Price. Any bid with a financial component exceeding this amount shall not be accepted and shall be automatically rejected at opening of the financial bid.

12.3. Any bid, with the 12% VAT and other taxes and duties not included, shall be rejected at opening of the financial bid.

***13. IMPLEMENTATION ARRANGEMENTS/ASSISTANCE TO BE PROVIDED BY
THE
BSWM***

13.1. The BSWM is responsible for overseeing the implementation of the works in accordance with the contract arrangement between the Contractor and BSWM.

13.2. The BSWM shall:

13.2.1. Provide any available plans of existing structures that might be affected by the construction of the Project for reference of the Contractor.

13.2.2. Conduct kick-off meeting to discuss details in undertaking the scope of work and work schedule and to establish coordination flow process.

13.2.3. Provide assistance in acquisition of the required permits and clearances

13.2.4. Directly monitor the Contractor's progress.

13.2.5. Review and approve all documents submitted by the Contractor.

14. RESTRICTIONS

14.1. The following restrictions shall apply:

14.1.1. The provisions of Section 47 (Disclosure of Relations) of the 2016 IRR of RA 9184 shall apply to all personnel of the Contractor.

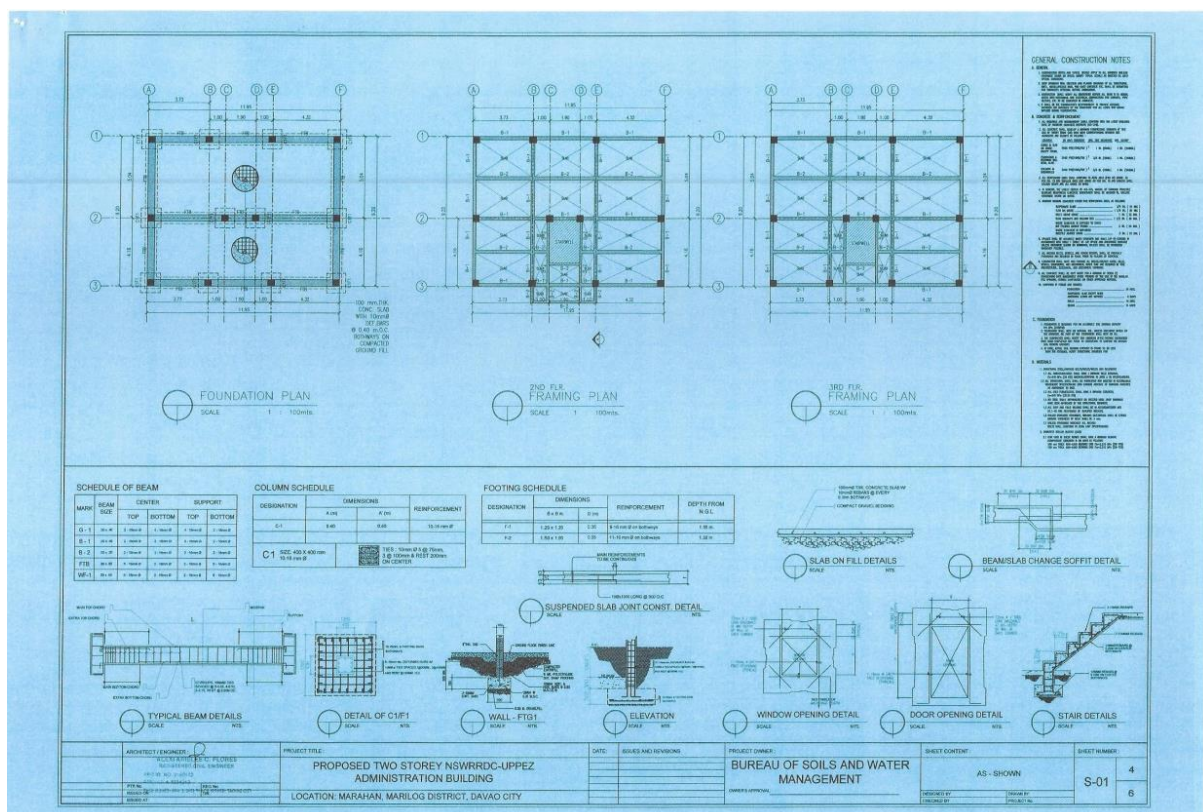
14.1.2. No employer-employee relationship shall exist between BSWM and the Contractor and its team members.

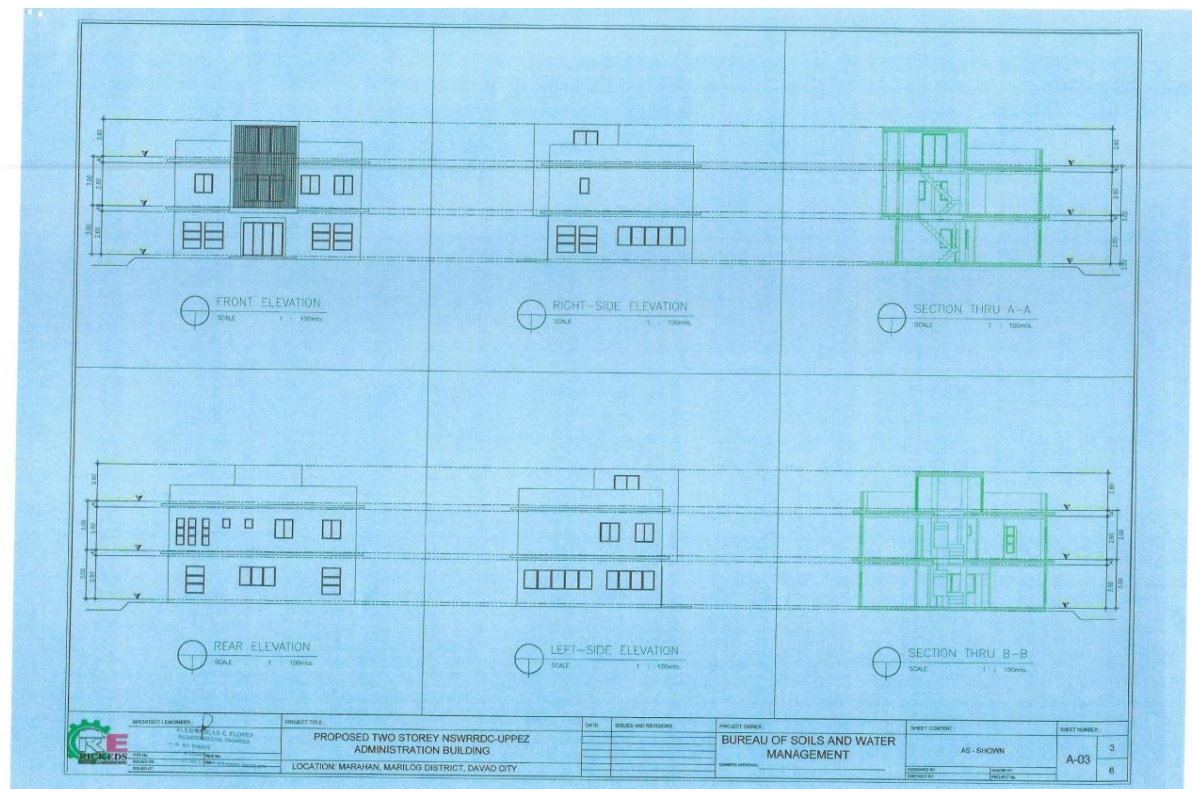
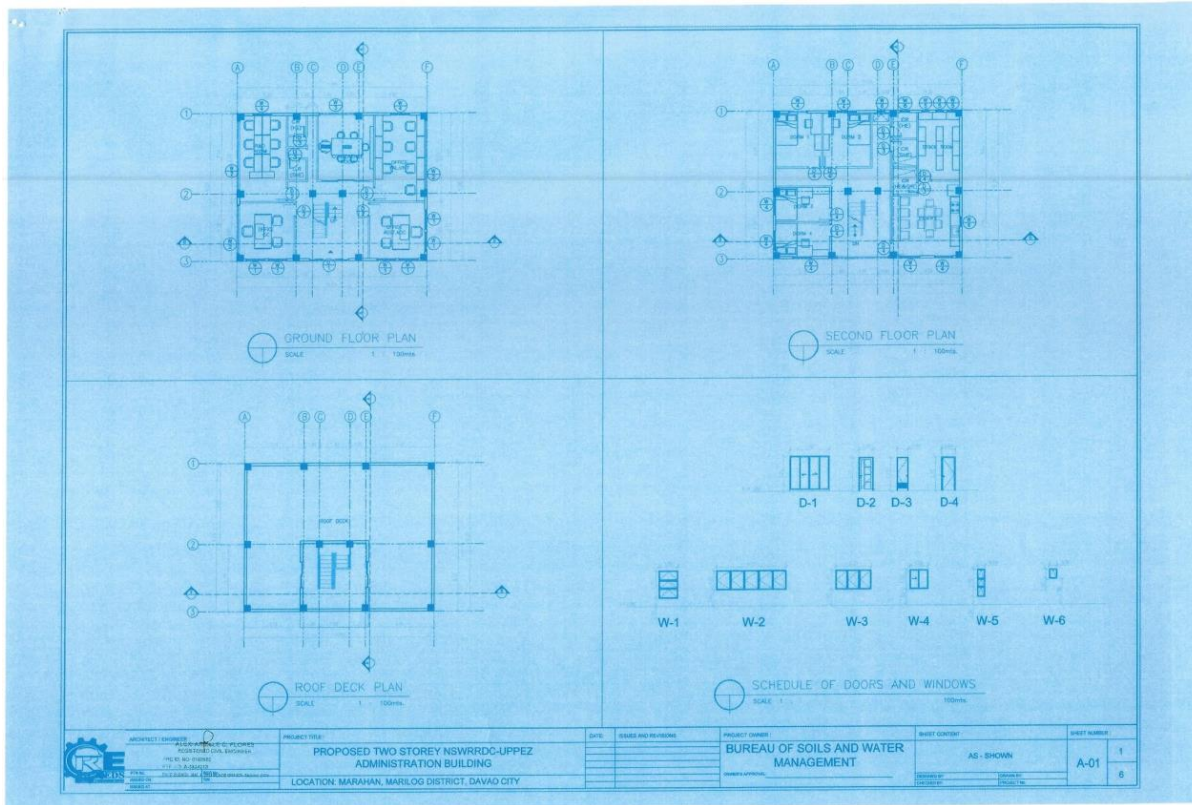
14.1.3. During the implementation of the project, Contractor shall ensure that the day to day activities of the BSWM and its staff within the Complex shall not be disrupted. Board-ups shall be installed on strategic locations.

15. RESERVATION

15.1. BSWM reserves the right to cancel or modify this TOR or any other issuances, to refuse to accept or consider any proposal for any cause or reason, or otherwise not to proceed or defer with the implementation of this project.

Section VII. Drawings





Section VIII. Bill of Quantities

Notes on the Bill of Quantities

Objectives

The objectives of the Bill of Quantities are:

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

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

Daywork Schedule

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

- a. A list of the various classes of labor, materials, and Constructional Plant for which basic daywork rates or prices are to be inserted by the Bidder, together with a statement of the conditions under which the Contractor will be paid for work executed on a daywork basis.
- b. Nominal quantities for each item of Daywork, to be priced by each Bidder at Daywork rates as Bid. The rate to be entered by the Bidder against each basic Daywork item should include the Contractor's profit, overheads, supervision, and other charges.

Provisional Sums

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

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

Signature Box

A signature box shall be added at the bottom of each page of the Bill of Quantities where the authorized representative of the Bidder shall affix his signature. Failure of the authorized representative to sign each and every page of the Bill of Quantities shall be a cause for rejection of his bid.

These Notes for Preparing a Bill of Quantities are intended only as information for the Procuring Entity or the person drafting the Bidding Documents. They should not be included in the final documents.

RESEARCH FACILITIES DEVELOPMENT GRANT (RFDG) PROGRAM

DETAILED BUDGET ESTIMATES

Project Title: Proposed 2-storey Bureau of Soils and Water Management-Upland Research and Demonstration Center, (BSWM-URDC) R4D Research Facility

Item No	Item Description	Qty	Unit	Unit Cost	Total Cost
I	EXCAVATION	250	cu. m.	150.00	37,500.00
				Materials COST	37,500.00
				LABOR (35%)	13,125.00
				CP (8%)	4,050.00
				OCM (12%)	6,075.00
				Tax (12%)	7,290.00
				SUB TOTAL	68,040.00
II	CONCRETE AND MASONRY				
	Cement	2,100	bag	255.00	535,500.00
	Gravel ¾"	128	Cu.m	2,100.00	268,800.00
	Sand	135	Cu.m	2,000.00	270,000.00
	16 mm Φ x 6.0 m Rebar	720	pcs	395.00	284,400.00
	12 mm Φ x 6.0 m Rebar	46	pcs	220.00	10,120.00
	10 mm Φ x 6.0 m Rebar	2443	pcs	157.00	383,551.00
	No. 16 G.I. wire	593	kg	60.00	35,580.00
	CHB 6' X 8" X 16"	4900	pcs	22.00	107,800.00
	CHB 4" X 8" X 16"	4500	pcs	16.00	72,000.00
	Form Lumber	9500	Bd-ft	27.00	256,500.00
	Plywood 1/2"x 4"x 8'	280	pcs	1,480.00	414,400.00
				MATERIALS COST	2,638,651.00
				LABOR (35%)	923,527.85
				CP (8%)	284,974.08
				OCM (12%)	427,461.46
				Tax (12%)	512,953.73
				SUBTOTAL	4,787,568.12
III	DOORS AND WINDOWS				
	Glass Sliding Door D1	1	set	17,000.00	17,000.00
	Door Jamb	4	sets	2,500.00	10,000.00
	Door D2	4	sets	5,000.00	20,000.00
	PVC Door D3	7	sets	4,200.00	29,400.00
	Door D4	6	sets	5,000.00	30,000.00
	Glass Sliding Door Conference room D5	1	set	14,000.00	14,000.00
	Awning Window 120 3 sets W1	6	sets	8,500.00	51,000.00
	Swing Window 5 sets W2	3	sets	8,300.00	24,900.00
	Swing Window 3 sets W3	1	sets	6,500.00	6,500.00
	Sliding Window W4	9	sets	4,500.00	40,500.00
	Awning Window 50 3 sets W5	3	sets	4,500.00	13,500.00
	Awning Window 50 1 set W6	3	sets	3,000.00	9,000.00
				Material Cost	265,800.00
				Labor (35%)	93,030.00
				CP (8%)	28,706.40

				OCM(12%)	43,059.60
				Tax (12%)	51,671.52
				SUB TOTAL	482,267.52
IV	ELECTRICAL				
	Lighting outlet	90	sets	300.00	27,000.00
	Double Conv. Outlet	35	sets	400.00	14,000.00
	Double Pole switch	28	sets	400.00	11,200.00
	Single pole switch	15	sets	350.00	5,250.00
	TW Wire No.14	4	rolls	3,500.00	14,000.00
	TW Wire No. 10	2	rolls	4,500.00	9,000.00
	Circuit Breaker	2	sets	6,000.00	12,000.00
				Materials Cost	92,450.00
				Labor	32,357.50
				CP (8%)	9,984.60
				OCM (12%)	14,976.90
				TAX (12%)	17,972.28
				SUB TOTAL	167,741.28
V	PLUMBING				
	Water Closet	8	Sets	5,000.00	40,000.00
	Kitchen Sink	8	Sets	3,000.00	24,000.00
	Floor Drain 4" x 4"	50	pcs	150.00	7,500.00
	Lavatory	8	pcs	2,500.00	20,000.00
	Gate Valve	8	pcs	800.00	6,400.00
	Roughing-In(Waste and water Piping)	1	unit	1,500.00	1,500.00
	Septic Vault	1	unit	10,000.00	10,000.00
				MATERIAL COST	109,400.00
				LABOR (35%)	38,290.00
				CP (8%)	11,815.2
				OCM (12%)	17,722.80
				TAX (12%)	21,267.36
				SUB TOTAL	198,495.36
VI	ROOFING				
	Angle bar 2"x 2"	35	pcs	1,200.00	42,000.00
	C-Purlins 2"x 3"	10	pcs	787.00	7,870.00
	Long Span 12ft	30	pcs	1,000.00	30,000.00
	Gutter Box Type	3	pcs	350.00	1,050.00
	Tex screw	5	box	195.00	975.00
	Red Oxide Metal Primer	3	gal	420.00	1,260.00
	Insulation	39	m	364.00	14,196.00
				Material Cost	97,281.00
				Labor(35%)	34,048.35
				CP(8%)	10,506.35
				OCM(12%)	15,759.52
				Tax(12%)	18,911.43
				SUB TOTAL	176,506.65
VII	FINISHING				
	Neutralizer	30	lit	300.00	9,000.00
	Skim Coat (2 layer)	100	bag	520.00	52,000.00
	Primer	6	pail	2,600.00	15,600.00
	Topcoat	8	pail	3,100.00	24,800.00
	Sandpaper	75	pcs	15.00	1,125.00
	Rugs	7	kg	97.00	679.00

	Brushes	15	pcs	75.00	1,125.00
	Roller	10	pcs	80.00	800.00
	Mesh Tape	15	roll	60.00	900.00
	Metal Furring	66	pcs	155.00	10,230.00
	Carrying Channel	32	pcs	155.00	4,960.00
	Wall angle	15	pcs	70.00	1,050.00
	W-clip	457	pcs	10.00	4,570.00
	Hardiflex	72	pcs	650.00	46,800.00
	Blind Rivets	8	box	610.00	4,880.00
	Paint Thinner	10	lit	95.00	950.00
	Floor Tiles 60x60	544	pcs	200.00	108,800.00
	Cement	22	bag	255.00	5,610.00
	C.R. Tiles 30x30	600	pcs	65.00	39,000.00
	Tiles 40x40	450	pcs	150.00	67,500.00
	Tile Grout	30	bags	120.00	3,600.00
	Adhesive A&B	30	bags	295.00	8,850.00
	Primer (Lacquer)	10	lit	295.00	2,950.00
	Spot Putty	10	lit	237.00	2,370.00
	Body Filler	5	lit	250.00	1,250.00
	Topcoat (lacquer enamel)	12	lit	308.00	3,696.00
	Lacquer Thinner	6	lit	160.00	960.00
				MATERIAL COST	424,055.00
				LABOR(35%)	148,419.25
				CP (8%)	45,799.94
				OCM (12%)	68,696.91
				TAX (12%)	82,436.53
				SUB TOTAL	769407.63
				TOTAL MATERIAL COST	3,665,137.00
				LABOR COST (35%)	1,282,799.95
				CP (8%)	395,836.57
				OCM (12%)	593,752.19
				TAX (12%)	712,502.85
				TOTAL PROJECT COST	6,650,028.56

Section IX. Checklist of Technical and Financial Documents

Notes on the Checklist of Technical and Financial Documents

The prescribed documents in the checklist are mandatory to be submitted in the Bid, but shall be subject to the following:

- a. GPPB Resolution No. 09-2020 on the efficient procurement measures during a State of Calamity or other similar issuances that shall allow the use of alternate documents in lieu of the mandated requirements; or
- b. any subsequent GPPB issuances adjusting the documentary requirements after the effectivity of the adoption of the PBDs.

The BAC shall be checking the submitted documents of each Bidder against this checklist to ascertain if they are all present, using a non-discretionary “pass/fail” criterion pursuant to Section 30 of the 2016 revised IRR of RA No. 9184.

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

Technical Documents

- ☐ (b) 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**
- ☐ (c) 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**
- ☐ (d) Special PCAB License in case of Joint Ventures; and registration for the type and cost of the contract to be bid; and
- ☐ (e) 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**
- ☐ (f) 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**
- ☐ (g) 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

- ☐ (h) The prospective bidder’s computation of Net Financial Contracting Capacity (NFCC).

Class “B” Documents

- ☐ (i) 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

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

Other documentary requirements under RA No. 9184

- ☐ (k) Original of duly signed Bid Prices in the Bill of Quantities; **and**
- ☐ (l) Duly accomplished Detailed Estimates Form, including a summary sheet indicating the unit prices of construction materials, labor rates, and equipment rentals used in coming up with the Bid; **and**
- ☐ (m) Cash Flow by Quarter.





RICKEDS CONSTRUCTION & ENGINEERING SUPPLY

Lot 4 Blk 14 Herbs Street New Lower Bicutan Taguig City

Contact No. 09178209537

Tin No. 267-974-314-000

Email: refernandez2019@gmail.com

RESEARCH FACILITIES DEVELOPMENT GRANT (RFDG) PROGRAM DETAILED QUANTITY ESTIMATES

Project Title: Proposed 2-storey Bureau of Soils and Water Management-Upland Research and Demonstration Center,
(BSWM-URDC) R4D Research Facility

I. EARTHWORKS

A. EXCAVATION

COLUMN FOOTING:

12 column footings

A = (1.5m) (1.5m)

Depth of excavation = 2.0

$V_{CF} = (1.5) (1.5) (2) (12)$

$V_{CF} = 54 \text{ m}^3$

TIE-BEAM/WALL FOOTING:

Length of Tie-Beam: 54.25 m

Depth of excavation = 0.6 m

Width = 0.4 m

$V_{TB} = (54.25) (0.4) (0.6)$

$V_{TB} = 13.02 \text{ m}^3$

SEPTIC VAULT:

Length of Septic Tank: 3.5 m

Width of Septic Tank: 1.8 m

Depth of Excavation: 2.1 m

$V = (3.5) (1.8) (2.1)$

$= 13.23 \text{ m}^3$

$V_T = (13.23) (2)$

$= 26.46 \text{ m}^3$

$V_{ET} = 54 \text{ m}^3 + 13.02 \text{ m}^3 + 26.46 \text{ m}^3$

$V_{ET} = 93.48 \text{ m}^3$

B. BACKFILL

COLUMN FOOTING:

Volume of Excavation = **54 m^3**

Volume of each footing = (1.2) (1.2) (0.5)

Volume of each footing = 0.72 m^3

Volume of each column = (0.4) (0.4) (1.5)

Volume of each column = 0.24 m^3

$V_{CF} = 54 - [(0.72 + 0.24) (12)]$

$V_{CF} = 42.48 \text{ m}^3$

TIE-BEAM/WALL FOOTING:

Volume of Excavation = **13.02 m^3**

Volume of Tie-Beam = (3) (0.4) (0.2)(12)

Volume of Tie-Beam = 2.88 m^3

$V_{TB} = 13.02 - 2.88$

$V_{TB} = 10.14 \text{ m}^3$

$V_T = 42.48 \text{ m}^3 + 10.14 \text{ m}^3$

$V_T = 52.62 \text{ m}^3$

C. HAULING OF EARTH

Volume of Excavation = **93.48 m^3**

Volume of Backfill = **52.62 m^3**

$V_{HAULING} = 93.48 - 52.62$

$V_{HAULING} = 40.86 \text{ m}^3$

D. SOIL POISONING

A = 132.09 m^2

$V_{SP} = A (0.2) = 27 \text{ m}^3$

EARTHWORKS = $93.48 + 52.6 + 40.86 + 27 = 213.94 \text{ m}^3$

EARTHWORKS = $(213.94 \times 15\%) + 213.94 = 245.94 \text{ m}^3$



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II. CONCRETE AND MASONRY

USING A CLASS "A" MIXTURE

A. COLUMN FOOTINGS

12 column footings

$$A = (1.2) (1.2)$$

$$W = 0.5$$

$$V = (1.2) (1.2) (0.5)$$

$$V = 0.72 \text{ m}^3 \text{ each footing}$$

$$V_T = 0.72 (12)$$

$$V_T = 8.64 \text{ m}^3$$

$$\text{CEMENT: } (8.64) (9) = 77.76 \cong 78 \text{ bags}$$

$$\text{SAND: } (8.64) (0.5) = 4.40 \text{ m}^3$$

$$\text{GRAVEL: } (8.64) (1.0) = 9 \text{ m}^3$$

B. CONCRETE COLUMNS

C = 12 columns with a height of 14m

$$V = (0.4) (0.4) (14) (12)$$

$$V_T = 26.88 \text{ m}^3$$

$$\text{CEMENT: } (26.88) (9) = 241 \text{ bags}$$

$$\text{SAND: } (26.88) (0.5) = 13.45 \text{ m}^3$$

$$\text{GRAVEL: } (26.88) (1.0) = 26.90 \text{ m}^3$$

C. TIE-BEAM/WALL FOOTING

$$L = 54.25 \text{ m}$$

$$V = (0.3) (0.65) (54.25)$$

$$V = 10.57 \text{ m}^3$$

$$\text{CEMENT: } (10.57) (9) = 95 \text{ bags}$$

$$\text{SAND: } (10.57) (0.5) = 5.3 \text{ m}^3$$

$$\text{GRAVEL: } (10.57) (1.0) = 10.6 \text{ m}^3$$

D. BEAMS

$$L = 96.75 \times 2 = 193.1 \text{ m}$$

$$V = (0.4) (0.3) (193.1)$$

$$V = 23.172 \text{ m}^3$$

$$\text{CEMENT: } (23.172) (9) = 209 \text{ bags}$$

$$\text{SAND: } (23.172) (0.5) = 11.6 \text{ m}^3$$

$$\text{GRAVEL: } (23.172) (1.0) = 23.2 \text{ m}^3$$

E. FLOOR SLABS

GROUND AND SECOND FLOOR

Thickness: 0.1 m

$$A = (11.95\text{m}) (9.20\text{m}) = 109.94 \text{ m}^2$$

$$V_T = 2 [(109.94) (0.1)]$$

$$V_T = 21.988 \text{ m}^3$$

$$\text{CEMENT: } (21.988) (9) = 198 \text{ bags}$$

$$\text{SAND: } (21.988) (0.5) = 11 \text{ m}^3$$

$$\text{GRAVEL: } (21.988) (1.0) = 22 \text{ m}^3$$

F. ROOF SLAB

$$A = 109.94 \text{ m}^2$$

$$V = (109.94) (0.1)$$

$$V = 10.994 \text{ m}^3$$

$$\text{CEMENT: } (10.994) (9) = 99 \text{ bags}$$

$$\text{SAND: } (10.994) (0.5) = 5.5 \text{ m}^3$$

$$\text{GRAVEL: } (10.994) (1.0) = 11 \text{ m}^3$$



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G. STAIRS

$$V_T = 3.005 \text{ m}^3$$

$$\text{CEMENT: } (3.005) (9) = 28 \text{ bags}$$

$$\text{SAND: } (3.005) (0.5) = 1.5 \text{ m}^3$$

$$\text{GRAVEL: } (3.005) (1.0) = 3 \text{ m}^3$$

GRAVEL BEEDING COLUMN FOOTING, TIE BEAM AND SLAB ON GRADE = 109.94 m³

$$V = A (0.1) = 10.994 \text{ m}^3$$

$$\text{GRAVEL: } (10.994) (1.0) = 11 \text{ m}^3$$

H. MASONRY WORKS

USE CLASS "A" MIXTURES FOR PLASTERING

USE CLASS "B" MIXTURES FOR MORTAR

USE 6" THK CHB FOR EXTERIOR WALLS

USE 4" THK CHB FOR INTERIOR WALLS

EXTERIOR WALLS

$$\text{Front elevation: } 90.66 \text{ m}^2$$

$$\text{Left side elevation: } 82 \text{ m}^2$$

$$\text{Right side elevation: } 82.7 \text{ m}^2$$

$$\text{Rear elevation: } 107.39 \text{ m}^2$$

$$A_T = 362.75 \text{ m}^2$$

$$\text{PCS. OF CHB 6": } (362.75) / (0.08) = 4,534.37 \cong 4,535 \text{ pcs.}$$

CHB MORTAR:

$$\text{CEMENT: } (362.75) (1.018) = 362.75 \cong 363 \text{ bags}$$

$$\text{SAND: } (362.75) (0.0844) = 30.61 \cong 31 \text{ m}^3$$

CEMENT MORTAR FOR PLASTERING:

Two-face 6mm Thick.

$$\text{CEMENT: } (362.75) (0.216) (2) = 156.71 \cong 157 \text{ bags}$$

$$\text{SAND: } (362.75) (0.012) (2) = 8.7 \cong 9 \text{ m}^3$$

INTERIOR WALLS

$$\text{Ground Floor: } 154.02 \text{ m}^2$$

$$\text{Second Floor: } 174.93 \text{ m}^2$$

$$A_T = 328.95 \text{ m}^2$$

$$\text{PCS. OF CHB 4": } (328.95) / (0.08) = 4,111.8 \cong 4,120 \text{ pcs.}$$

CHB MORTAR:

$$\text{CEMENT: } (328.95) (1.018) = 334.87 \cong 335 \text{ bags}$$

$$\text{SAND: } (328.95) (0.0844) = 27.76 \cong 28 \text{ m}^3$$

CEMENT MORTAR FOR PLASTERING:

Two-face 6mm Thick.

$$\text{CEMENT: } (328.95) (0.216) (2) = 142.10 \cong 143 \text{ bags}$$

$$\text{SAND: } (328.95) (0.012) (2) = 7.8 \cong 8 \text{ m}^3$$



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SUMMARY OF QUANTITY

TOTAL NO. OF CEMENT: $= (1,946 \times 10\%) + 1,946 = 2,100$ bags

TOTAL NO. OF SAND: $(128.75 \times 10\%) + 128.75 = 141.6 \cong 140$ m³

TOTAL NO. OF GRAVEL: $(116.7 \times 10\%) + 116.7 = 128 \cong 128$ m³

TOTAL NO. OF CHB 6'': $(4,535 \times 10\%) + 4,535 = 4,900$ pcs

TOTAL NO. OF CHB 4'': $(4,120 \times 10\%) + 4,120 = 4,500$ pcs

III. STEEL REINFORCEMENT WORKS

A. FOOTINGS

COLUMN FOOTING

USE 16mm ϕ RSB @ 0.10 m SPACING -12 bars B.W.

12 footings with a length of 1.2 and width of 1.2

16 G.I. Wire

Use 30 cm long ties (1kg is eq to 50m long)

Total length = $(2) (12) (1.2) (12) = 345.6$ m

No. of RSB = $345.6 / 6 = 58$ pcs.

No. of G.I. wire = $(12) (12) (12) (0.3) / 50$

No. of G.I. wire = **10.368 \cong 11 kg.**

WALL FOOTING/TIE BEAM

Length of Beam = 54.25 m

USE 6-16mm RSB

16 G.I. wire

No. of RSB = $[(54.25) (6)] / 6 = 54.25 \cong 60$ pcs. cons. hooks

STIRRUPS

USE 10mm RSB @ 0.15m spacing

Length of each stirrups = 2m

USE 40cm long ties (1kg is eq to 50m long)

No. of RSB = $(54.25) (2) / (6) (0.15) = 120.2 \cong 125$ pcs. consider hooks

No. of G.I. wire = $[(54.25) (6) (0.4)] / [(50) (0.15)] = 18$ kg.

B. COLUMNS

USE 10-16mm ϕ RSB

C = 12 columns with a height of 12 m

L = $(12) (12) = 144$ m

No. of RSB = $(144) (10) / 6 = 240 \cong 245$ pcs. consider hooks

STIRRUPS

USE 10mm RSB @ 0.1 m spacing

USE 40cm long ties (1kg is eq to 50m long)

Total length = 144 m

Length of each stirrups = 2m

No. of RSB = $(144) (2) / (6) 0.1 = 480 \cong 485$ pcs. cons. hooks

No. of G.I. wire = $(144) (10) (0.4) / (50) (0.1) = 116$ kg.

C. CHB REINFORCEMENTS

Total wall area: 691.7 m²

USE 10mm RSB @ 0.6 m spacing at every 3 layers

16 G.I. wire - 30 cm long ties

Length of Vert. bars in sq. m = 2.13

Length of Hor. bars in sq. m every 3 layers = 2.15

Kilogram of tie wires per sq. m: 0.032

No. of RSB_{VR} = $[(691.7) (2.13)] / 6$

No. of RSB_{VR} = **245.55 \cong 250 pcs.**

No. of RSB_{HR} = $[(691.7) (2.15)] / 6$

No. of RSB_{HR} = **247.8 \cong 252 pcs.**

No. of G.I. wire = $(691.7) (0.03)$

No. of G.I. wire = **21 kg.**



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D. BEAMS

Length of Beam = 193.1 m

USE 8-16mm RSB

16 G.I. wire

No. of RSB = $[(193.1) (8)] / 6 = 257.46 \cong 262$ pcs. cons. hooks

STIRRUPS

USE 10mm RSB @ 0.1 m spacing

Length of each stirrups = 2m

USE 40cm long ties (1kg is eq to 50m long)

No. of RSB = $(193.1) (2) / (6) (0.1) = 231 \cong 235$ pcs. cons. hooks

No. of G.I wire = $[(193.1) (8) (0.4)] / [(50) (0.1)] = 124$ kg.

E. FLOOR SLABS

Total Floor Area = 219.88 m²

USE 10mm RSB @ 0.10 m spacing

No. of 6m steel bars per sq. meter: 2.360

USE 30cm long ties

Tie wires in kg per sq. meter: 0.174

No. of RSB = $(219.88) (2.360) = 518.91 \cong 523$ pcs. cons. hooks

No. of G.I. wire = $(219.88) (0.174) = 38$ kg

F. ROOF SLABS

Total Area = 109.94 m²

USE 16mm RSB @ 0.10 m spacing

No. of 6m steel bars per sq. meter: 2.360

USE 30cm long ties

Tie wires in kg per sq. meter: 0.174

No. of RSB = $(109.94) (2.360) = 259$ pcs. $\cong 254$ pcs. cons. hooks

No. of G.I. wire = $(109.94) (0.174) = 19.2$ kg

G. STAIRS

USE 12mm RSB

Total no. of Stairs = 1

Height = 3

Length = 6.4

Width = 1.9

Diagonal = 7.07

Total number of Main Diagonal Bars

= $(8.3) (3) = 25$

Net length = $(25) (7.07) = 176.75$

No. of RSB = $(303.5) / 6 = 30$ pcs

Number of Horizontal Bars per stairs

= $7.07 / .25 = 29$

Net length = $(29) (1.9) = 55$

No. of RSB = $(55) / 6 = 10$ pcs

SUMMARY OF QUANTITY

TOTAL 16mm \emptyset RSB: = $(625 \times 15\%) + 625 = 720$ pcs

TOTAL 12mm \emptyset RSB: = $(40 \times 15\%) + 40 = 46$ pcs

TOTAL 10mm \emptyset RSB: = $(2,124 \times 15\%) + 2,124 = 2,443$ pcs

TOTAL G.I. WIRE: = $(516 \times 15\%) + 516 = 594$ kg



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IV. FORMS, SCAFFOLDINGS AND STAGING

Use 2"x3"x12' Coco Lumber for Vertical Support

2"x3"x12' Coco Lumber for Horizontal Support

2"x3"x12' Coco Lumber for Braces

LUMBER PROPORTION

Multipliers: For Column – (2"x3") Vertical Support = 7.0

(2"x3") Horizontal Support = 21.0

(2"x3") Diagonal Braces = 11.70

For Beam – (2"x3") Vertical Support = 4.0

(2"x3") Horizontal Support = 4.70

For Slab – (2"x3") Bd.ft. / m² = 6.10

A. SCAFFOLDING FOR COLUMNS

Vertical Support

Net Length = (Height x No. of Columns)

= (12m x 12)

= 144 m

Board feet = (Net Length x (2"x3") Vertical Support)

= (144 m x 7.0 bd.ft /m)

≅ **1,008 Bd. Ft. (2"x3"x12' Coco Lumber)**

Horizontal Support

Board feet = (Net Length x (2"x3") Horizontal Support)

= (144 m x 21.0 bd.ft/m)

≅ **3,024 Bd. Ft. (2"x3"x12' Coco Lumber)**

Diagonal Braces

Board feet = (Net Length x (2"x3") Diagonal Braces)

= (600 m x 11.70 bd.ft/m)

≅ **1,685 Bd. Ft. (2"x3"x12' Coco Lumber)**

B. SCAFFOLDING FOR BEAMS

Vertical Support

Net Length = (Total Length of Beam x No. of Beams)

= 193.1 m

Board feet = (Net Length x (2"x3") Vertical Support)

= (193.1 m x 4.0 bd.ft/m)

≅ **772 Bd. Ft. (2"x3"x12' Coco Lumber)**

Horizontal Support

Board feet = (Net Length x (2"x3") Horizontal Support)

= (193.1 m x 4.7 bd.ft/m)

≅ **908 Bd. Ft. (2"x3"x12' Coco Lumber)**

C. SCAFFOLDING FOR CONCRETE SLAB

Vertical Support

Total Area of Slab = (Area of Slab x No. of Slab)

= (109.94 m x 2)

= 219.88 m²

Board feet = (Total Area of Slab x (2"x2") Bd.Ft. / m²)

= (219.88 m x 6.10 bd.ft/m)

≅ **1,341 Bd. Ft. (2"x3"x12' Coco Lumber)**

D. COLUMN FORMS:

Length: 0.40m

Width: 0.40m

Height: 12m

Perimeter = (2L + 2W) + 0.20m

= 2(0.40m + 0.40m) + 0.20m

= 1.8m

Total Area of Columns = (Perimeter x Height) (No. of Columns)

= (1.8m x 12m) (12)

= 259.2 m²

No. of Plywood required

= (Total Area of Columns/Area of Plywood)

= (259.2 m² / 2.97 m² per sheet)

≅ **88 sheets (1/2"x4'x8' Phenolic Plywood)**

E. BEAM FORMS: (Ground Floor Only)

Perimeter = (2L + 2W) + 0.20m

= 2(0.40m + 0.30m) + 0.20m

= 1.6m

Total Area of Beams = (Perimeter x Length) (No. of Beam)

= (1.6m) (193.1)

= 308.96 m²

No. of Plywood required

= (Total Area of Beam/Area of Plywood)

= (1,794.96 m² / 2.97 m² per sheet)

≅ **105 sheets (1/2"x4'x8' Phenolic Plywood)**



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F. SLAB FORMS

Total Area = (Length x Width) x No. of Slabs

= 219.88 m²

No. of Plywood required

= (Total Area of Slab/Area of Plywood)

= (219.88 m² / 2.97 m² per sheet)

≅ **75 sheets (1/2"x4'x8' Marine Plywood)**

SUMMARY OF QUANTITY

2"x3"x12' Coco Lumber = **(8738 X 15%) + 8738 = 10,049 Bd.Ft.**

1/2"x4'x8' Marine Plywood = **(268 X 15%) + 268 = 310 Sheets**

OTHER SCOPE OF WORKS WERE DIRECTED TO
EXCEL FILES