Republic of the Philippines
Department of Science and Technology
PHILIPPINE NUCLEAR RESEARCH INSTITUTE

# BID DOCUMENTS

# UPGRADING OF ARC BUILDING (CY 2021)

PNRI BIDS AND AWARDS COMMITTEE
Commonwealth Avenue, Diliman, Quezon City

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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.

# *Section I. Invitation to Bid*

Republic of the Philippines
Department of Science and Technology
**PHILIPPINE NUCLEAR RESEARCH INSTITUTE**
Commonwealth Avenue, Diliman, Quezon City

# INVITATION TO BID FOR THE UPGRADING OF ARC BUILDING (CY 2021)

1. The Philippine Nuclear Research Institute, through the General Appropriations Act (GAA) for 2021 intends to apply the sum of ***Thirteen Million Seven Hundred Twenty Thousand Six Hundred Four Pesos and Forty Four Centavos (₱13,720,604.44)*** being the Approved Budget for the Contract (ABC) to payments under the contract for the project ***Upgrading of ARC Building (CY 2021)*** under ***PR No. 21-05-0352.*** Bids received in excess of the ABC shall be automatically rejected at bid opening.

2. The Philippine Nuclear Research Institute now invites bids for the above Procurement Project. Completion of the Works is ***one hundred fifty (150) government working days***. Bidders should have completed a contract similar to the Project. The description of an eligible bidder is contained in the Bidding Documents, particularly, in Section II (Instructions to Bidders).

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 the Philippine Nuclear Research Institute and inspect the Bidding Documents at the address given below.

5. A complete set of Bidding Documents may be acquired by interested Bidders from ***9:00 am to 5:00 pm*** on ***July 19 – August 08, 2021***, Monday thru Friday, from the Philippine Nuclear Research Institute and upon payment of a non-refundable fee, pursuant to the latest Guidelines issued by the GPPB, in the amount of ***Twenty Five Thousand Pesos (₱25,000.00)*** to the PNRI Cash Section, FAD.

   It may also be downloaded from the website of the Philippine Government Electronic Procurement System (PhilGEPS) and the website of the Philippine Nuclear Research Institute, provided that bidders shall pay the applicable fee for the Bidding Documents not later than the submission of their bids.

6. The Philippine Nuclear Research Institute will hold a Pre-Bid Conference on ***July 26, 2021, Monday, 10:00 AM*** through videoconferencing/webcasting via Microsoft Teams, which shall be open to prospective bidders.

7. Bids must be duly received by the BAC Secretariat through manual submission at the ***3rd Floor Conference Room, NART Building, PNRI Compound***, on or before ***August 09, 2021, Monday, 10:00 AM.*** 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 ***August 09, 2021, 10:00 AM*** at the ***3rd Floor Conference Room, NART Building, PNRI Compound.*** Bids will be opened in the presence of the bidders' representatives who choose to attend the activity.

10. The Philippine Nuclear Research Institute 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.

11. For further information, please refer to:

    PHILIPPINE NUCLEAR RESEARCH INSTITUTE

    **Hidie S. Gocuyo , Administrative Officer V**
    Head BAC Secretariat
    929-6011 to 19 Loc. 259/Fax. 920-8760
    hsgocuyo@pnri.dost.gov.ph

12. You may visit the following websites for downloading of Bidding Documents:

    ***http://www.philgeps.gov.ph***
    ***http://www.pnri.dost.gov.ph***

**Lucille V. Abad, Ph.D.**
Chief Science Research Specialist and
Chairperson, PNRI-BAC

# *Section II. Instructions to Bidders*

## 1. Scope of Bid

The Philippine Nuclear Research Institute invites Bids for the project ***Upgrading of ARC Building (CY 2021).***

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 below for ***2021*** in the amount of ***Three Million Seven Hundred Twenty Thousand Six Hundred Four Pesos and Forty Four Centavos (₱13,720,604.44)***

2.2. The source of funding is: NGA, the General Appropriations Act

## 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

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 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 criterial 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 {*[insert if applicable]* and/or 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 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 for ***one hundred twenty (120) days***. 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*

# Bid Data Sheet

| ITB Clause | |
|---|---|
| 5.2 | The Bidder must have completed, within the period specified in the Invitation to Bid, a single contract that is similar to this Project, equivalent to at least fifty percent (50%) of the ABC. However, contractors under Small A and Small B categories without similar experience on the contract is allowed to bid since the ABC is not more than the Allowable Range of Contract Cost (ARCC) of their registration. Further, bidders whose offices are not based in Metro Manila should have completed projects within Metro Manila similar to the project to bid, so that the Procuring Entity can verify the quality of workmanship.<br>For this purpose, contracts similar to the Project refer to General Building |
| 7.1 | Subcontracting is not allowed. |
| 10.3 | The Bidder must be a PCAB licensed contractor with ***License Classification on General Building*** at least ***Category C or D***. The Bidder must also be a registered contractor for government projects with Size Range at least ***Small B*** for ***Building and Industrial Plant.*** |
| 10.4 | The minimum work experience requirements of key personnel to be assigned for the project shall be provided in the Key Personnel (Format of Bio-Data) form. |
| 10.5 | The minimum major equipment requirements for the project shall be provided in the List of Equipment, Owned or Leased and/or under Purchase Agreements, Pledged to the Proposed Contract form. |
| 12 | No further instructions. |
| 15.1 | The bid security shall be in the form of a Bid Securing Declaration or any of the following forms and amounts:<br>a. The amount of not less than ***₱274,412.09*** if bid security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit;<br>b. The amount of not less than ***₱686,030.22*** if bid security is in Surety Bond.<br>If a surety bond will be used, the following are the requirements:<br>*a. Must have the original receipt;*<br>*b. Must be callable on demand;*<br>*c. Certified by the Insurance Commission that the surety company is authorized to issue such security.* |

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|---|---|
| 15.2 | The Bid and bid security shall be valid for ***one hundred twenty (120) days*** |
| 19.2 | Partial bids are not allowed. |
| 20 | No further instructions. |
| 21 | Additional contract documents relevant to the Project to be submitted by the successful bidder:<br>(1) Construction Schedule and S-curve<br>(2) Manpower Schedule<br>(3) Construction Methods<br>(4) Equipment Utilization Schedule<br>(5) Construction Safety and Health Program approved by the DOLE<br>(6) PERT/CPM and<br>(7) All Risk Insurance |

# *Section IV. General Conditions of Contract*

## 1. Scope of Contract

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

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

## 2. Sectional Completion of Works

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

## 3. Possession of Site

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

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

## 4. The Contractor's Obligations

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

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

## 5. Performance Security

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

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

## 6. Site Investigation Reports

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

## 7. Warranty

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

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

## 8. Liability of the Contractor

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

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

## 9. Termination for Other Causes

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

## 10. Dayworks

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

## 11. Program of Work

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

11.2. The Contractor shall submit to the Procuring Entity's Representative for approval an updated Program of Work at intervals no longer than the period stated in the **SCC.** If the Contractor does not submit an updated Program of Work within this period, the Procuring Entity's Representative may withhold the amount stated in the **SCC** from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program of Work has been submitted.

## 12. Instructions, Inspections and Audits

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

## 13. Advance Payment

The Procuring Entity shall, upon a written request of the Contractor which shall be submitted as a Contract document, make an advance payment to the Contractor in an amount not exceeding fifteen percent (15%) of the total contract price, to be made in lump sum, or at the most two installments according to a schedule specified in the **SCC**, subject to the requirements in Annex "E" of the 2016 revised IRR of RA No. 9184.

## 14. Progress Payments

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

## 15. Operating and Maintenance Manuals

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

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

# *Section V. Special Conditions of Contract*

# Special Conditions of Contract

| GCC Clause | |
|---|---|
| 2 | The Intended Completion Date is March 2022. |
| 3.1 | No further instructions. |
| 4 | The Contractor shall employ the following **Key Personnel:**<br>(a) Registered Civil Engineer<br>(b) Registered Electrical Engineer<br>(c) Foreman (with 5 years supervisory experience)<br>(d) Skilled Workers (Carpenter Mason, Electrician, Plumber and Welder with at least 5 yrs. experience)<br><br>Note: Foreman and workers are required to be full time/present on site throughout the duration of the contract.<br><br>The Contractor shall provide appropriate PPE to workers and to all other persons who are either authorized or allowed to be at the site. |
| 5 | Within seven (7) calendar days from receipt of the Notice of Award, the successful Bidder shall furnish the performance security in any of the forms prescribed in Section 39 of the 2016 revised IRR or a Performance Securing Declaration. |
| 6 | A Site Inspection is required to prospective bidders. A Certificate of Site Inspection shall be issued by PNRI and will form part of Eligibility Requirements. |
| 7.2 | Warranty:<br><br>The warranty shall be based on prescribed warranty provisions of the 2016 Revised IRR of RA 9184.<br><br>1. From the time project construction commenced up to final acceptance, the contractor shall assume full responsibility for the following:<br>a) any damage or destruction of the works except those occasioned by force majeure ; and<br>b) safety, protection, security, and convenience of his personnel, third parties, and the public at large, as well as the works, equipment, installation and the like to be affected by his construction work. |

| | |
|---|---|
| | 2. One (1) year from project completion up to final acceptance or the defects liability period.<br><br>The contractor shall undertake the repair works, at his own expense, of any damage to the infrastructure on account of the use of materials of inferior quality, within ninety (90) days from the time the HoPE has issued an order to undertake repair. In case of failure or refusal to comply with this mandate, the Procuring Entity shall undertake such repair works and shall be entitled to full reimbursement of expenses incurred therein upon demand.<br><br>The warranty against Structural Defects and Failures shall be covered for Five (5) years from final acceptance, except those occasioned by force majeure. |
| 10 | Day works are applicable at the rate shown in the Contractor's original bid. |
| 11.1 | The Contractor shall submit the Program of Work to the Procuring Entity's Representative within ***five (5) days*** of delivery of the Notice of Award. |
| 11.2 | The period between Program of Work updates should not be longer than ten (10) days<br><br>The amount to be withheld for late submission of an updated Program of Work is ***Twenty Thousand Pesos (₱20,000.00)***. |
| 13 | The amount of the advance payment shall not exceed 15% of the total contract price. Payment shall be made upon the completion and approval of the Final Drawings, Specifications and other relevant documents. |
| 14 | 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. Materials and equipment delivered on the site but not completely put in place shall be included for payment. |
| 15.1 | The Contractor shall submit construction plans, showing the detailed drawing plans design prior to construction commencement.<br><br>The Contractor shall submit as-built drawings after project completion. |
| 15.2 | The Final Payment shall be withheld for failing to produce "as built" drawings. |

# *Section VI. Specifications*

## I. SCOPE OF WORKS

### A. GENERAL REQUIREMENTS

1. Mobilization & demobilization (manpower, tools, materials, and equipment).
2. Bonds/insurance
3. Temporary facilities
4. As-built plan
5. Project billboard

### B. UPGRADING OF EXISTING CHEMICAL WASTE STORAGE BUILDING

### CIVIL AND ARCHITECTURAL WORKS

### 1. SITE WORKS

1. Clearing and grubbing
2. Cutting of trees and removal of plants and hauling
3. Hauling and disposal of scrap materials
4. Excavation of foundation
5. Filling materials
6. Backfilling and compaction
7. Soil poisoning
8. Gravel bedding
9. Disposal of all waste materials

### 2. REINFORCED CONCRETE WORKS

1. Footing
2. Tie beam
3. Wall footing
4. Columns
5. Roof beam
6. Floor slab on fill
7. Concrete slab (entrance)
8. Concrete table w/ stainless steel sink and goose type faucet
9. Concrete sidewalk around the building

### 3. MASONRY WORKS

1. Supply and installation of 6” thk Ordinary CHB w/ 10mmØ rebar @0.60m O.C B.W w/ smooth plastered cement finish on both sides.

## 4. CARPENTRY WORKS

1. Supply and installation of 10mm thk gypsum board interior ceiling w/ 1" x 2" Metal furring frame @0.60m O.C B.W.
2. Supply and installation of 5.5mm thk ficem board exterior ceiling w/ 1" x 2" metal furring frame @0.60m O.C B.W.
3. Supply and installation of 12mm thk ficem board fascia.

## 5. STRUCTURAL WORKS

1. Supply and installation of steel roof frame and trusses
2. Supply and installation of G.I Pipe partition w/ cyclone wire.
3. Supply and installation of steel tubular ceiling ventilation.

## 6. TINSMITHRY WORKS

1. Supply and installation of (0.40mm thk x 1.09m x 11.80m) pre-painted long span roofing "rib-type" green.
2. Supply and installation of (0.40mm thk x 0.60m) pre-painted side flushing.
3. Supply and installation of 12mm thk polyethylene foam insulation w/ aluminum foil on both sides.

## 7. PAINTING WORKS

1. Painting of concrete walls and ceiling (interior and exterior)
2. Application of floor self-leveling epoxy.
3. Painting of steel roof frame and trusses w/ 2 coats red oxide paint.

## 8. DOORS AND WINDOWS

1. Supply and installation of steel door and jamb complete with stainless steel hinges, lockset and heavy duty door closer, foot bolt and head bolt.
2. Supply and installation of heavy duty analok aluminum sliding door w/ ¼" thk bronze glass complete w/ heavy duty track and rollers, handle and lockset.
3. Supply and installation of analok aluminum awning windows with ¼" thk bronze glass.

## 9. SUPPLY AND INSTALLATION OF FIRE HOSE CABINET / STAINLESS STEEL EMERGENCY SHOWER

1. Supply and installation of fire hose cabinet and tap new G.I waterline to the nearest existing 2"Ø G.I waterline. Fire hose cabinet with glass cover, G.I painted red G.A 18 with 10LBS Fire extinguisher, Axe 50ft. Hose with brass nozzle and brass gate valve and other accessories.

## 10. PROVISION OF MONOLITHIC REINFORCED CONCRETE CHEMICAL TANK WITH PVC SEWER LINE PIPE CONNECTION

## 11. SUPPLY AND INSTALLATION OF CONCRETE TABLE W/ SINK

## 12. PROVISION OF STORAGE AREA

## 13. ELECTRICAL WORKS

1. Supply and installation of new Electrical Panel board MDP with the following specifications and as indicated in the electrical plan

   Panelboard MDP 60A, 3P, 240V, 22 KAIC, Main CB, Industrial Type with Branches Circuit breaker: 4 sets 15A, 2P, 250V, 10KAIC CB, Bolt-on type, 4 sets 20A, 2P, 250V, 10 KAIC CB, Bolt-on type, 2 sets 30A, 2P, 250V, 10 KAIC CB, Bolt-on type

2. Supply and installation of MDP distribution circuits which includes lighting fixtures, convenience outlets, switches and other related electrical devices and materials as indicated in the electrical plan

3. Supply and installation of CCTV Cameras, cables and other accessories as indicated in the electrical plan.

4. Supply and installation of Fire Alarm System as indicated in the electrical plan.

## C. REHABILITATION OF 2ND FLOOR WEST WING, REACTOR BLDG.

## SITE WORKS

1. Chipping/removal of steel casement windows and disposal.
2. Removal/demolition of cabinet and disposal.
3. Removal/scraping of old paint (Walls and ceiling)
4. Demolition/removal of existing floor tiles, exposed steel pipes, emergency shower and disposal.
5. Chipping of concrete floors and walls for the installation of new CHB partition walls.
6. Removal/demolition of entire elevator structure from the top to bottom (motor, shaft, wire rope, steel structure etc.)
7. Equipment and tools rental for demolition (jackhammer, oxyacetylene, cutting outfit, grinder, cutter etc.)
8. Demolition of reinforced concrete wall surrounding the elevator shaft (2 sides) and disposal of concrete debris.
9. Chipping and removal of door and jamb and disposal.
10. Upgrading of comfort rooms.
11. Cleaning and disposal of all waste materials and concrete debris.

## 2. TILE WORKS

1. Supply and installation of (0.60m x 0.60m) Synthetic granite floor tiles and wall tiles.

## 3. CEILING WORKS

1. Supply and installation of (0.60m x 0.60m) white acoustic board with 1" x 1" T-runner white powder coated metal w/ G.A16 G.I. wire hanger and provide 12mmØ rebar support for hanger.

## 4. MASONRY WORKS (NEW CHB WALL SMOOTH PLASTERED FINISH ON BOTH SIDE)

1. Supply and installation of new 6" thk CHB partition walls and additional two (2) layers of CHB on existing CHB partition with smooth cement plastered finish on both sides.

## 5. PAINTING WORKS

1. Concrete wall (floor to new ceiling line) latex paint.
2. Concrete ceiling (NATAS laboratory and storage) latex paint.
3. Concrete flooring (NATAS laboratory and storage) self-leveling epoxy.
4. Concrete stair step – self-leveling epoxy.

## 6. COMFORT ROOM (FIXTURE AND ACCESSORIES)

1. Supply and installation of new comfort rooms fixtures and accessories.

## 7. WATERPROOFING (COMFORT ROOMS FLOORING)

1. Thoroseal waterproofing (3 coats) with concrete surface preparation.

## 8. PLUMBING WORKS

1. Supply and installation of new PPR waterline pipes and fittings and new PVC sewer line pipes and fittings.

## 9. CONCRETE WORKS

1. Concreting of elevator shaft floor opening and CHB walling.
2. Concrete restoration of door opening and window opening (Smooth plastered finish)
3. Provision of new concrete pathway with steel grating.

## 10. DOORS AND WINDOWS

1. Supply and installation of new Analok Aluminum frame with bronze glass doors and windows.
2. Supply and installation of steel door.

## 11. ELECTRICAL WORKS

1. Supply and installation of fluorescent fixtures and emergency lights as indicated in the electrical plan.

## D. UPGRADING OF ENVIRONMENTAL RADIOACTIVITY LABORATORY

## CIVIL AND STRUCTURAL WORKS

### 1. SITE WORKS

1. Clearing and grubbing
2. Cutting of trees (Rental of chainsaw)
3. Hauling and disposal of scrap materials
4. Removal/Relocation of two (2) steel container van (Rental of equipment)
5. Excavation of foundation
6. Filling materials/compaction
7. Backfilling/compaction
8. Soil poisoning
9. Disposal of waste construction materials
10. Gravel bedding

### 2. REINFORCED CONCRETE WORKS

1. Footing
2. Tie beam
3. Wall footing
4. Roof beam
5. Floor slab

### 3. FORM WORKS

1. Installation of forms and scaffoldings for the concreting of columns, roof beam, lintel beam.

### 4. CARPENTRY WORKS

1. Supply and installation of 10mm thk gypsum board interior ceiling w/ 1" x 2" Metal furring frame @0.30m O.C B.W.
2. Supply and installation of 5.5mm thk ficem board exterior ceiling w/ 1" x 2" metal furring frame @0.30m O.C B.W.

### 5. MASONRY WORKS

1. Supply and installation of 6" thk Ordinary CHB w/ 10mmØ rebar @0.60m O.C B.W w/ smooth plastered cement finish on both sides.

### 6. STRUCTURAL WORKS

1. Supply and installation of steel roof frame and trusses.

### 7. METAL WORKS

1. Fabrication and installation of (0.40m x 2.00m) 1" x 1" x 1.5mm thk square tubular ceiling ventilation.

## 8. TINSMITHRY WORKS

1. Supply and installation of (0.40mm thk x 1.09m x 9.60m) pre-painted long span roofing "rib-type" green.
2. Supply and installation of (0.40mm thk x 0.60m) pre-painted side flushing.
3. Supply and installation of 10mm thk polyethylene foam insulation w/ aluminum foil on both sides.

## 9. DOORS AND WINDOWS

1. Supply and installation of analok aluminum frame windows with ¼" thk bronze glass.
2. Supply and installation of steel doors and jamb complete with stainless steel hinges, lockset, door closer, head bolt and foot bolt.
3. Supply and installation of analok aluminum door and jamb w/ ¼" thk bronze glass complete w/ heavy duty lockset and concealed door closer.

## 10. PLUMBING WORKS

1. Supply and installation of new PPR waterline pipes and fittings and new PVC sewer line pipes and fittings.
2. Supply and installation of new comfort rooms fixtures and accessories.

## 11. PAINTING WORKS

1. Painting of concrete walls and ceiling (Interior and exterior) with skim coat surface preparation.
2. Painting of steel roof frame and trusses w/ 2 coats red oxide paint.

## 12. TILE WORKS (COMFORT ROOM) FLOOR TO CEILING

1. Supply and installation of (0.60m x 0.60m) Granite floor tiles and wall tiles.

## 13. ELECTRICAL WORKS

1. Supply and installation of new electrical panel board MDP with following specifications and as indicated in the electrical plan.

   Panelboard MDP, 125A, 3P, 250V 22 KAIC, Main CB, Industrial Type with Branches Circuit Breaker: 3 sets 15A, 3P, 250V CB, Bolt-on Type, 10 sets 20A, 2P, 250V CB, Bolt-on Type, 8 sets 30A, 2P, 250V CB, Bolt-on Type, 1 set 60A, 3P, 250V CB, Industrial Type, with ground terminal.

2. Supply and installation of MDP distribution circuits, which include lighting fixtures, convenience outlets, switches and other related electrical devices and materials as indicated in the electrical plans.

3. Supply and installation of cables for the presser equipment.

## E. UPGRADING OF GRAFTING LABORATORY

### CIVIL AND STRUCTURAL WORKS

1. Repainting of interior concrete walls and ceiling including cabinets/shelves.
2. Modification/upgrading of existing laboratory sink (2 units).
3. Repair of main door entrance of central laboratory.

## F. PROVISION OF REINFORCED CONCRETE RAMP WITH STAINLESS STEEL RAILING AT CENTRAL LABORATORY, POOLSIDE

1. Concreting of ramp.
2. Supply and installation of stainless-steel railing (same as existing)
3. Painting of concrete ramp wall.

## G. PROVISION OF COMFORT ROOM, PANTRY AND NEW SEPTIC TANK AT HPRS OFFICE

1. Supply and installation of new CHB wall and ceiling.
2. Supply and installation of Granite floor and wall tiles.
3. Supply and installation of new comfort room fixtures and accessories.
4. Supply and installation of new PPR waterline and PVC sewer line w/ Inca septic tank.
5. Provision of concrete table w/ stainless steel sink and cabinet below.
6. Provision of sewer line pipeline from septic tank to existing road drainage line.
7. Supply and installation of wooden bench w/ 6" thk foam with leatherette cover.
8. Enclosed wall gap opening w/ 12mm thk. Ficem board painted finish both sides.

## H. UPGRADING OF CARAGEENAN PILOT PLANT

### CIVIL AND STRUCTURAL WORKS

1. Chipping/demolition of existing concrete walls including disposal of debris.
2. Removal/demolition of existing ceiling, roofing fascia/façade at front and left side elev.
3. Chipping/removal of existing doors, windows, jamb.
4. Removal of affected waterproofing membrane and chipping works.
5. Hauling/disposal of concrete debris and waste materials of wall ceiling and roofing.
6. Removal of existing aluminum glass partition and disposal.
7. Provision of new concrete table with ¾" thk. Solid granite top finish with stainless steel sink.
8. Provision of movable stainless steel sink.
9. Building extension of carrageenan.
10. Installation of new spandrel roof façade and exterior ceiling (Front and left side elevation).

11. Installation of additional steel trusses and metal purlins.
12. Installation of additional pre-painted long span roofing, flushing and ceiling.
13. Painting of carrageenan pilot building (interior and exterior) concrete walls and ceiling.
14. Electrical works.
    i. Re-installation of existing Electrical Panel board #2 and enclosed circuit breaker (ECB) as indicated in the Electrical plan and supply of an additional bolt-on type circuit breakers.
    ii. Supply and installation of new three (3) sets fluorescent fixtures, six (6) sets Pin lights, re-installation of nine (9) sets existing fluorescent fixtures, Enclosed Circuit breaker (ECB) and other distribution power circuits as indicated in the electrical plan.
    iii. Supply and installation of electrical supply line for split-type air conditioner.

## I. UPGRADING OF CHEMICAL STORAGE ROOM

1. Supply and installation of ductless fume hood with metal stand.
2. Supply and installation of Hazardous chemical cabinets.
3. Supply and installation of Water purification system.

## J. RETROFITTING OF REACTOR BUILDING

1. Rental of tool and equipment.
2. Consumables.
3. Consultancy and monitoring fee for retrofitting and strengthening works (AMH Philippines).
4. Retrofit of beams RB4 and RB5 (Below runway of polar crane)
5. Building basement (wall side) Retrofit.
6. Dome Retrofit.

# II. MATERIAL SPECIFICATIONS

## CIVIL WORKS

| | |
|---|---|
| Concrete | Site mix (1:2:3 mixture) |
| Cement | Portland |
| Sand | White sand |
| Deformed bar | Grade 33 |
| Gravel | 3/4” crashed |
| CHB | 6” thk ordinary |
| Paint | Latex, Epoxy enamel (Boysen) |
| Water Closet | Oval shape, white (Pozzi) |
| Lavatory | Oval shape, white (Pozzi) |
| Lavatory w/ stand | White Pozzi |

| | |
|---|---|
| Urinal | Medium, white (Pozzi) |
| Sink | Stainless steel G.A 18 |
| Steel deck | Rib-type, G.I G.A 16 |
| Gypsum board | 10mm thick |
| Metal furring | 1” x 2” x 0.36mm thick |
| Door hinges | 3” x 4” loose stainless pin hinges |
| Door lockset | Yale or equivalent |
| Door closer | Yale or equivalent |
| Windows | Analok alum. Sliding & fixed window w/ ¼” thick bronze glass |
| Head bolt and foot bolt | Stainless steel (yale) or equivalent |
| Granite tiles | 0.60m x 0.60m smooth granite |
| Tubular pipe | 2” x 3” x 1.5mm thick |
| Paint (Ceiling) | Latex, semi-gloss (Boysen) |
| Roof insulation | 12mm thk polyethylene foam w/ aluminum foil on both side |
| Acoustic board | 0.60m x 0.60m fine fissured (Armstrong) |
| Self-leveling epoxy | Badge or equivalent |
| B.I C-purlins | 2” x 4” x 1.5mm thk |
| Ficem board | 12mm thk (Fascia board) |
| Ceiling T-runner | 1” x 1” white powder coated metal |
| Waterline | PPR Pipes & fittings PN 20 |
| Sewer line | PVC Pipe, Orange (S-1000) |
| Gate Valve | PPR/Brass |

**ELECTRICAL WORKS**

| | |
|---|---|
| Main Circuit Breaker | Industrial Type, UL Listed, 22 KAIC rated 250V/600V, G.E. or better (new model) |
| Distribution Circuit Breaker | Bolt-on and Commercial Type, 10 KAIC, G.E. or Better |
| Wires/Cables | THHN, stranded and rated 600V, UL Listed |
| Rigid Steel Conduit | Schedule 40, Nichi Brand or better |

| | |
|---|---|
| uPVC Pipe | Schedule 40, Emerald brand or better |
| Lighting Switches | conform to the IEC60669-1 standard (16A 250V~) |
| Duplex Convenience Outlet | Socket Outlets conform to the IEC60884-1 standard, 16A, 250 Full rating |
| Pinlight Fixture | Recessed type, 6 inches diameter, aluminum casing with 18W LED Bulb |
| Fluorescent Fixture | T-8 Aluminum Louver Recessed Type, Mirroriized, 2 x 36 W, 600x1200x65 mm and 1 x 36 W, 300x1200x65 mm<br><br>Moisture Proof, IP65, T8, 18W, Double |
| Panel board | 250A Ampere Frame with equipment ground terminal |
| CCTV Camera | Bullet type. Indoor and outdoor, 2 MP |
| Centralized Power Supply | Input Voltage= 100-240 VAC, 60Hz,<br>Output Voltage=12 VDC, Total Current 0-30A<br>Preferred Fuse Type PTC (Resettable Fuse), 8 Channels |
| Fire Alarm Control Panel | 4 zones, 24V, Conform to NFPA Standard |
| Manual Pull Station | Conform to NFPA Standard, Simplex or better |
| Photoelectric smoke detector | Input Voltage 12-35VDC, Static current 50µA, Alarm Current 40-80µA, Conform to NFPA Standard, PYRGARD brand or better |
| Fire alarm Bell | 6" diameter, 24V, Conform to NFPA Standard |
| Lead Acid Battery | 12V, 7Ah, (dimension, 151mm x 65mm x 97.5mm), YUASA or better |
| Industrial Wall Exhaust Fan | 12” (305mm) blade<br>Motor: 45 Watts<br>Fan speed: 1,625 RPM<br>Installation dimension: 330mm x 330mm<br>With shutter<br>Industrial grade steel blade and casing<br>With thermal fuse<br>Bushing type motor |

**MATERIAL SPECIFICATIONS (RETROFITTING OF REACTOR BUILDING)**

1. Carbon fiber reinforced polymer includes primer, epoxy putty, high strength resin, carbon fiber sheet, polyurethane coating, preferably Alphatec product.
2. Reinforced steel bar, 12mmØ x 6.00m.
3. Cement, Portland "A" 1:2:4 concrete proportion.
4. Cement, Portland 40kg/ bag
5. Gravel, Coarse aggregate, ¾"Ø
6. Sand, fine aggregate, #4 (4.75mm sieve)
7. Epoxy resin adhesive – shall conform to the requirements of AASHTO 235 (American Association of State Highway and Transportation Officials) as to type, grade, class and color.
8. Mild steel plate, 1.2m x 2.4m x 5mm.
9. Structural bolts, 16mmØ x 150mm ASTM A490M, type 1.

## III. CONSTRUCTION REQUIREMENTS

### A. ARCHITECTURAL AND CIVIL WORKS

#### A.1 Painting Works

##### A.1.1 Preparation

1. Full safety gear shall be provided to all painters. Safety harness shall be provided to painters when working on elevated areas.

2. Do all preparation and cleaning procedures in accordance with the paint manufacture's instruction and as herein specified, for each particular substrate condition.

3. Remove hardware and hardware accessories, plates, surfaces, lighting, fixtures and similar items in places that are not to be painted, or surface-applied protection before surface preparation and painting.

4. Adjacent surfaces shall be protected against, stain, or soiling. Each coat of primer or paint shall be evenly spread without skips, run, sags and clogging and allowed to dry before the next coat is applied.

5. Provide sample illumination in areas where painting is in progress to fully light the work being done.

##### A.1.2 Application

1. Provide finish coats that are compatible with existing coats.

2. Where different colors meet, provide a clear line natural juncture.

3. Apply additional coats when undercoats, stains, or other conditions show through the final coat of paint until paint film is of uniform finish, color, appearance. Give special attention to ensure surfaces, including edges, corners, crevices, welds, and exposed fasteners, receive a dry film equivalent to that of flat surfaces.

4. Concrete and masonry surfaces shall be coated with concrete neutralizer and allowed to dry for 1 day before applying any primer painting.

5. The work throughout shall be executed in the most thorough manner to the satisfaction of the PNRI. The PNRI has the right to reject any work and materials in its judgement that are not in full conformance with the intention of the plan.

**A.2 Welding Works**

1. HOT WORKS PERMIT shall be secured prior to all welding works. Full safety gear shall be provided to all welders. Welding machine, cutting tools, grinding tools shall be in good operational condition;

2. Electrodes shall be stored in unopened original containers. They shall be stored adequately to prevent moisture loss or moisture absorption and shall be handled in such a manner so as to avoid the damage of coating;

3. Electrodes when used shall be free of rust, oil, grease, earth or any other matter which could be harmful for the quality of welding. The electrodes used shall be suitably to the welding process and the base metal and the weld properties shall not be lower than those of base metal;

4. The ends to be welded shall be properly cleaned. All paint, oil, grease, rust and oxide in general shall be removed, as well as all earth, sand or any other material which could be harmful to the welding. Ends shall be totally dry when welded;

5. Pieces to be welded shall be aligned and spaced in a suitable manner, so as to hold the ends during welding at a distance to ensure full penetration. Root opening shall not be more than as specified. Internal misalignment shall not exceed 1.5 mm;

6. At each interruption of welding, and after each run of welding is completed, chipping and slag removal shall be done;

7. When the welding is complete, but joints shall have a cover pass. It shall be slightly convey and fuse into the surface to the base metal in such a manner as to have a gradual notch free finish a good fusion at the joint edges. It shall

not be chipped after completion. Welds shall have a regular appearance and shall be free from defects.

## A.3 Concrete Works

1. All concrete work shall be done in good workmanship and shall conform with the standard practice;
2. Only Portland cement shall be used;
3. Sand shall be S-1 or white sand;
4. Gravel shall be ¾" – crushed gravel;
5. Concrete proportioning shall be class "A" (1:2:3 1 part cement, 2 parts sand & 3 parts gravel).

## A.4 Plumbing Works

1. All dimensions such as pipe size are in inches, unless otherwise noted.
2. All drainage lines shall maintain a minimum slope of 2 % unless otherwise noted.
3. All water lines shall be hydrostatically tested at 1034 kPa (150 psi).
4. All pipes shall be embedded on concrete.

## A.5 Tiling Works

1. Before tile is laid to the floor, the surface shall be tested for levelness or uniformity of slope by flooding it with water.
2. Lines of borders and center of walls at the Site work shall be established in both directions to permit the pattern to be laid with minimum cutting of tiles.
3. Before grouting of joints, tiles shall have been laid in place for at least 24 hrs.
4. Removing of excess grout and adhesive using sponge.
5. Cleaning of granite tile surface as thoroughly as possible after completion of grouting.
6. Polishing of granite tile surface with soft cloth.

## A.6 Waterproofing Works

1. Membrane Waterproofing – shall be liquid Thoroseal waterproofing formulated for extra flexibility and resiliency to give lasting waterproofing effect.
2. Mixture shall be applied by trowel, roller brush or paint brush and shall remain tight under condition of expansion, contraction and vibration of loads.
3. Apply a coat of neutralizer to remove oil, dirt and other contaminants.
4. Stir thoroughly the container of membrane waterproofing before use.
5. Apply three (3) coats of Thoroseal and each coat is allowed a minimum of 24hrs. curing time between each coat.
6. To have a bond between the membrane waterproofing and the slab, concrete topping shall be placed as the membrane dries after 48hrs of application

7. Prior to topping or placing concrete cover, inspect the membrane for any damage and repair work as required.

## B. ELECTRICAL WORKS

**B.1** All works shall be done in accordance with latest Philippine Electrical Code (PEC).

### B.2 Wires and Cables

1. All wires and cables shall be copper, soft-drawn and annealed, shall be of ninety-eight (98 %) percent conductivity, shall be smooth and true and of a cylindrical form and shall be within one (1 %) percent of the actual size called for.

2. Wires and cables for lighting and power systems shall be plastic insulated, stranded, rated at 600 volt and THHN/THWN type and UL Listed.

3. Wires and cables for grounding shall be THW and/or BCW.

4. Smallest size of wire to be used for lighting and power system shall be 3.5 mm2 THHN/THWN.

5. Color Coding of Wires:
   Line 1 - black
   Line 2 - red
   Line 3 - blue
   Ground – green

### B.3 Conduits

1. All conduits embedded/non-embedded on concrete shall be rigid steel conduit.

2. All exposed conduits shall be painted with gray color epoxy enamel and installed parallel or perpendicular with the building floors, walls, and ceilings.

3. Hangers and/or clamps spacing shall be as according to the latest edition of the PEC and shall be painted with gray color epoxy primer and enamel.

4. All rigid steel conduit pipes shall be zinc coated and shall complies with ANSI C80.1-1977 Standard).

### B.4 Clamps and Hangers

1. Galvanized threaded rod shall be used for exposed conduits. The use of malleable clamps is not allowed.

2. Support for RSC pipes shall be fabricated from 1" x 1" angular bars and 10 mm. diameter threaded rod with appropriate U-bolts Supports and hangers shall be painted with epoxy primer and enamel.

## C. CONSTRUCTION REQUIREMENTS (RETROFITTING OF REACTOR BUILDING)

### Qualification Requirements:

1. The Contractor shall have a licensed structural engineer with 5-years of experience in retrofitting/strengthening works.

2. The Contractor may have performed reinforcing and strengthening concrete structure works. This application uses carbon fiber reinforced polymer and cold joint injection application for repair on concrete structures. Otherwise, the Contractor may hire a company that specializes in the reinforcement and strengthening of concrete structures.

3. The Contractor shall hire AMH Philippines Inc. (AMH) to assist with the following scope of works such as in the preparation of the documents needed to procure construction services, planning and pre-construction preparation, interpretation of the detailed drawings (submitted by AMH to PNRI), supervision during construction, activities, punch listing of known defects, end-users final acceptance, preparation of As-built Plans, and completion of Contractor's final submittal for the retrofit works of the Philippine Research Reactor (PRR-1). AMH had rendered consultancy services for the strengthening/retrofitting works of the structures mentioned above in 2020.

### Safety and Health Requirements:

1. The Contractor shall, at his own expense, furnish his workers with protective equipment for eyes, face, hand and feet, lifeline safety belt/harness, protective shields, and barriers whenever necessary because of the hazardous work process of environment, chemical, or radiological or other mechanical irritants or hazards capable of causing injury or impairment in the function of any part of the body through absorption, inhalation, or physical agent.

2. The Contractor shall provide adequate and approved types of protective equipment.

3. Worker within the site shall be required to wear the necessary PPE at all times.

4. Construction worker working from unguarded surface six (6) meters or more above ground, temporary or permanent platform, scaffold or where

they are exposed to the possibility of falls hazardous to life or limb, must be provided with safety harness and lifelines.

5. Specialty construction workers must be proved with special protective equipment, such as specialized goggles or respirators for welders and painters or paint applicators.
6. All other person who are either authorized or allowed to be at the site shall wear appropriate PPE.

## IV. DRAWINGS AND SPECIFICATIONS

1. In case of discrepancies between the figures and drawings, the matter shall be referred immediately to PNRI, before any adjustment is made by the CONTRACTOR. The decision of PNRI in the adjustment of discrepancies so as to conform to the real intent of the drawings shall govern and shall be followed by the CONTRACTOR.

2. Any discrepancies/errors/omission found by PNRI between the drawings and specifications shall be immediately reported to the CONTRACTOR, who will promptly correct such discrepancies at the Contractor's expense.

3. After completion of work as described herein, the CONTRACTOR must furnish PNRI at his own expense, one (1) original copy and five (5) blueprint plans of 20" x30" "As-built Plan" signed by a professional. (Civil Engineer, Electrical Engineer, Master Plumber, and other related professional)

4. The CONTRACTOR should submit to PNRI an Electronic Copy of the Drawings in a USB flash drive.

## V. CONTRACT COMPLETION TIME

1. The contractor must complete the contract work within **ONE HUNDRED FIFTY** (**150**) Government Working Days from effective date of contract.

## VI. REQUEST TO WORK DURING WEEKEND/HOLIDAY

1. The CONTRACTOR may request to work during weekends and holidays; however, approval is subject to PNRI discretion and the availability of PNRI representative willing to oversee the work on the requested date/s.

2. The PNRI reserves the right to reject any or all request and waive any required formality therein.

3. Request for work during weekend/holidays must be submitted at least three (3) government working days prior to the target date.

4. Request for work during weekend/holidays must be submitted to the PNRI Records Section and a copy of the same bearing the received date and signature from the Records Section must be submitted to GSS.

## VII. PRIOR TO MOBILIZATION AND DURING MOBILIZATION

1. Upon Receipt of Notice to Proceed the CONTRACTOR must submit the following documents:

   A. General Requirements

   a) The CONTRACTOR must submit a list of personnel/worker names (designation/position indicated) with one (1) 1x1 picture (taken at least 1 year prior to submission), name written in the back, together with company I.D. for the issuance of PNRI I.D.

   a) The CONTRACTOR must fill up and submit four (4) copies of PNRI Equipment/Materials brought-in signed by authorized representative and present it to the guard for inspection prior to the unloading of Equipment/Materials on the project site. Equipment and Materials should be on separate forms and required information must be complete, readable and diligently written.

   B. Construction Requirements

   a) PERT/CPM
   b) Construction Schedule
   c) S-Curve
   d) Manpower Schedule
   e) Equipment Utilization Schedule
   f) Construction Methods
   g) Construction Safety and Health Program (Approved by DOLE)
   h) All Risk Insurance

2. The CONTRACTOR must provide a color-coded uniform for the workers and must be worn at all times together with the issued PNRI I.D while inside the PNRI premises.

3. The CONTRACTOR must provide the workers with all the necessary personal protective equipment relative to the workers trade work.

4. The CONTRACTOR must post the Project Billboard prior to the start of the project.

5. The PNRI representative/s may visit the project site from time to time and the CONTRACTOR must at all times have a copy of Drawings/Plans, Bill of Quantities, Construction Schedule, Permits and any other documents pertaining to the project readily available on the project site.

6. The CONTRACTOR's supervisor assigned to the project site must be able to answer some if not all the queries of PNRI pertaining to the project.

7. All CONTRACTOR workers and supervisor assigned in a specified project are prohibited to roam the PNRI premises and must only stay in the assigned

barracks during resting time and in the project site indicated in the PNRI issued I.D. during working time.

a) In the event that the same CONTRACTOR won a bid on another project inside the PNRI compound, a different set of workers and supervisor must be assigned on that specific project.

b) It is strictly prohibited for workers and supervisor to work on a project different from the indicated project in the issued PNRI I.D.

c) If the CONTRACTOR wishes to transfer their assigned personnel from one project to another, the CONTRACTOR must submit an intent letter of transfer and a list of personnel names with one (1) 1x1 picture, name written in the back, together with company I.D., and surrender the previous PNRI I.D. with a different project for the issuance of PNRI I.D with the new assigned project.

d) Workers who are transferred to another project shall no longer be allowed to work on their previous assignment. In the event that the workers need to be transferred again, the same transferring procedure shall apply.

8. The CONTRACTOR is forbidden to sub-contract any part of the scope of work, unless stated in the contract or there is a written approval of PNRI.

9. For highly specialized scope of work that require the presence of the Suppliers, Consultants and Affiliates of the CONTRACTOR:

a) The CONTRACTOR shall submit a list of personnel names for Suppliers, Consultants and Affiliates at least three (3) government working days prior to the deployment on the project site.

b) Suppliers, Consultants and Affiliates shall be considered as personnel of the CONTRACTOR and shall submit all the documentary requirements required for mobilization.

c) The submitted I.D of these personnel should be the I.D issued by the CONTRACTOR.

d) Any violation of these personnel on the signed Contract and General Conditions shall be considered violations of the CONTRACTOR.

e) Any incident occurring from the actions and negligence of these personnel that may result to damages on PNRI property and injuries or loss of life to PNRI employees including PNRI Visitors, PNRI Clients and other PNRI Contractor are considered actions of the project CONTRACTOR.

10. The CONTRACTOR may request for an Advance Payment. The CONTRACTOR must submit a written request together with a Surety Bond and the following supporting documents.

    a) Copy of PERT/CPM
    b) Copy of Construction Schedule
    c) Copy of S-Curve
    d) Copy of Manpower Schedule
    e) Copy of Equipment Utilization Schedule
    f) Copy of Construction Methods
    g) Copy of Construction Safety and Health Program (Approved by DOLE)
    h) Copy of All Risk Insurance

## VIII. DEMOBILIZATION

1. The CONTRACTOR must fill up and submit four (4) copies of PNRI Equipment/Materials Taken-out signed by authorized representative with attached copy of Equipment/Materials Brought-in at least three (3) government working days prior to the scheduled hauling of equipment and present it to the guard for inspection at the gate for checking.

2. The CONTRACTOR must surrender all the PNRI I.Ds issued to the worker upon completion of the project or upon pulling out of the worker from the project. Any lost or missing I.Ds should be reported to PNRI with attached affidavit of loss.

## IX. TEMPORARY FACILITY

1. The CONTRACTOR must construct a temporary facility (if stated in the bill of quantities) on the PNRI identified location that will serve as barracks for the workers and as a temporary storage facility for materials, equipment, waste materials and debris.

2. The CONTRACTOR must maintain the cleanliness of the Temporary Facility at all times to prevent any untoward incident from happening.

## X. REQUEST FOR STAY-IN

1. The CONTRACTOR may request for stay-in; however, approval is subject to PNRI discretion.

2. The CONTRACTOR must start the project as per contract regardless of the status of the approval of the request for stay-in.

3. The CONTRACTOR must indicate on the request that PNRI won't be held liable for any incident that may occur on the workers and their possessions while on stay-in.

4. The CONTRACTOR must secure the safety and security of its personnel and the supervisor must at all times monitor the workers.

5. The PNRI reserves the right to reject any or all request and waive any required formality therein.

6. After working hours including weekends and holidays all approved CONTRACTOR's personnel must stay in their temporary facility. Loitering is strictly prohibited.

7. Cooking, smoking and drinking liquor shall not be allowed inside the premises.

8. The CONTRACTOR's personnel must follow the same curfew guidelines and other policies being implemented on stay-in PNRI employees.

9. Water and electricity consumed for the stay-in period must be paid by the CONTRACTOR. The CONTRACTOR must provide a sub-meter to gauge the consumption.

## XI. VARIATION ORDERS - CHANGE ORDER/EXTRA WORK ORDER

1. Extra Work Order may be issued by the PNRI after the Director, in accordance with the Annex E of the Revised Implementing Rules and Regulations of RA 9184, has been approved the same.

2. No Change Order(s) or Extra Work Order(s) shall become effective without official order from the PNRI Director, which has been officially received by the CONTRACTOR.

## XII. SAFETY AND SECURITY

1. Cigarettes Smoking/Vaping, Illegal Drugs and Alcoholic Beverages are strictly prohibited inside the PNRI premises.

2. Bringing of weapons, explosives and sharp and bladed objects that are not going to be used and are not of any use in the project are strictly prohibited.

3. Taking any PNRI property (including scrap materials without proper clearance by PNRI) are strictly prohibited, and if found, may result to legal charges.

4. Every CONTRACTOR personnel including supervisors, suppliers, consultants and affiliates are required to log in and out on a project specified logbook provided by PNRI. The logbook issued by PNRI is for PNRI consumption and is independent to the CONTRACTOR's own policy in connection with personnel/workers attendance.

    a) The date shall be indicated at the top of the page.
    b) The logbook should bear the Name, Designation/Position, Signature and time-in and out of the personnel.
    c) The handwritings on the logbook must reflect the signature on the PNRI issued I.D

d) The supervisor must sign on the last part of the daily attendance sheet by the end of the workday. If two or more pages are used, all used pages must be signed.
e) The logbook must be submitted to PNRI at the beginning of every week, after the morning time-in, for PNRI inspection, and are then returned to the CONTRACTOR before the end of the day.
f) The logbook shall be considered as the property of PNRI and must not be brought out of the compound. The logbook must be available at all times for checking of PNRI representatives.
g) The logbook should also include the daily activities that are scheduled for the day.

5. The CONTRACTOR must provide a copy of Construction Safety and Health Program (approved by DOLE).

6. To avoid any untoward incidents, the CONTRACTOR must assign a Safety Officer for the project. The Safety Officer must have attended trainings/seminars as required by law to be an eligible Safety Officer and the CONTRACTOR shall submit to PNRI the proof of the same to ensure that the assigned personnel is qualified in ensuring the safety of the project site and everyone on the project site and temporary facilities.

7. The CONTRACTOR must provide their fire extinguisher. The fire extinguisher must be readily available on project area and temporary facility area.

8. Any incident that may result to damages to PNRI properties and all PNRI personnel, partners, visitors, clients and other contractor contracted by PNRI as a result of the project CONTRACTOR negligence during the course of the project would hold the CONTRACTOR legally liable. All damages incurred shall be at the expense of the CONTRACTOR.

9. The CONTRACTOR must inform the PNRI in writing with appropriate documentation of the location of any structures which are not part of the project that may be potentially damaged, equipment that may be affected and hazardous areas to be avoided that may endanger the safety and lives of the PNRI employees, partners, visitors, clients and other contractor contracted by PNRI, during implementation of the project. Failure in the part of the CONTRACTOR in informing PNRI in writing would waive the rights of the CONTRACTOR on denying PNRI its claim on damages that may arise. The CONTRACTOR however is not exempted in its liabilities and responsibilities due to negligence if an incident arises that may have been prevented if the CONTRACTOR is diligent in ensuring the timely delivery of work and practiced every safety precaution required by law.

10. Visitors of the CONTRACTOR workers shall not be allowed to enter the PNRI compound and shall only be allowed to wait on the gate unless permitted by PNRI.

11. Cat calling or any form of harassment to PNRI employees, PNRI Visitors, PNRI Clients and other Contractor contracted by PNRI are prohibited.

12. Any form of gambling by the CONTRACTOR personnel are prohibited inside the PNRI compound.

13. Fighting and personal quarrels between the CONTRACTOR workers that may disturb the peace and may possibly result to fistfight and other physical injuries are prohibited inside the PNRI compound.

## XIII. VIOLATIONS ON THE GENERAL CONDITIONS

1. It is assumed that by bidding and winning the bid the CONTRACTOR has read and reviewed all the documents pertaining to the project.

2. Any violations on the part of CONTRACTOR including its suppliers and affiliates whether intentional or not on the General Conditions set by PNRI that resulted on incidents or accidents on one party or both parties incurring injuries, disabilities or death, damages to PNRI properties, and/or any delay of the project shall be the sole responsibility of the CONTRACTOR and at the expense of the CONTRACTOR and should not hold the PNRI or its duly authorized representative liable and/or responsible.

3. The PNRI reserves the rights to terminate any or all part of the contract without holding PNRI or its duly authorized representative liable and/or responsible to any or all damages to the CONTRACTOR if the PNRI deemed the CONTRACTOR is negligent on its part.

## XIV. WARRANTY

The warranty shall be based on prescribed warranty provisions of the 2016 Revised IRR of RA 9184.

1. From the time project construction commenced up to final acceptance, the contractor shall assume full responsibility for the following:

    a) any damage or destruction of the works except those occasioned by force majeure ; and

    b) safety, protection, security, and convenience of his personnel, third parties, and the public at large, as well as the works, equipment, installation and the like to be affected by his construction work.

2. One (1) year from project completion up to final acceptance or the defects liability period.

    The contractor shall undertake the repair works, at his own expense, of any damage to the infrastructure on account of the use of materials of inferior quality, within ninety (90) days from the time the HoPE has issued an order to undertake repair. In case of failure or refusal to comply with this mandate, the Procuring Entity shall undertake such repair works and shall be entitled to full reimbursement of expenses incurred therein upon demand.

3. The warranty against Structural Defects and Failures shall cover the following periods from final acceptance, except those occasioned by force majeure:

    a) Permanent Structures: Fifteen (15) years

    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;

    b) Semi-Permanent Structures: Five (5) years

    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; and

    c) Other Structures: Two (2) years

    Bailey and wooden bridges, shallow wells, spring developments, and other similar structures.

## XV. CLEANING OF PREMISES

1. Waste materials and debris of any form shall not be dumped on any part of the compound unless otherwise permitted by PNRI.

2. The CONTRACTOR, subject to approval of PNRI, may secure any temporary dumping area and shall ensure that no incident or fire would arise on the temporary dumping area.

3. Hauling of the debris and waste materials shall be done on a regular basis to avoid overflowing of debris or any untoward incident.

4. The CONTRACTOR shall avoid littering on the PNRI premises and shall secure their garbage and segregate it to biodegradable and non-biodegradable.

5. Segregated garbage of the CONTRACTOR shall be hauled by the CONTRACTOR.
6. The CONTRACTOR shall clean the project area daily before the end of working hours before leaving.

7. The CONTRACTOR shall clean and clear the whole premises of all debris and unused materials upon completion of the project.

8. Prior to hauling of waste materials and debris the CONTRACTOR must fill up and submit four (4) copies of PNRI Equipment/Materials Taken-out signed by authorized representative with attached colored pictures at least three (3) government working days prior to the scheduled hauling and present it to the guard for inspection at the gate for checking.

9. Any unused and excess materials part of the bill of quantities including scrap materials must be surrendered to PNRI.

## XVI. FORCE MAJEURE AND PUBLIC HEALTH CONCERNS

1. In the event of force majeure and public health concerns the CONTRACTOR should follow the office order/memorandum/guidelines issued by PNRI.

2. In the event that such PNRI instruction are not yet issued, the CONTRACTOR must follow the promulgating rules, regulations and guidelines issued by the Philippine government and should closely coordinate with the PNRI for its implementation.

## XVII. ADDITIONAL NOTES

1. Any clarifications on any part of the General Conditions must be addressed in writing. The response from PNRI and its subsequent responses, if any, shall be a part of the General Conditions until the completion of the project or if until otherwise revoked.

   During COVID-19 pandemic, the CONTRACTOR must follow the minimum public health standard issued by the IATF and DOH. Other guidelines such as DPWH Department Order no. 39 series of 2020 are also in effect. Any updates and guidelines issued by the other government agencies should be closely monitored and the CONTRACTOR should continuously coordinate with PNRI for the updates of the released guidelines and the implementation of these guidelines on the project site.

# *Section VII. Drawings*

# *(on a separate folder)*

# *Section VIII. Bill of Quantities*

| ITEM | DESCRIPTION | COST |
|---|---|---|
| **A.** | **GENERAL REQUIREMENTS** | _____ |
| **B.** | **UPGRADING OF EXISTING CHEMICAL WASTE STORAGE BUILDING** | _____ |
| **C.** | **REHABILITATION OF 2ND FLOOR WEST WING, REACTOR BLDG.** | _____ |
| **D.** | **UPGRADING OF ENVIRONMENTAL RADIOACTIVITY LABORATORY** | _____ |
| **E.** | **UPGRADING OF GRAFTING LABORATORY** | _____ |
| **F.** | **PROVISION OF REINFORCED CONCRETE RAMP WITH STAINLESS STEEL RAILING AT CENTRAL LABORATORY, POOL SIDE** | _____ |
| **G.** | **PROVISION OF COMFORT ROOM, PANTRY AND NEW SEPTIC TANK AT HPRS OFFICE** | _____ |
| **H.** | **UPGRADING OF CARAGEENAN PILOT PLANT** | _____ |
| **I** | **UPGRADING OF CHEMICAL STORAGE ROOM** | _____ |
| **J** | **RETROFITTING OF REACTOR BUILDING** | _____ |
| | **TOTAL DIRECT COST:** | _____ |
| | **INDIRECT COST :** | |
| | CONTINGENCY | _____ |
| | OH/SUPERVISION | _____ |
| | PROFIT | _____ |
| | **TOTAL MARK-UP:** | _____ |
| | **VAT (5%):** | _____ |
| | **TOTAL INDIRECT COST:** | _____ |
| | **TOTAL DIRECT & INDIRECT COST:** | _____ |
| | **TOTAL PROJECT COST:** | _____ |

PROJECT : Upgrading of Arc Bldg. (C.Y 2021)
LOCATION : PNRI Compound, Commonwealth Avenue, Diliman, Quezon City
OWNER : Philippine Nuclear Research Institute (PNRI)
SUBJECT : DETAILED COST ESTIMATE

| Item No. | ITEM/DESCRIPTION | QTY | UNIT | MATERIAL COST | | LABOR COST | | ESTIMATED DIRECT COST | MARK-UPS IN PERCENT | | | TOTAL MARK-UP | | VAT | TOTAL INDI. COST | TOTAL COST | UNIT COST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNIT COST | TOTAL COST | UNIT COST | TOTAL COST | | CONT. | OCM | PROFIT | % | VALUE | | | | |
| A | **GENERAL REQUIREMENTS** | | | | | | | | | | | | | | | | |
| 1 | Mobilization/Demobilization (Manpower, Tools, Materials and equipment) | 1 | lot | | | | | | | | | | | | | | |
| 2 | Bonds/Insurance | 1 | lot | | | | | | | | | | | | | | |
| 3 | Temporary Facilities | 1 | lot | | | | | | | | | | | | | | |
| 4 | As-Built Plan | 1 | lot | | | | | | | | | | | | | | |
| 5 | Project Billboard | 1 | lot | | | | | | | | | | | | | | |
| | *Sub-total of Item A* | | | | | | | | | | | | | | | | |
| B | **UPGRADING OF EXISTING CHEMICAL WASTE STORAGE BUILDING** | | | | | | | | | | | | | | | | |
| 1 | **SITE WORKS** | | | | | | | | | | | | | | | | |
| 1.1 | Clearing and grubbing | 150 | sq.m | | | | | | | | | | | | | | |
| 1.2 | Cutting of trees and removal of plants and hauling | 1 | lot | | | | | | | | | | | | | | |
| 1.3 | Hauling and disposal of scrap materials | 1 | lot | | | | | | | | | | | | | | |
| 1.4 | Excavation of foundation | 24 | cu.m | | | | | | | | | | | | | | |
| 1.5 | Filling materials | 56 | cu.m | | | | | | | | | | | | | | |
| 1.6 | Backfilling and compaction | 100 | sq.m | | | | | | | | | | | | | | |
| 1.7 | Soil poisoning | 100 | sq.m | | | | | | | | | | | | | | |
| 1.8 | Gravel bedding | 8 | cu.m | | | | | | | | | | | | | | |
| 1.9 | Disposal of all waste materials | 1 | lot | | | | | | | | | | | | | | |
| | *Sub-total* | | | | | | | | | | | | | | | | |
| 2 | **REINFORCED CONCRETE WORKS** | | | | | | | | | | | | | | | | |
| 2.1 | Site mix concrete (1:2:3 mixture) | 34.96 | cu.m | | | | | | | | | | | | | | |
| 2.2 | 4' x 8' x 1/2" thk phenolic form | 16 | pcs | | | | | | | | | | | | | | |
| 2.3 | Assorted C.W Nail | 30 | kgs. | | | | | | | | | | | | | | |
| 2.4 | Assorted Coco lumber (Form and scaffolding) | 786 | bd.ft | | | | | | | | | | | | | | |
| 2.5 | 16mmØ x 6.00m def. bar | 180 | pcs | | | | | | | | | | | | | | |
| 2.6 | 12mmØ x 6.00m def. bar | 63 | pcs | | | | | | | | | | | | | | |
| 2.7 | 10mmØ x 6.00m def. bar | 351 | pcs | | | | | | | | | | | | | | |
| 2.8 | G.A 16 G.I Wire | 42 | kgs. | | | | | | | | | | | | | | |
| | *Sub-total* | | | | | | | | | | | | | | | | |
| 3 | **MASONRY WORKS** | | | | | | | | | | | | | | | | |
| 3.1 | 6" thk Ordinary CHB | 2,820 | pcs | | | | | | | | | | | | | | |
| 3.2 | Portland Cement | 373 | bags | | | | | | | | | | | | | | |
| 3.3 | White sand | 48 | cu.m | | | | | | | | | | | | | | |

| Item No. | ITEM/DESCRIPTION | QTY | UNIT | MATERIAL COST | | LABOR COST | | ESTIMATED | MARK-UPS IN PERCENT | | | TOTAL MARK-UP | | VAT | TOTAL INDI. COST | TOTAL COST | UNIT COST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNIT COST | TOTAL COST | UNIT COST | TOTAL COST | DIRECT COST | CONT. | OCM | PROFIT | % | VALUE | | | | |
| 3.4 | 10mmØ x 6.00m def. bar | 145 | pcs | | | | | | | | | | | | | | |
| 3.5 | G.A 16 G.I Wire | 10 | kgs. | | | | | | | | | | | | | | |
| | *Sub-total* | | | | | | | | | | | | | | | | |
| **4** | **CARPENTRY WORKS** | | | | | | | | | | | | | | | | |
| 4.1 | 10mm thk Gypsum board interior ceiling w/ 1" x 2" metal furring frame w/ steel hangers | 100 | sq.m | | | | | | | | | | | | | | |
| 4.2 | 5.5mm thk Ficem board exterior ceiling w/ 1" x 2" metal furring frame w/ steel hangers | 32 | sq.m | | | | | | | | | | | | | | |
| 4.3 | (12mm thk x 0.30m x 2.44m) Ficem board | 17 | pcs | | | | | | | | | | | | | | |
| | *Sub-total* | | | | | | | | | | | | | | | | |
| **5** | **STRUCTURAL WORKS** | | | | | | | | | | | | | | | | |
| 5.1 | 2" x 2" x 1/4" x 20' Angular bar | 22 | pcs | | | | | | | | | | | | | | |
| 5.2 | 3" x 3" x 1/4" x 20' Angular bar | 8 | pcs | | | | | | | | | | | | | | |
| 5.3 | 1 1/2" x 1 1/2" x 3/16" x 20' Angular bar | 63 | pcs | | | | | | | | | | | | | | |
| 5.4 | 2" x 4" x 20' G.A 16 B.I C-purlins | 43 | pcs | | | | | | | | | | | | | | |
| 5.5 | 12mmØ x 6.00m plain round bar | 16 | pcs | | | | | | | | | | | | | | |
| 5.6 | 16mmØ x 6.00m plain round bar | 12 | pcs | | | | | | | | | | | | | | |
| 5.7 | 16mmØ x 6.00m turn buckle | 8 | pcs | | | | | | | | | | | | | | |
| 5.8 | 2" x 3" x 20' x 1.50mm thk rectangular tubular | 15 | pcs | | | | | | | | | | | | | | |
| 5.9 | Welding rod | 2 | box | | | | | | | | | | | | | | |
| 5.10 | 14"Ø cutting disc | 2 | pcs | | | | | | | | | | | | | | |
| 5.11 | 4"Ø Cutting disc | 8 | pcs | | | | | | | | | | | | | | |
| 5.12 | 4"Ø Grinding disc | 8 | pcs | | | | | | | | | | | | | | |
| 5.13 | Turco rust converter | 2 | gals | | | | | | | | | | | | | | |
| 5.14 | Red oxide paint | 5 | gals | | | | | | | | | | | | | | |
| 5.15 | Paint thinner | 2 | gals | | | | | | | | | | | | | | |
| 5.16 | Paint brush and rollers | 5 | pcs | | | | | | | | | | | | | | |
| 5.17 | Steel scaffolding (Rental) | 1 | lot | | | | | | | | | | | | | | |
| 5.18 | Miscellaneous | 1 | lot | | | | | | | | | | | | | | |
| 5.19 | (1.54m x 1.50m) Cyclone wire partition w/ G.I Pipe frame painted w/ epoxy paint (3 coats) | 8 | sets | | | | | | | | | | | | | | |
| 5.20 | (1.54m x 1.00m) Cyclone wire partition w/ G.I Pipe frame painted w/ epoxy paint (3 coats) | 4 | sets | | | | | | | | | | | | | | |
| | *Sub-total* | | | | | | | | | | | | | | | | |
| **6** | **TINSMITHRY WORKS** | | | | | | | | | | | | | | | | |
| 6.1 | (0.40mm thk x 1.09m x 11.80m) Pre-painted long span roofing (Rib-type) Green | 15 | pcs | | | | | | | | | | | | | | |
| 6.2 | (0.40mm thk x 0.60m x 2.44m) Pre-painted side flashing | 17 | pcs | | | | | | | | | | | | | | |
| 6.3 | 3" Metal texscrew | 1,056 | pcs | | | | | | | | | | | | | | |
| 6.4 | Silicon sealant | 6 | pcs | | | | | | | | | | | | | | |

| Item No. | ITEM/DESCRIPTION | QTY | UNIT | MATERIAL COST | | LABOR COST | | ESTIMATED DIRECT COST | MARK-UPS IN PERCENT | | | TOTAL MARK-UP | | VAT | TOTAL INDI. COST | TOTAL COST | UNIT COST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNIT COST | TOTAL COST | UNIT COST | TOTAL COST | | CONT. | OCM | PROFIT | % | VALUE | | | | |
| 6.5 | Aluminum blind rivet | 2 | box | | | | | | | | | | | | | | |
| 6.6 | 10mm thk polyethylene foam roof insulation w/ aluminum foil on both side | 4 | roll | | | | | | | | | | | | | | |
| 6.7 | 1" x 1" G.A 16 G.I Screen | 160 | LM | | | | | | | | | | | | | | |
| 6.8 | Rubber sealant | 3 | gals | | | | | | | | | | | | | | |
| | *Sub-total* | | | | | | | | | | | | | | | | |
| 7 | **PAINTING WORKS** | | | | | | | | | | | | | | | | |
| 7.1 | Concrete walls (Skim coat surface preparation) | 395 | sq.m | | | | | | | | | | | | | | |
| 7.2 | Concrete walls (3 coats latex paint) Interior and Exterior | 395 | sq.m | | | | | | | | | | | | | | |
| 7.3 | Interior ceiling and Exterior Ceiling and Fascia board (3 coats latex paint) | 153 | sq.m | | | | | | | | | | | | | | |
| 7.4 | Flooring (Self leveling epoxy gray) | 100 | sq.m | | | | | | | | | | | | | | |
| | *Sub-total* | | | | | | | | | | | | | | | | |
| 8 | **DOORS AND WINDOWS** | | | | | | | | | | | | | | | | |
| 8.1 | **DOORS** | | | | | | | | | | | | | | | | |
| 8.1.1 | (2.10m x 1.80m) Double steel door and jamb G.A 16, Fire rated w/ insulation inside | 1 | set | | | | | | | | | | | | | | |
| 8.1.2 | (1.00m x 2.10m) analok aluminum sliding door w/ 1/4" thk bronze glass w/ complete accessories (Heavy duty frame aluminum) | 1 | set | | | | | | | | | | | | | | |
| 8.1.3 | Door lockset (Yale) Stainless steel | 1 | set | | | | | | | | | | | | | | |
| 8.1.4 | 3 1/2" x 3 1/2" Stainless steel heavy duty loose pin hinges (Stanley or equal) | 10 | pcs | | | | | | | | | | | | | | |
| 8.1.5 | Stainless steel head bolt | 1 | set | | | | | | | | | | | | | | |
| 8.1.6 | Stainless steel head foot bolt | 1 | set | | | | | | | | | | | | | | |
| 8.1.7 | Heavy duty door closer (Yale) | 1 | set | | | | | | | | | | | | | | |
| 8.1.8 | Dead bolt (Yale) Door lockset stainless steel | 1 | set | | | | | | | | | | | | | | |
| 8.1.9 | Medicine Cabinet w/ glass mirror door | 1 | set | | | | | | | | | | | | | | |
| 8.2 | **WINDOWS** | | | | | | | | | | | | | | | | |
| 8.2.1 | (0.80m x 2.00m) Analok Aluminum Frame and Jamb w/ 1/4" thk bronze glass (Awning type) w/ aluminum screen (Diamond Design) | 4 | sets | | | | | | | | | | | | | | |
| 8.2.2 | (0.80m x 1.00m) Analok Aluminum Frame and Jamb w/ 1/4" thk bronze glass (Awning type) w/ aluminum screen (Diamond Design) | 1 | set | | | | | | | | | | | | | | |
| 8.2.3 | (0.40m x 4.00m) 1" x 1" x 1.2mm thk Square tubular Ceiling ventilation (3 coats epoxy paint) | 2 | sets | | | | | | | | | | | | | | |
| | *Sub-total* | | | | | | | | | | | | | | | | |
| 9 | **SUPPLY AND INSTALLATION OF FIRE HOSE CABINET / STAINLESS STEEL EMERGENCY SHOWER** | | | | | | | | | | | | | | | | |

| Item No. | ITEM/DESCRIPTION | QTY | UNIT | MATERIAL COST | | LABOR COST | | ESTIMATED DIRECT COST | MARK-UPS IN PERCENT | | | TOTAL MARK-UP | | VAT | TOTAL INDI. COST | TOTAL COST | UNIT COST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNIT COST | TOTAL COST | UNIT COST | TOTAL COST | | CONT. | OCM | PROFIT | % | VALUE | | | | |
| 9.1 | SUPPLY AND INSTALLATION OF FIRE HOSE CABINET AND TAP NEW G.I WATERLINE TO THE NEAREST EXISTING 2"Ø G.I WATERLINE. FIRE HOSE CABINET WITH GLASS COVER, G.I PAINTED RED G.A 18 WITH 10 LBS FIRE EXTINGUISHER, AXE, 50FT. HOSE WITH BRASS NOZZLE AND BRASS GATE VALVE AND OTHER ACCESSORIES | 1 | set | | | | | | | | | | | | | | |
| 9.2 | 2"Ø x 20ft. Sch. 40 G.I Pipe | 4 | pcs | | | | | | | | | | | | | | |
| 9.3 | 1 1/2"Ø x 20 ft. Sch. 40 G.I Pipe | 1 | pc | | | | | | | | | | | | | | |
| 9.4 | Asstd. G.I Fittings | 10 | pcs | | | | | | | | | | | | | | |
| 9.5 | 2"Ø Brass gate valve | 1 | set | | | | | | | | | | | | | | |
| 9.6 | Teflon tape | 7 | pcs | | | | | | | | | | | | | | |
| 9.7 | Excavation | 2 | cu.m | | | | | | | | | | | | | | |
| 9.8 | Concrete encasement (1:2:3 Mixture) | 1 | cu.m | | | | | | | | | | | | | | |
| 9.9 | Supply and installation of stainless steel emergency shower w/ eyewash and pedal (type 304) w/ waterline and sewer line provision | 2 | set | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| **10** | **PROVISION OF MONOLITHIC REINFORCED CONCRETE CHEMICAL TANK** | | | | | | | | | | | | | | | | |
| 10.1 | Site mix concrete (1:2:3 mixture) | 0.9 | cu.m | | | | | | | | | | | | | | |
| 10.2 | 12mmØ x 6.00m def. bar | 24 | pcs | | | | | | | | | | | | | | |
| 10.3 | G.A 16 G.I Wire | 4 | kg | | | | | | | | | | | | | | |
| 10.4 | Phenolic form plywood | 4 | pcs | | | | | | | | | | | | | | |
| 10.5 | Asstd. Coco lumber | 90 | bd.ft | | | | | | | | | | | | | | |
| 10.6 | Asstd. C.W Nail | 3 | kg | | | | | | | | | | | | | | |
| 10.7 | Waterproofing Compound | 9 | pouch | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| **11** | **CONCRETE TABLE W/ SINK** | | | | | | | | | | | | | | | | |
| 11.1 | Concrete, CHB and rebar | 1 | lot | | | | | | | | | | | | | | |
| 11.2 | Stainless sink (2 compartment) | 1 | set | | | | | | | | | | | | | | |
| 11.3 | Goose type faucet and accessories | 1 | set | | | | | | | | | | | | | | |
| 11.4 | Tile works | 1 | lot | | | | | | | | | | | | | | |
| 11.5 | PPR Waterline and PVC Sewer line | 1 | lot | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| **12** | **PROVISION OF STORAGE AREA** | | | | | | | | | | | | | | | | |
| 12.1 | 6" thk Ordinary CHB | 80 | pcs | | | | | | | | | | | | | | |
| 12.2 | 12mmØ x 6.00m def. bar | 4 | pcs | | | | | | | | | | | | | | |
| 12.3 | 10mmØ x 6.00m def. bar | 16 | pcs | | | | | | | | | | | | | | |
| 12.4 | G.A 16 G.I Wire | 2 | kg | | | | | | | | | | | | | | |

| Item No. | ITEM/DESCRIPTION | QTY | UNIT | MATERIAL COST | | LABOR COST | | ESTIMATED | MARK-UPS IN PERCENT | | | TOTAL MARK-UP | | VAT | TOTAL INDL COST | TOTAL COST | UNIT COST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNIT COST | TOTAL COST | UNIT COST | TOTAL COST | DIRECT COST | CONT. | OCM | PROFIT | % | VALUE | | | | |
| 12.5 | Portland Cement | 12 | bags | | | | | | | | | | | | | | |
| 12.6 | White sand | 2 | cu.m | | | | | | | | | | | | | | |
| 12.7 | Concrete (1:2:3 mixture) | 1 | cu.m | | | | | | | | | | | | | | |
| 12.8 | 3/4" Crashed gravel bedding | 0.5 | cu.m | | | | | | | | | | | | | | |
| 12.9 | 2" x 2" x 1/8 x 8 steel grill | 8 | pcs | | | | | | | | | | | | | | |
| 12.10 | 1" x 1" x 3/16" x 20' angular bar | 12 | pcs | | | | | | | | | | | | | | |
| 12.11 | 1 1/2" x 20 sch. 40 G.I Pipe | 5 | pcs | | | | | | | | | | | | | | |
| 12.12 | 5/8"Ø cylindrical hinges | 4 | pcs | | | | | | | | | | | | | | |
| 12.13 | Brass padlock (Yale) big | 1 | pc | | | | | | | | | | | | | | |
| 12.14 | Epoxy primer | 2 | gal | | | | | | | | | | | | | | |
| 12.15 | Epoxy top coat paint | 3 | gal | | | | | | | | | | | | | | |
| 12.16 | Epoxy thinner | 1 | gal | | | | | | | | | | | | | | |
| 12.17 | G.A 1 x 4' x 8' G.I Sht | 1 | pc | | | | | | | | | | | | | | |
| 12.18 | Welding rod | 10 | kgs | | | | | | | | | | | | | | |
| 12.19 | 4"Ø cutting disc tyrolite | 6 | pcs | | | | | | | | | | | | | | |
| 12.20 | 4"Ø Grinding disc | 3 | pcs | | | | | | | | | | | | | | |
| 12.21 | Dyna bolt 5/8"Ø | 32 | pcs | | | | | | | | | | | | | | |
| 12.22 | 2" x 2" x 1/4" x 20' Angular bar | 8 | pcs | | | | | | | | | | | | | | |
| 12.23 | 1 1/2" x 1 1/2" x 3/16" x 20' Angular bar | 12 | pcs | | | | | | | | | | | | | | |
| 12.24 | 2" x 4" x 20' G.A 16 B.I C-purlins | 12 | pcs | | | | | | | | | | | | | | |
| 12.25 | 12mmØ x 6.00m plain round bar | 4 | pcs | | | | | | | | | | | | | | |
| 12.26 | Metal texscrew | 120 | pcs | | | | | | | | | | | | | | |
| 12.27 | 10mm thk x 50m polyethylene foam roof insulation | 1 | roll | | | | | | | | | | | | | | |
| 12.28 | 1" x 1" G.I chicken wire | 38 | sq.m | | | | | | | | | | | | | | |
| 12.29 | 0.60m x 0.4mm x 2.44m pre-painted side flushing | 2 | pcs | | | | | | | | | | | | | | |
| 12.30 | 0.30m x 2.44m x 1/2" thk foam board | 2 | pcs | | | | | | | | | | | | | | |
| 12.31 | Screw, revits and sealant | 1 | lot | | | | | | | | | | | | | | |
| 12.32 | 0.4mm x 1.2m x 2.44m pre-painted plain sht | 4 | pcs | | | | | | | | | | | | | | |
| | *Sub-total* | | | | | | | | | | | | | | | | |
| **13** | **ELECTRICAL WORKS** | | | | | | | | | | | | | | | | |
| **13.1** | **Supply and installation of new Electrical Panelboard MDP with the following specifications and as indicated in the electrical plan** | | | | | | | | | | | | | | | | |
| 13.1.1 | Panelboard MDP, 60A, 3P, 240V 22 KAIC, Main CB, Industrial Type with Branches Circuit Breaker: 4 sets 15A, 2P, 250V, 10KAIC CB, Bolt-on Type, 4 sets 20A, 2P, 250V, 10KAIC CB, Bolt-on Type, 2 sets 30A, 2P, 250V, 10KAIC CB, Bolt-on Type | 1 | lot | | | | | | | | | | | | | | |

| Item No. | ITEM/DESCRIPTION | QTY | UNIT | MATERIAL COST | | LABOR COST | | ESTIMATED DIRECT COST | MARK-UPS IN PERCENT | | | TOTAL MARK-UP | | VAT | TOTAL INDI. COST | TOTAL COST | UNIT COST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNIT COST | TOTAL COST | UNIT COST | TOTAL COST | | CONT. | OCM | PROFIT | % | VALUE | | | | |
| 13.1.2 | 14 mm² THHN/THWN wire | 70 | m | | | | | | | | | | | | | | |
| 13.1.3 | 5.5 mm² THHN/THWN wire (Green color) | 24 | m | | | | | | | | | | | | | | |
| 13.1.4 | 40 mm Ø uPVC Pipe | 7 | pcs. | | | | | | | | | | | | | | |
| 13.1.5 | 40 mm Ø uPVC adapter with locknut | 1 | pc. | | | | | | | | | | | | | | |
| 13.1.6 | 40 mm Ø uPVC elbow | 1 | pc. | | | | | | | | | | | | | | |
| 13.1.7 | 100 cc. solvent cement | 1 | can | | | | | | | | | | | | | | |
| 13.1.8 | Ground Rod, 5/8" Ø,8ft. With heavy duty ground terminal and cable | 1 | set | | | | | | | | | | | | | | |
| 13.1.9 | Concrete encasement of 40 mmØ uPVC feederline | 20 | m | | | | | | | | | | | | | | |
| 13.1.10 | Miscellaneous (solderless connector, tox, screws and etc.) | 1 | lot | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| **13.2** | **Supply and installation of MDP distribution circuits which includes lighting fixtures, convenience outlets, switches and other related electrical devices and materials as indicated in the electrical plan** | | | | | | | | | | | | | | | | |
| 13.2.1 | 5.5 mm² THHN/THWN wire | 1 | roll | | | | | | | | | | | | | | |
| 13.2.2 | 3.5 mm² THHN/THWN wire | 1 | roll | | | | | | | | | | | | | | |
| 13.2.3 | 2.0 mm² THHN/THWN wire | 3 | rolls | | | | | | | | | | | | | | |
| 13.2.4 | 15 mmØ RSC pipe with coupling, schedule 40, zinc coated | 104 | pcs. | | | | | | | | | | | | | | |
| 13.2.5 | 15 mmØ RSC locknut and bushing | 109 | pcs. | | | | | | | | | | | | | | |
| 13.2.6 | 15 mmØ RSC elbow | 9 | pcs. | | | | | | | | | | | | | | |
| 13.2.7 | 4 11/16" x 4 11/16" square box with cover, metallic | 1 | pc. | | | | | | | | | | | | | | |
| 13.2.8 | 4" Ø octagonal box with cover, metallic | 28 | pcs. | | | | | | | | | | | | | | |
| 13.2.9 | 2"x4" Utility Box, metallic | 15 | pcs. | | | | | | | | | | | | | | |
| 13.2.10 | Duplex Convenience Outlet with ground | 9 | pcs. | | | | | | | | | | | | | | |
| 13.2.11 | Single Convenience Outlet with ground | 6 | pcs. | | | | | | | | | | | | | | |
| 13.2.12 | ECB with 30A, 2P, 230V, 10 KAIC, Bolt-on type circuit breaker, NEMA 3 | 2 | sets | | | | | | | | | | | | | | |
| 13.2.13 | ECB with 20A, 2P, 230V 10 KAIC, Bolt-on type circuit breaker, NEMA 3 | 1 | sets | | | | | | | | | | | | | | |
| 13.2.14 | One gang switch with cover | 1 | set | | | | | | | | | | | | | | |
| 13.2.15 | 2 Gang Switch with cover | 5 | sets | | | | | | | | | | | | | | |
| 13.2.16 | Fluorescent Fixture, Moisture Proof, IP65, T8, 18W, Double | 20 | sets | | | | | | | | | | | | | | |
| 13.2.17 | Pinlight Fixture with 18W LED Bulb, 6 inches outer rim | 10 | sets | | | | | | | | | | | | | | |
| 13.2.18 | Automatic Emergency Light, 2 x 3W High Power SMT LED. Battery: 12v, 9.0Ah, Sealed Lead Acid | 3 | sets | | | | | | | | | | | | | | |
| 13.2.19 | Mica tube, 1" diameter | 15 | m | | | | | | | | | | | | | | |
| 13.2.20 | Miscellaneous (support for rsc pipes) | 1 | lot | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |

| Item No. | ITEM/DESCRIPTION | QTY | UNIT | MATERIAL COST | | LABOR COST | | ESTIMATED | MARK-UPS IN PERCENT | | | TOTAL MARK-UP | | VAT | TOTAL INDI. COST | TOTAL COST | UNIT COST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNIT COST | TOTAL COST | UNIT COST | TOTAL COST | DIRECT COST | CONT. | OCM | PROFIT | % | VALUE | | | | |
| **13.3** | **Supply and installation of CCTV Cameras, cables and other accessories as indicated in the electrical plan** | | | | | | | | | | | | | | | | |
| 13.3.1 | CCTV Camera, 2MP,1080, Indoor and Bullet Type | 5 | sets | | | | | | | | | | | | | | |
| 13.3.2 | CCTV Camera, 2MP,1080, outdoor and Bullet Type | 1 | set | | | | | | | | | | | | | | - |
| 13.3.3 | 150mm x 150mm x 100mm pullbox with cover, pre-painted | 6 | pcs. | | | | | | | | | | | | | | - |
| 13.3.4 | 4 11/16" x 4 11/16" square box with cover, uPVC | 4 | pcs. | | | | | | | | | | | | | | - |
| 13.3.5 | 4" octagonal box, uPVC | 6 | pcs. | | | | | | | | | | | | | | - |
| 13.3.6 | Cable Gland, 20mm Ø Inside diameter, PG16 | 12 | pcs. | | | | | | | | | | | | | | - |
| 13.3.7 | 20 mmØ uPVC pipe | 8 | pcs. | | | | | | | | | | | | | | - |
| 13.3.8 | 20 mmØ uPVC adapter with locknut | 6 | pcs. | | | | | | | | | | | | | | - |
| 13.3.9 | 25 mmØ uPVC pipe | 6 | pcs. | | | | | | | | | | | | | | - |
| 13.3.10 | 25 mmØ uPVC adapter with locknut | 4 | pcs. | | | | | | | | | | | | | | - |
| 13.3.11 | 32 mmØ uPVC pipe | 14 | pcs. | | | | | | | | | | | | | | |
| 13.3.12 | 32 mmØ uPVC adapter with locknut | 12 | pcs. | | | | | | | | | | | | | | |
| 13.3.13 | Pullboxes with cover, pre-painted (250mm x 250mm x 150mm) | 6 | sets | | | | | | | | | | | | | | |
| 13.3.14 | CCTV Centralized Power Supply, 8 Channels.<br>Input Voltage= 100-240 VAC, 60Hz,<br>Output Voltage=12 VDC, Total Current 0-30A<br>Preferred Fuse Type PTC (Resettable Fuse) | 1 | set | | | | | | | | | | | | | | |
| 13.3.15 | RG 59 Siamese Coaxial Cable (300m/roll), 75ohms impedance, solid copper core/inner conductor and 95% copper braiding | 2 | rolls | | | | | | | | | | | | | | |
| 13.3.16 | Miscellaneous | 1 | lot | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| **13.4** | **Supply and installation of Fire Alarm System as indicated in the electrical plan** | | | | | | | | | | | | | | | | |
| 13.4.1 | Fire Alarm Control Panel with 4 zones, 24V | 1 | lot | | | | | | | | | | | | | | |
| 13.4.2 | Photoelectric Smoke Detectors | 7 | sets | | | | | | | | | | | | | | |
| 13.4.3 | Fire alarm Bell (6" diameter), 24V | 2 | sets | | | | | | | | | | | | | | |
| 13.4.4 | Manual Pull Station, Simplex | 2 | pcs. | | | | | | | | | | | | | | |
| 13.4.5 | 1.25 $mm^2$ TF wire, 150m/roll, black and red color | 2 | rolls | | | | | | | | | | | | | | |
| 13.4.6 | 20 mmØ uPVC pipe | 17 | pcs. | | | | | | | | | | | | | | |
| 13.4.7 | 20mmØ uPVC adapter with locknut | 20 | pcs. | | | | | | | | | | | | | | |
| 13.4.8 | 4" Ø octagonal box with cover, uPVC | 10 | pcs. | | | | | | | | | | | | | | |
| 13.4.9 | 4 11/16" x 4 11/16" square box with cover, upvc | 3 | pcs. | | | | | | | | | | | | | | |
| 13.4.10 | Mica tube, 1" diameter | 4 | m | | | | | | | | | | | | | | |
| 13.4.11 | 12"Ø Industrial Wall Exhaust fan with shutter (Asahi) or equivalent | 3 | sets | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| | ***Sub-total of Item B*** | | | | | | | | | | | | | | | | |

| Item No. | ITEM/DESCRIPTION | QTY | UNIT | MATERIAL COST | | LABOR COST | | ESTIMATED DIRECT COST | MARK-UPS IN PERCENT | | | TOTAL MARK-UP | | VAT | TOTAL INDI. COST | TOTAL COST | UNIT COST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNIT COST | TOTAL COST | UNIT COST | TOTAL COST | | CONT. | OCM | PROFIT | % | VALUE | | | | |
| C | **REHABILITATION OF 2ND FLOOR WEST WING** | | | | | | | | | | | | | | | | |
| | **REACTOR BLDG.** | | | | | | | | | | | | | | | | |
| 1 | **SITEWORKS** | | | | | | | | | | | | | | | | |
| 1.1 | Chipping/removal of steel casement windows and disposal | 3 | sets | | | | | | | | | | | | | | |
| 1.2 | Removal/demolition of cabinet and disposal | 1 | set | | | | | | | | | | | | | | |
| 1.3 | Removal/scraping of old paint (Walls and Ceiling) | 850 | sq.m | | | | | | | | | | | | | | |
| 1.4 | Demolition/removal of existing floor tiles, exposed steel pipes emergency shower and disposal | 1 | lot | | | | | | | | | | | | | | |
| 1.5 | Chipping of concrete floors and walls for the installation of | 1 | lot | | | | | | | | | | | | | | |
| | new CHB partition walls | | | | | | | | | | | | | | | | |
| 1.6 | Removal/demolition of entire elevator structure from top | 6 | days | | | | | | | | | | | | | | |
| | to bottom (motor, shaft, wire rope, steel structure etc. | | | | | | | | | | | | | | | | |
| | and disposal | | | | | | | | | | | | | | | | |
| | two (2) skilled x 700 = ₱1,400.00 | | | | | | | | | | | | | | | | |
| | four (4) laborers x 550 = P2,200.00 | | | | | | | | | | | | | | | | |
| | Total of ₱3,600.00/day | | | | | | | | | | | | | | | | |
| 1.7 | Equipment and tools rental for demolition | 1 | lot | | | | | | | | | | | | | | |
| | (Jackhammer, Oxyacetylene, Cutting outfit, Grinder | | | | | | | | | | | | | | | | |
| | cutter etc.) | | | | | | | | | | | | | | | | |
| 1.8 | Demolition of reinforced concrete wall surrounding the | 6 | days | | | | | | | | | | | | | | |
| | elevator shaft (2 sides) and disposal of concrete debris | | | | | | | | | | | | | | | | |
| | two (2) skilled x 700 = ₱1,400.00 | | | | | | | | | | | | | | | | |
| | four (4) laborers x 550 = ₱2,200.00 | | | | | | | | | | | | | | | | |
| | Total of P3,600.00/day | | | | | | | | | | | | | | | | |
| 1.9 | Chipping and removal of door & jamb and disposal | 12 | sets | | | | | | | | | | | | | | |
| 1.10 | Upgrading of comfort rooms | | | | | | | | | | | | | | | | |
| 1.11 | Chipping/removal of existing floor and wall tiles, water closet | 61 | sq.m | | | | | | | | | | | | | | |
| | lavatory, faucets, ceiling board, doors, and jamb etc. | | | | | | | | | | | | | | | | |
| 1.12 | Chipping/removal of all existing sewer line and waterline pipes | 1 | lot | | | | | | | | | | | | | | |
| | and fittings and restoration of concrete flooring | | | | | | | | | | | | | | | | |
| 1.13 | Cleaning and disposal of all waste materials and | 1 | lot | | | | | | | | | | | | | | |
| | concrete debris | | | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| 2 | **TILE WORKS** | | | | | | | | | | | | | | | | |
| 2.1 | Supply and installation of (0.60m x 0.60m) Synthetic granite | | | | | | | | | | | | | | | | |
| | floor tiles and wall tiles | | | | | | | | | | | | | | | | |
| 2.2 | (0.60m x 0.60m) Synthetic granite beige "Flooring" | 540 | pcs | | | | | | | | | | | | | | |

| Item No. | ITEM/DESCRIPTION | QTY | UNIT | MATERIAL COST | | LABOR COST | | ESTIMATED | MARK-UPS IN PERCENT | | | TOTAL MARK-UP | | VAT | TOTAL INDI. COST | TOTAL COST | UNIT COST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNIT COST | TOTAL COST | UNIT COST | TOTAL COST | DIRECT COST | CONT. | OCM | PROFIT | % | VALUE | | | | |
| 2.3 | (0.60m x 0.60m) Synthetic granite "Marble design" walling | 184 | pcs | | | | | | | | | | | | | | |
| 2.4 | Ready fix adhesive | 25 | gal | | | | | | | | | | | | | | |
| 2.5 | Tile adhesive ABC | 180 | bag | | | | | | | | | | | | | | |
| 2.6 | Portland cement | 60 | bag | | | | | | | | | | | | | | |
| 2.7 | Tile grout ABC | 20 | kgs | | | | | | | | | | | | | | |
| 2.8 | Tile cutter blade | 1 | lot | | | | | | | | | | | | | | |
| 2.9 | Floor surface preparation by sanding | 240 | sq.m | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| **3** | **CEILING WORKS** | | | | | | | | | | | | | | | | |
| 3.1 | Supply and installation of (0.60m x 0.60m) white acoustic | | | | | | | | | | | | | | | | |
| | board with 1"x" t-runner white powder coated metal w/ | | | | | | | | | | | | | | | | |
| | G.A 16 G.I Wire hanger and provide 12mmØ rebar support | | | | | | | | | | | | | | | | |
| | for hanger | | | | | | | | | | | | | | | | |
| 3.2 | (0.60m x 0.60m) white acoustic board with white powder | 228 | sq.m | | | | | | | | | | | | | | |
| | coated metal t-runner (1" x 1") with G.A 16 wire hanger | | | | | | | | | | | | | | | | |
| | "Armstrong" | | | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| **4** | **MASONRY WORKS (NEW CHB WALL SMOOTH** | | | | | | | | | | | | | | | | |
| | **PLASTERED FINISH ON BOTH SIDE)** | | | | | | | | | | | | | | | | |
| 4.1 | Supply and installation of new 6" thk CHB partition walls | | | | | | | | | | | | | | | | |
| | and additional two (2) layers of CHB on existing CHB partition with smooth cement plastered finish on both side | | | | | | | | | | | | | | | | |
| 4.2 | 6" x 8" x 16" ordinary CHB | 256 | pcs | | | | | | | | | | | | | | |
| 4.3 | 10mmØ x 6.00m def. bar | 13 | pcs | | | | | | | | | | | | | | |
| 4.4 | Portland Cement | 52 | bag | | | | | | | | | | | | | | |
| 4.5 | White sand | 8 | cu.m | | | | | | | | | | | | | | |
| 4.6 | G.A 16 G.I Wire | 2 | kgs | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| **5** | **PAINTING WORKS** | | | | | | | | | | | | | | | | |
| 5.1 | Concrete wall (Floor to new ceiling line) | | | | | | | | | | | | | | | | |
| 5.2 | (1) coat surface prep. w/ patching compound and sanding | 578 | sq.m | | | | | | | | | | | | | | |
| 5.3 | (3) coats gloss latex paint | 578 | sq.m | | | | | | | | | | | | | | |
| 5.4 | Concrete ceiling (Natas lab and storage) | | | | | | | | | | | | | | | | |
| 5.5 | (1) coat surface prep. w/ patching compound and sanding | 35 | sq.m | | | | | | | | | | | | | | |
| 5.6 | (3) coats gloss latex paint | 35 | sq.m | | | | | | | | | | | | | | |
| 5.7 | Concrete flooring (Natas lab and storage) | | | | | | | | | | | | | | | | |
| 5.8 | Self leveling epoxy | | | | | | | | | | | | | | | | |
| 5.9 | Natas laboratory | 28 | sq.m | | | | | | | | | | | | | | |

| Item No. | ITEM/DESCRIPTION | QTY | UNIT | MATERIAL COST | | LABOR COST | | ESTIMATED DIRECT COST | MARK-UPS IN PERCENT | | | TOTAL MARK-UP | | VAT | TOTAL INDI. COST | TOTAL COST | UNIT COST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNIT COST | TOTAL COST | UNIT COST | TOTAL COST | | CONT. | OCM | PROFIT | % | VALUE | | | | |
| 5.10 | Stair step | 9 | sq.m | | | | | | | | | | | | | | |
| 5.11 | Concrete floor topping surface preparation | 28 | sq.m | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| **6** | **COMFORT ROOMS (FIXTURE AND ACCESSORIES)** | | | | | | | | | | | | | | | | |
| 6.1 | Supply and installation of new comfort rooms fixture | | | | | | | | | | | | | | | | |
| | and accessories | | | | | | | | | | | | | | | | |
| 6.2 | Water closet complete set (Pozzi) | 2 | sets | | | | | | | | | | | | | | |
| 6.3 | Lavatory counter type (Pozzi) | 2 | sets | | | | | | | | | | | | | | |
| 6.4 | Lavatory faucet (Pozzi) | 2 | pcs | | | | | | | | | | | | | | |
| 6.5 | Bidet (Pozzi) | 2 | pcs | | | | | | | | | | | | | | |
| 6.6 | Angle valve double | 2 | pcs | | | | | | | | | | | | | | |
| 6.7 | Angle valve single | 2 | pcs | | | | | | | | | | | | | | |
| 6.8 | Flexible hose stainless | 4 | pcs | | | | | | | | | | | | | | |
| 6.9 | Stainless steel P-trap | 2 | pcs | | | | | | | | | | | | | | |
| 6.10 | Stainless steel floor drain | 5 | pcs | | | | | | | | | | | | | | |
| 6.11 | Stainless steel hose bibb | 2 | pcs | | | | | | | | | | | | | | |
| 6.12 | Stainless steel paper holder | 2 | pcs | | | | | | | | | | | | | | |
| 6.13 | Stainless steel soap holder | 2 | pcs | | | | | | | | | | | | | | |
| 6.14 | Glass mirror w/ aluminum frame (0.90m x 1.20m) | 2 | sets | | | | | | | | | | | | | | |
| 6.15 | Phenolic wood partition w/ door & accessories | 1 | set | | | | | | | | | | | | | | |
| | (1.80m x 2.40m) | | | | | | | | | | | | | | | | |
| 6.16 | Phenolic wood partition w/ door & accessories | 1 | set | | | | | | | | | | | | | | |
| | (1.80m x 1.20m) | | | | | | | | | | | | | | | | |
| 6.17 | Laminated wooden door w/ louver and jamb w/ moulding | 2 | sets | | | | | | | | | | | | | | |
| 6.18 | Door lockset "Yale" | 2 | sets | | | | | | | | | | | | | | |
| 6.19 | Door hinges (3" x 3") "Stanley" stainless steel | 8 | pcs | | | | | | | | | | | | | | |
| 6. 20 | Door closer heavy duty "Yale" | 2 | sets | | | | | | | | | | | | | | |
| 6.21 | Urinal w/ complete accessories (Medium) "Pozzi" | 2 | sets | | | | | | | | | | | | | | |
| 6.22 | Miscellaneous | 1 | lot | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| **7** | **WATERPROOFING (COMFORT ROOMS FLOORING)** | | | | | | | | | | | | | | | | |
| 7.1 | Thoroseal waterproofing (3 coats) with concrete | 17.04 | sq.m | | | | | | | | | | | | | | |
| | surface preparation | | | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| **8** | **PLUMBING WORKS** | | | | | | | | | | | | | | | | |
| 8.1 | Supply and installation of new PPR waterline pipes and | | | | | | | | | | | | | | | | |
| | fittings and new PVC sewer line pipes and fittings | | | | | | | | | | | | | | | | |

| Item No. | ITEM/DESCRIPTION | QTY | UNIT | MATERIAL COST | | LABOR COST | | ESTIMATED DIRECT COST | MARK-UPS IN PERCENT | | | TOTAL MARK-UP | | VAT | TOTAL INDI. COST | TOTAL COST | UNIT COST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNIT COST | TOTAL COST | UNIT COST | TOTAL COST | | CONT. | OCM | PROFIT | % | VALUE | | | | |
| A. | **WATERLINE** | | | | | | | | | | | | | | | | |
| 8.2 | Excavation for piping layout | 1 | lot | | | | | | | | | | | | | | |
| 8.3 | Coring of reinforced concrete wall (1"Ø) | 1 | pc | | | | | | | | | | | | | | |
| 8.4 | Coring of reinforced concrete floor slab (3/4"Ø) | 8 | pcs | | | | | | | | | | | | | | |
| 8.5 | Supply and installation of PPR waterline pipes and fittings | | | | | | | | | | | | | | | | |
| 8.6 | 1"Ø x 15ft. PN20 PPR Pipes | 7 | pcs | | | | | | | | | | | | | | |
| 8.7 | Asstd. 1"Ø PPR Fittings | 5 | pcs | | | | | | | | | | | | | | |
| 8.8 | 1"Ø PPR/Brass gate valve | 1 | pc | | | | | | | | | | | | | | |
| 8.9 | 3/4"Ø x 15ft. PN20 PPR Pipes | 5 | pcs | | | | | | | | | | | | | | |
| 8.10 | Asstd. 3/4"Ø PPR Fittings | 10 | pcs | | | | | | | | | | | | | | |
| 8.11 | 3/4"Ø PPR/Brass gate valve | 1 | pc | | | | | | | | | | | | | | |
| 8.12 | 1/2"Ø x 15ft. PN20 PPR Pipes | 10 | pcs | | | | | | | | | | | | | | |
| 8.13 | Asstd. 1/2"Ø PPR Fittings | 16 | pcs | | | | | | | | | | | | | | |
| 8.14 | 1/2"Ø PPR/Brass gate valve | 2 | pcs | | | | | | | | | | | | | | |
| 8.15 | Teflon tape | 4 | pcs | | | | | | | | | | | | | | |
| 8.16 | Miscellaneous | 1 | lot | | | | | | | | | | | | | | |
| 8.17 | Steel clamps and hangers w/ expansion bolt | 1 | lot | | | | | | | | | | | | | | |
| 8.18 | Asstd. Drill bit | 1 | lot | | | | | | | | | | | | | | |
| 8.19 | Painting of pipes | 1 | lot | | | | | | | | | | | | | | |
| 8.20 | Saddle clamp (2"Ø x 1"Ø) | 1 | pc | | | | | | | | | | | | | | |
| 8.21 | Concrete covering of new PPR waterline pipes | | | | | | | | | | | | | | | | |
| 8.22 | Portland cement | 1 | bag | | | | | | | | | | | | | | |
| 8.23 | Sand | 0.2 | cu.m | | | | | | | | | | | | | | |
| 8.24 | 3/4" crashed gravel | 0.3 | cu.m | | | | | | | | | | | | | | |
| 8.25 | Pressure leak testing | 1 | lot | | | | | | | | | | | | | | |
| 8.26 | Back filling and compaction | 1 | lot | | | | | | | | | | | | | | |
| 8.27 | Concrete restoration of concrete walls and floors | 1 | lot | | | | | | | | | | | | | | |
| B. | **SEWERLINE** | | | | | | | | | | | | | | | | |
| 8.28 | Excavation for piping layout | 1 | lot | | | | | | | | | | | | | | |
| 8.29 | Coring of reinforced concrete wall (5"Ø) | 1 | pc | | | | | | | | | | | | | | |
| 8.30 | Coring of reinforced concrete flooring | | | | | | | | | | | | | | | | |
| 8.31 | 4"Ø hole | 9 | pcs | | | | | | | | | | | | | | |
| 8.32 | 3"Ø hole | 4 | pcs | | | | | | | | | | | | | | |
| 8.33 | Supply and installation of PVC sewer line pipes and fittings | | | | | | | | | | | | | | | | |
| 8.34 | 4"Ø x 10' S-1000 PVC Pipe | 8 | pcs | | | | | | | | | | | | | | |
| 8.35 | Asstd. 4"Ø PVC Fittings | 12 | pcs | | | | | | | | | | | | | | |
| 8.36 | 3"Ø x 10' S-1000 PVC Pipe | 2 | pcs | | | | | | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNIT COST | TOTAL COST | UNIT COST | TOTAL COST | | CONT. | OCM | PROFIT | % | VALUE | | | | |
| 8.37 | Asstd. 3"Ø PVC Fittings | 8 | pcs | | | | | | | | | | | | | | |
| 8.38 | 2"Ø x 10' S-1000 PVC Pipe | 8 | pcs | | | | | | | | | | | | | | |
| 8.39 | Asstd. 2"Ø PVC Fittings | 12 | pcs | | | | | | | | | | | | | | |
| 8.40 | PVC Cement neltex | 1 | lit | | | | | | | | | | | | | | |
| 8.41 | Epoxy sealant | 1 | gal | | | | | | | | | | | | | | |
| 8.42 | Steel clamps and hangers w/ expansion bolt | 1 | lot | | | | | | | | | | | | | | |
| 8.43 | Asstd. Drill bit | 1 | lot | | | | | | | | | | | | | | |
| 8.44 | Painting | 1 | lot | | | | | | | | | | | | | | |
| 8.45 | Chipping work for 2"Ø Embedded PVC pipe | 1 | lot | | | | | | | | | | | | | | |
| 8.46 | Miscellaneous | 1 | lot | | | | | | | | | | | | | | |
| 8.47 | Concrete covering of new PPR sewer line pipes | | | | | | | | | | | | | | | | |
| 8.48 | Portland Cement | 1 | bag | | | | | | | | | | | | | | |
| 8.49 | Sand | 0.2 | cu.m | | | | | | | | | | | | | | |
| 8.50 | 3/4" crashed gravel | 0.3 | cu.m | | | | | | | | | | | | | | |
| 8.51 | Chipping of concrete sidewalk | 1 | lot | | | | | | | | | | | | | | |
| 8.52 | Back filling and compaction | 1 | lot | | | | | | | | | | | | | | |
| 8.53 | Concrete restoration of concrete walls and floors | 1 | lot | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| **9** | **CONCRETE WORKS** | | | | | | | | | | | | | | | | |
| 9.1 | Concreting of elevator shaft floor opening and CHB walling | | | | | | | | | | | | | | | | |
| 9.2 | Concrete (1:2:3 mixture) | 0.3 | cu.m | | | | | | | | | | | | | | |
| 9.3 | 12mmØ x 6.00m def. bar | 12 | pcs | | | | | | | | | | | | | | |
| 9.4 | 10mmØ x 6.00m def. bar | 4 | pcs | | | | | | | | | | | | | | |
| 9.5 | G.A 16 G.I Wire | 2 | kgs | | | | | | | | | | | | | | |
| 9.6 | Steel deck (1.2mm thk) | 3 | sq.m | | | | | | | | | | | | | | |
| 9.7 | 2" x 4" x 12' Coco lumber | 10 | pcs | | | | | | | | | | | | | | |
| 9.8 | Asstd. C.W Nail | 2 | kgs | | | | | | | | | | | | | | |
| 9.9 | Welding rod | 1 | kg | | | | | | | | | | | | | | |
| 9.10 | 6" x 8" x 16" Ordinary CHB | 60 | pcs | | | | | | | | | | | | | | |
| 9.11 | Portland cement | 12 | bags | | | | | | | | | | | | | | |
| 9.12 | White sand | 2 | cu.m | | | | | | | | | | | | | | |
| 9.13 | Concrete restoration of door opening and window | 15 | sets | | | | | | | | | | | | | | |
| | opening (Smooth plastered finish) | | | | | | | | | | | | | | | | |
| 9.14 | Provision of new concrete pathway with steel grating | | | | | | | | | | | | | | | | |
| 9.15 | Site clearing and cleaning | 1 | lot | | | | | | | | | | | | | | |
| 9.16 | Concrete cutting of drainage | 1 | lot | | | | | | | | | | | | | | |
| 9.17 | Portland cement | 12 | bags | | | | | | | | | | | | | | |
| 9.18 | Sand | 1 | cu.m | | | | | | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNIT COST | TOTAL COST | UNIT COST | TOTAL COST | | CONT. | OCM | PROFIT | % | VALUE | | | | |
| 9.19 | Chipping works | 1 | lot | | | | | | | | | | | | | | |
| 9.20 | Crashed gravel 3/4" | 3 | cu.m | | | | | | | | | | | | | | |
| 9.21 | 10mmØ x 6.00m def. bar | 15 | pcs | | | | | | | | | | | | | | |
| 9.22 | G.A 16 G.I Wire | 1 | kg | | | | | | | | | | | | | | |
| 9.23 | 2" x 2" x 3/16" x 20' angular bar | 13 | pcs | | | | | | | | | | | | | | |
| 9.24 | Welding rod | 4 | kgs | | | | | | | | | | | | | | |
| 9.25 | Disc cutter blade (14") | 1 | pc | | | | | | | | | | | | | | |
| 9.26 | Epoxy primer | 2 | liters | | | | | | | | | | | | | | |
| 9.27 | Epoxy top coat paint | 1 | gal | | | | | | | | | | | | | | |
| 9.28 | Paint brush | 2 | pcs | | | | | | | | | | | | | | |
| 9.29 | Epoxy paint thinner | 1 | lit | | | | | | | | | | | | | | |
| 9.30 | Form lumber and nail | 1 | lot | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| 10 | **DOORS AND WINDOWS** | | | | | | | | | | | | | | | | |
| A | **WINDOWS** | | | | | | | | | | | | | | | | |
| 10.1 | (1.20m x 2.40m) Sliding analok aluminum windows w/ | 2 | sets | | | | | | | | | | | | | | |
| | 1/4" thk bronze glass complete w/ lock and accessories (W1) | | | | | | | | | | | | | | | | |
| 10.2 | (1.20m x 1.80m) Sliding analok aluminum windows w/ | 3 | sets | | | | | | | | | | | | | | |
| | 1/4" thk bronze glass complete w/ lock and accessories (W2) | | | | | | | | | | | | | | | | |
| B | **DOORS** | | | | | | | | | | | | | | | | |
| 10.3 | (1.60mx2.10m) Analok aluminum glass double swing door | 2 | sets | | | | | | | | | | | | | | |
| | w/ 1/4" thk bronze glass complete w/ heavy duty door | | | | | | | | | | | | | | | | |
| | lockset, door closer and accessories (D1) Offices | | | | | | | | | | | | | | | | |
| 10.4 | (0.90mx2.10m) Analok aluminum glass double swing door | 4 | sets | | | | | | | | | | | | | | |
| | w/ 1/4" thk bronze glass complete w/ heavy duty door | | | | | | | | | | | | | | | | |
| | lockset, door closer and accessories (D2) Offices | | | | | | | | | | | | | | | | |
| 10.5 | (1.00m x 2.10m) Analok aluminum glass swing door w/ | 1 | set | | | | | | | | | | | | | | |
| | 3/8" thk bronze tempered glass complete w/ heavy duty | | | | | | | | | | | | | | | | |
| | door lockset, door closer, and accessories (D3) Main door | | | | | | | | | | | | | | | | |
| 10.6 | (0.80m x 2.10m) Analok aluminum glass swing door w/ | 2 | sets | | | | | | | | | | | | | | |
| | 1/4" thk bronze glass complete w/ heavy duty door | | | | | | | | | | | | | | | | |
| | lockset, door closer and accessories (D4) Hallway | | | | | | | | | | | | | | | | |
| 10.7 | (0.90m x 2.10m) Fire rated steel door, G.A 16 G.I Sht. w/ | 1 | set | | | | | | | | | | | | | | |
| | 2" x 6" G.A 16 door jamb w/ door lockset, and | | | | | | | | | | | | | | | | |
| | 4- 3 1/2" x 3 1/2" stainless steel hinges (D5) Storage | | | | | | | | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNIT COST | TOTAL COST | UNIT COST | TOTAL COST | | CONT. | OCM | PROFIT | % | VALUE | | | | |
| 10.8 | (0.70m x 2.10m) Fire rated steel door. G.A 16 G.I Sht. w/ | 1 | set | | | | | | | | | | | | | | |
| | 2" x 6" G.A 16 door jamb w/ panic lockset and | | | | | | | | | | | | | | | | |
| | 4- 3 1/2" x 3 1/2" stainless steel hinges (D6) Fire exit | | | | | | | | | | | | | | | | |
| 10.9 | (0.70m x 2.10m) wooden flush door, laminated wood finish | 2 | sets | | | | | | | | | | | | | | |
| | w/ aluminum design, louver 2" x 6" door jamb w/ wood | | | | | | | | | | | | | | | | |
| | moulding design (D7) C.R | | | | | | | | | | | | | | | | |
| 10.10 | "Yale" Door lockset | 2 | sets | | | | | | | | | | | | | | |
| 10.11 | "Stanley" 3" x 3" stainless steel hinges | 8 | pcs | | | | | | | | | | | | | | |
| 10.12 | "Yale" Door closer heavy duty | 2 | sets | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| 11 | **ELECTRICAL WORKS** | | | | | | | | | | | | | | | | |
| **11.1** | **Supply and installation of fluorescent fixtures and emergency lights as indicated in the electrical plan.** | | | | | | | | | | | | | | | | |
| 11.1.1 | T-8 Aluminum Louver Recessed Type Mirrorized, 2 x 36W T8 600 x 1200 x 65mm Fluorescent Fixture | 53 | sets | | | | | | | | | | | | | | |
| 11.1.2 | T-8 Aluminum Louver Recessed Type Mirrorized, 1 x 36W T8 300 x 1200 x 65mm Fluorescent Fixture | 17 | sets | | | | | | | | | | | | | | |
| 11.1.3 | Automatic Emergency Light, 2 x 3W High Power SMT LED. Battery: 12v, 9.0Ah, Sealed Lead Acid | 18 | sets | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| | ***Sub-total of item C*** | | | | | | | | | | | | | | | | |
| **D** | **UPGRADING OF ENVIRONMENTAL RADIOACTIVITY LABORATORY** | | | | | | | | | | | | | | | | |
| 1 | **SITE WORKS:** | | | | | | | | | | | | | | | | |
| 1.1 | Clearing and grubbing | 1 | lot | | | | | | | | | | | | | | - |
| 1.2 | Cutting of trees (rental of chainsaw) and disposal | 1 | lot | | | | | | | | | | | | | | - |
| 1.3 | Hauling and disposal of Scrap materials | 1 | lot | | | | | | | | | | | | | | - |
| 1.4 | Removal/Relocation of two (2) steel container van (Rental of equipment) including mobilization | 1 | lot | | | | | | | | | | | | | | - |
| 1.5 | Excavation of foundation | 30.24 | cu.m | | | | | | | | | | | | | | - |
| 1.6 | Filling materials/Compaction | 141 | cu.m | | | | | | | | | | | | | | - |
| 1.7 | Backfilling/Compaction | 30.24 | cu.m | | | | | | | | | | | | | | - |
| 1.8 | Soil poisoning | 113 | sq.m | | | | | | | | | | | | | | - |
| 1.10 | Gravel bedding | 4 | cu.m | | | | | | | | | | | | | | - |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |

| Item No. | ITEM/DESCRIPTION | QTY | UNIT | MATERIAL COST | | LABOR COST | | ESTIMATED | MARK-UPS IN PERCENT | | | TOTAL MARK-UP | | VAT | TOTAL INDI. COST | TOTAL COST | UNIT COST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNIT COST | TOTAL COST | UNIT COST | TOTAL COST | DIRECT COST | CONT. | OCM | PROFIT | % | VALUE | | | | |
| 2 | **REINFORCED CONCRETE WORKS** | | | | | | | | | | | | | | | | |
| 2.1 | Concrete (Site mix) 1:2:3 mixture | 37.52 | cu.m | | | | | | | | | | | | | | - |
| 2.3 | 16mmØ x 6.00m def. bar | 192 | pcs | | | | | | | | | | | | | | - |
| 2.4 | 12mmØ x 6.00m def. bar | 105 | pcs | | | | | | | | | | | | | | - |
| 2.5 | 10mmØ x 6.00m def. bar | 384 | pcs | | | | | | | | | | | | | | - |
| 2.6 | G.A 16 G.I Wire | 22 | kgs | | | | | | | | | | | | | | - |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| 3 | **FORM WORKS** | | | | | | | | | | | | | | | | |
| 3.1 | 1/2" X 4' 8' Phenolic board | 16 | pcs | | | | | | | | | | | | | | - |
| 3.2 | Asstd. Sized Coco lumber | 1,300 | bd.ft | | | | | | | | | | | | | | - |
| 3.3 | Asstd. C.w Nail | 15 | kgs | | | | | | | | | | | | | | - |
| 3.4 | G.A 16 G.I Wire | 5 | kgs | | | | | | | | | | | | | | - |
| 3.5 | Concrete nail | 2 | kgs | | | | | | | | | | | | | | - |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| 4 | **CARPENTRY WORKS** | | | | | | | | | | | | | | | | |
| 4.1 | 10mm thk Gypsum board ceiling w/ 1" x 2" metal furring frame w/ steel hangers @0.30m O.C B.W (Interior Ceiling) | 108 | sq.m | | | | | | | | | | | | | | |
| 4.2 | 5.5mm thk Ficom board ceiling w/ 1" x 2" metal furring frame w/ steel hangers @0.30m O.C B.W (Exterior Ceiling) | 30.82 | sq.m | | | | | | | | | | | | | | |
| 4.3 | 12mm x 0.30m x 2.44m Ficem board | 13 | pcs | | | | | | | | | | | | | | |
| 4.4 | 2" Black screw | 1,000 | pcs | | | | | | | | | | | | | | |
| 4.5 | Aluminum Blind Rivets | 4 | box | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| 5 | **MASONRY WORKS** | | | | | | | | | | | | | | | | |
| 5.1 | Portland cement | 342 | bags | | | | | | | | | | | | | | |
| 5.2 | White sand | 49 | cu.m | | | | | | | | | | | | | | |
| 5.3 | 10mmØ x 6.00m def. bar | 138 | pcs | | | | | | | | | | | | | | |
| 5.4 | 6" x 8" x 16" Ordinary CHB | 2,743 | pcs | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| 6 | **STRUCTURAL WORKS** | | | | | | | | | | | | | | | | |
| 6.1 | 2" x 2" x 1/4" x 20' Angular Bar | 34 | pcs | | | | | | | | | | | | | | |
| 6.2 | 1 1/2" x 1 1/2" x 3/16" x 20' Angular Bar | 46 | pcs | | | | | | | | | | | | | | |
| 6.3 | 2" x 4" x 1.5mm x 20' Metal C-purlins | 46 | pcs | | | | | | | | | | | | | | |
| 6.4 | 12mmØ x 6.00m plain round bar | 11 | pcs | | | | | | | | | | | | | | |
| 6.5 | 2" x 3" x 1.5mm x 20' rectangular tubular | 11 | pcs | | | | | | | | | | | | | | |
| 6.6 | Welding rod | 3 | box | | | | | | | | | | | | | | |
| 6.7 | 14"Ø Cutting disc | 2 | pcs | | | | | | | | | | | | | | |
| 6.8 | 4"Ø Cutting disc | 8 | pcs | | | | | | | | | | | | | | |

| Item No. | ITEM/DESCRIPTION | QTY | UNIT | MATERIAL COST | | LABOR COST | | ESTIMATED DIRECT COST | MARK-UPS IN PERCENT | | | TOTAL MARK-UP | | VAT | TOTAL INDI. COST | TOTAL COST | UNIT COST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNIT COST | TOTAL COST | UNIT COST | TOTAL COST | | CONT. | OCM | PROFIT | % | VALUE | | | | |
| 6.9 | 4"Ø Grinding disc | 6 | pcs | | | | | | | | | | | | | | |
| 6.10 | Red oxide paint | 1 | tin | | | | | | | | | | | | | | |
| 6.11 | Paint thinner | 2 | gal | | | | | | | | | | | | | | |
| 6.12 | Turco rust converter | 1 | gal | | | | | | | | | | | | | | |
| 6.13 | Paint brush and paint roller | 4 | pcs | | | | | | | | | | | | | | |
| | *Sub-total* | | | | | | | | | | | | | | | | |
| 7 | **METAL WORKS** | | | | | | | | | | | | | | | | |
| 7.1 | Fabrication and installation of metal ceiling ventilation | | | | | | | | | | | | | | | | |
| 7.1.1 | (0.40m x 2.00m) 1" x 1" x 1.5mm thk square tubular ceiling ventilation with G.I Screen inside | 5 | sets | | | | | | | | | | | | | | |
| | *Sub-total* | | | | | | | | | | | | | | | | |
| 8 | **TINSMITHRY WORKS** | | | | | | | | | | | | | | | | |
| 8.1 | (0.40mm thk x 11.00m x 1.09m) Rib-type pre-painted long span roofing "Green" | 4 | pcs | | | | | | | | | | | | | | |
| 8.2 | (0.40mm thk x 14.00m x 1.09m) Rib-type pre-painted long span roofing "Green" | 2 | pcs | | | | | | | | | | | | | | |
| 8.3 | (0.40mm thk x 18.00m x 1.09m) Rib-type pre-painted long span roofing "Green" | 4 | pcs | | | | | | | | | | | | | | |
| 8.4 | (0.40mm thk x 0.60m x 2.44m) Pre-painted side flushing | 8 | pcs | | | | | | | | | | | | | | |
| 8.5 | (0.40mm thk x 1.22m x 2.44m) Pre-painted plain sheet | 8 | pcs | | | | | | | | | | | | | | |
| 8.6 | 2 1/2" metal texscrew w/ rubber O-ring | 900 | pcs | | | | | | | | | | | | | | |
| 8.7 | Silicon sealant tubes | 5 | pcs | | | | | | | | | | | | | | |
| 8.8 | Concrete nail | 2 | kgs | | | | | | | | | | | | | | |
| 8.9 | Aluminum Blind Rivets | 2 | box | | | | | | | | | | | | | | |
| 8.10 | 10mm thk x 50m polyethylene foam insulation with aluminum foil on two sides | 3 | rolls | | | | | | | | | | | | | | |
| 8.11 | G.A 16 G.I Wire support | 10 | kgs | | | | | | | | | | | | | | |
| | *Sub-total* | | | | | | | | | | | | | | | | |
| 9 | **DOORS AND WINDOWS** | | | | | | | | | | | | | | | | |
| A | **WINDOWS** | | | | | | | | | | | | | | | | |
| 9.1 | (1.20m x 1.20m) Analok aluminum frame w/ 1/4" thk Bronze glass awning window (W1) | 1 | set | | | | | | | | | | | | | | |
| 9.2 | (0.60m x 1.20m) Analok aluminum frame w/ 1/4" thk Bronze glass awning window (W2) | 3 | sets | | | | | | | | | | | | | | |
| 9.3 | (0.90m x 1.20m) Analok aluminum frame w/ 1/4" thk Bronze glass fixed window (W3) | 1 | set | | | | | | | | | | | | | | |
| 9.4 | (0.60m x 1.20m) Analok aluminum frame w/ 1/4" thk Bronze glass fixed window (W4) | 1 | set | | | | | | | | | | | | | | |
| 9.5 | (0.60m x 1.20m) Analok aluminum frame w/ 1/4" thk Bronze glass awning window (W5) | 1 | set | | | | | | | | | | | | | | |

| Item No. | ITEM/DESCRIPTION | QTY | UNIT | MATERIAL COST | | LABOR COST | | ESTIMATED DIRECT COST | MARK-UPS IN PERCENT | | | TOTAL MARK-UP | | VAT | TOTAL INDI. COST | TOTAL COST | UNIT COST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNIT COST | TOTAL COST | UNIT COST | TOTAL COST | | CONT. | OCM | PROFIT | % | VALUE | | | | |
| 9.6 | (0.60m x 0.60m) Analok aluminum frame w/ 1/4" thk Bronze glass awning window (W6) | 2 | sets | | | | | | | | | | | | | | |
| 9.7 | (0.70m x 1.20m) Analok aluminum frame w/ 1/4" thk Bronze glass casement window (W6) | 1 | set | | | | | | | | | | | | | | |
| **B** | **DOORS** | | | | | | | | | | | | | | | | |
| 9.8 | Flush double steel door w/ jamb (2.10m x 2.10m) G.A 16 G.I stainless steel, door knob set w/ 5pcs stainless steel hinges, head bolt and foot bolt stainless steel epoxy painted gray and door closer heavy duty (D1) | 1 | set | | | | | | | | | | | | | | |
| 9.9 | Flush double steel door w/ jamb (2.10m x 2.10m) G.A 16 G.I Epoxy painted w/ stainless steel door lockset, 5pcs stainless steel hinges, head bolt and foot bolt w/ 1/2" thk viewing glass and heavy duty door closer (D2) | 1 | set | | | | | | | | | | | | | | |
| 9.10 | (1.00m x 2.10m) Steel flush door w/ jamb, G.A 16 G.I Painted w/ epoxy paint w/ 5pcs stainless steel hinges, door lockset and heavy duty door closer (D3) | 1 | set | | | | | | | | | | | | | | |
| 9.11 | (0.90m x 2.10m) Analok aluminum swing door w/ 1/4" thk bronze glass with lockset and concealed heavy duty hinges and aluminum handle both side (D4) | 1 | set | | | | | | | | | | | | | | |
| 9.12 | (0.90m x 2.10) Steel flush door w/ jamb, G.A 16 G.I painted w/ epoxy paint w/ 5pcs stainless steel hinges, door lockset and door closer (D5) | 2 | set | | | | | | | | | | | | | | |
| 9.13 | (0.70m x 2.10m) PVC Door w/ PVC Jamb with louver, door lockset, door closer and stainless steel hinges (D6) | 2 | sets | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| **10** | **PLUMBING WORKS** | | | | | | | | | | | | | | | | |
| **A** | **WATERLINE** | | | | | | | | | | | | | | | | |
| 10.1 | 25mmØ x 15' PPR Pipe | 8 | pcs | | | | | | | | | | | | | | |
| 10.2 | 15mmØ x 15' PPR Pipe | 20 | pcs | | | | | | | | | | | | | | |
| 10.3 | Asstd. PPR Pipe fittings (25mmØ and 15mmØ) | 1 | lot | | | | | | | | | | | | | | |
| 10.4 | 25mmØ Brass gate valve | 1 | pc | | | | | | | | | | | | | | |
| 10.5 | 15mmØ Brass gate valve | 9 | pcs | | | | | | | | | | | | | | |
| 10.6 | Teflon tape | 12 | pcs | | | | | | | | | | | | | | |
| **B** | **SEWERLINE** | | | | | | | | | | | | | | | | |
| 10.7 | 4"Ø x 10' S-1000 PVC Pipe | 10 | pcs | | | | | | | | | | | | | | |
| 10.8 | 3"Ø x 10' S-1000 PVC Pipe | 10 | pcs | | | | | | | | | | | | | | |
| 10.9 | 2"Ø x 10' S-1000 PVC Pipe | 15 | pcs | | | | | | | | | | | | | | |
| 10.10 | Asstd. PPR Pipe fittings (2"Ø, 3"Ø, 4"Ø) | 1 | lot | | | | | | | | | | | | | | |
| 10.11 | Epoxy sealant | 1 | lit | | | | | | | | | | | | | | |
| 10.12 | PVC Cement | 2 | lit | | | | | | | | | | | | | | |
| 10.13 | Concrete pipe encasement | 1 | cu.m | | | | | | | | | | | | | | |

| Item No. | ITEM/DESCRIPTION | QTY | UNIT | MATERIAL COST | | LABOR COST | | ESTIMATED | MARK-UPS IN PERCENT | | | TOTAL MARK-UP | | VAT | TOTAL INDI. COST | TOTAL COST | UNIT COST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNIT COST | TOTAL COST | UNIT COST | TOTAL COST | DIRECT COST | CONT. | OCM | PROFIT | % | VALUE | | | | |
| C | **FIXTURES AND ACCESSORIES** | | | | | | | | | | | | | | | | |
| 10.14 | 4" x 4" Stainless steel floor strainer | 10 | pcs | | | | | | | | | | | | | | |
| 10.15 | Water closet "Pozzi" complete set | 2 | set | | | | | | | | | | | | | | |
| 10.16 | Lavatory w/ stand "Pozzi" w/ strainer | 2 | set | | | | | | | | | | | | | | |
| 10.17 | Telephone shower w/ bibb (Stainless steel) Pozzi | 2 | set | | | | | | | | | | | | | | |
| 10.18 | Bidet "Chrome plated" | 2 | set | | | | | | | | | | | | | | |
| 10.19 | Chrome plated lavatory P-trap | 2 | pcs | | | | | | | | | | | | | | |
| 10.20 | Lavatory faucet "Pozzi" | 2 | pcs | | | | | | | | | | | | | | |
| 10.21 | Stainless steel flexible hose | 6 | pcs | | | | | | | | | | | | | | |
| 10.22 | Stainless steel angle valve single | 3 | pcs | | | | | | | | | | | | | | |
| 10.23 | Teflon tape | 10 | pcs | | | | | | | | | | | | | | |
| 10.24 | Stainless steel angle valve double | 3 | pcs | | | | | | | | | | | | | | |
| 10.25 | Stainless steel tissue holder | 2 | pcs | | | | | | | | | | | | | | |
| 10.26 | Stainless steel soap holder | 2 | pcs | | | | | | | | | | | | | | |
| 10.27 | (0.60m x 0.80m) Glass mirror w/ aluminum analok frame | 2 | sets | | | | | | | | | | | | | | |
| 10.28 | Miscellaneous items | 1 | lot | | | | | | | | | | | | | | |
| 10.29 | Chrome faucet | 4 | pcs | | | | | | | | | | | | | | |
| 10.30 | Provision of holes opening and restoration (Fumehood, ACU'S and cabinet) | 5 | pcs | | | | | | | | | | | | | | |
| 10.31 | 4" x 4" Stainless steel floor drain | 10 | pcs | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| 11 | **PAINTING WORKS** | | | | | | | | | | | | | | | | |
| 11.1 | Surface preparation (Skim coat) concrete walls (Interior and Exterior) | 400 | sq.m | | | | | | | | | | | | | | |
| 11.2 | Latex paint 3 coats, concrete walls and ceiling (Interior and Exterior) | 540 | sq.m | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| 12 | **TILE WORKS (COMFORT ROOMS) FLOOR TO CEILING** | | | | | | | | | | | | | | | | |
| 12.1 | (0.60m x 0.60m) Granite floor tiles (flooring) w/ design | 24 | pcs | | | | | | | | | | | | | | |
| 12.2 | (0.60m x 0.60m) Granite wall tiles (walling) w/ design | 96 | pcs | | | | | | | | | | | | | | |
| 12.3 | Portland cement | 12 | bags | | | | | | | | | | | | | | |
| 12.4 | ABC Tile adhesive | 12 | bags | | | | | | | | | | | | | | |
| 12.5 | Tile grout | 1 | bag | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| 13 | **ELECTRICAL WORKS** | | | | | | | | | | | | | | | | |
| 13.1 | **Supply and installation of new Electrical Panelboard MDP with following specifications and as indicated in the electrical plan.** | | | | | | | | | | | | | | | | |

| Item No. | ITEM/DESCRIPTION | QTY | UNIT | MATERIAL COST | | LABOR COST | | ESTIMATED | MARK-UPS IN PERCENT | | | TOTAL MARK-UP | | VAT | TOTAL INDI. COST | TOTAL COST | UNIT COST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNIT COST | TOTAL COST | UNIT COST | TOTAL COST | DIRECT COST | CONT. | OCM | PROFIT | % | VALUE | | | | |
| 13.1.1 | Panelboard MDP, 125A, 3P, 250V 22 KAIC, Main CB, Industrial Type with Branches Circuit Breaker: 3 sets 15A, 3P, 250V CB, Bolt-on Type, 10 sets 20A, 2P, 250V CB, Bolt-on Type, 8 sets 30A, 2P, 250V CB, Bolt-on Type, 1 set 60A, 3P, 250V CB, Industrial Type, with ground terminal | 1 | lot | | | | | | | | | | | | | | |
| 13.1.2 | 125AT, 3P, 250V, 22 KAIC Industrial Type CB, G.E. | 1 | set | | | | | | | | | | | | | | |
| 13.1.3 | 38 $mm^2$ THHN/THWN wire | 192 | m | | | | | | | | | | | | | | |
| 13.1.4 | 22 $mm^2$ THHN/THWN wire | 64 | m | | | | | | | | | | | | | | |
| 13.1.5 | Ground Rod, 5/8" Ø,8ft. With heavy duty ground terminal and cable | 1 | set | | | | | | | | | | | | | | |
| 13.1.6 | Pull box with cover and pre-painted (300mm x 300mm x 150 mm) | 5 | sets | | | | | | | | | | | | | | |
| 13.1.7 | 50 mmØ RSC Pipe | 14 | pcs. | | | | | | | | | | | | | | |
| 13.1.8 | 50 mmØ RSC elbow | 3 | pcs. | | | | | | | | | | | | | | |
| 13.1.9 | 50 mmØ locknut and bushing | 10 | sets | | | | | | | | | | | | | | |
| 13.1.10 | 50 mmØ uPVC Pipe | 1 | pc. | | | | | | | | | | | | | | |
| 13.1.11 | 50 mmØ uPVC adapter | 1 | set | | | | | | | | | | | | | | |
| 13.1.12 | Miscellaneous (support for rsc pipes) | 1 | lot | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| **13.2** | **Supply and installation of MDP distribution circuits which include lighting fixtures, convenience outlets, switches and other related electrical devices and materials as indicated in the electrical plans.** | | | | | | | | | | | | | | | | |
| 13.2.1 | 14 $mm^2$ THHN/THWN wire | 36 | m | | | | | | | | | | | | | | |
| 13.2.2 | 5.5 $mm^2$ THHN/THWN wire | 2 | rolls | | | | | | | | | | | | | | |
| 13.2.3 | 3.5 $mm^2$ THHN/THWN wire | 3 | rolls | | | | | | | | | | | | | | |
| 13.2.4 | 2.0 $mm^2$ THHN/THWN wire | 5 | rolls | | | | | | | | | | | | | | |
| 13.2.5 | 15 mmØ RSC pipe with coupling, schedule 40, zinc coated | 127 | pcs. | | | | | | | | | | | | | | |
| 13.2.6 | 15 mmØ RSC locknut and bushing | 152 | pcs. | | | | | | | | | | | | | | |
| 13.2.7 | 15 mmØ RSC elbow | 8 | pcs. | | | | | | | | | | | | | | |
| 13.2.8 | 40 mm Ø uPVC Pipe | 4 | pcs. | | | | | | | | | | | | | | |
| 13.2.9 | 40 mm Ø uPVC adapter with locknut | 2 | pcs. | | | | | | | | | | | | | | |
| 13.2.10 | 40 mm Ø uPVC elbow | 2 | pcs. | | | | | | | | | | | | | | |
| 13.2.11 | 100 cc. solvent cement | 1 | can | | | | | | | | | | | | | | |
| 13.2.12 | 4" Ø octagonal box with cover, metallic | 26 | pcs. | | | | | | | | | | | | | | |
| 13.2.13 | 2"x4" Utility Box, metallic | 43 | pcs. | | | | | | | | | | | | | | |
| 13.2.14 | Duplex Convenience Outlet with ground | 22 | pcs. | | | | | | | | | | | | | | |
| 13.2.15 | Single Convenience Outlet with ground | 11 | pcs. | | | | | | | | | | | | | | |
| 13.2.16 | Special Outlet | 1 | set | | | | | | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNIT COST | TOTAL COST | UNIT COST | TOTAL COST | DIRECT COST | CONT. | OCM | PROFIT | % | VALUE | | | | |
| 13.2.17 | ECB with 30A, 2P, 230V, 10 KAIC, Bolt-on type circuit breaker, NEMA 3 | 5 | sets | | | | | | | | | | | | | | |
| 13.2.18 | ECB with 20A, 2P, 230V 10 KAIC, Bolt-on type circuit breaker, NEMA 3 | 1 | sets | | | | | | | | | | | | | | |
| 13.2.19 | One gang switch with cover | 1 | set | | | | | | | | | | | | | | |
| 13.2.20 | 2 Gang Switch with cover | 4 | sets | | | | | | | | | | | | | | |
| 13.2.21 | Three way switch | 4 | sets | | | | | | | | | | | | | | |
| 13.2.22 | Fluorescent Fixtures ,T-8 Aluminum Louver Recessed Type, 18W, LED, 12"x48" Housing | 20 | sets | | | | | | | | | | | | | | |
| 13.2.23 | Pinlight Fixture with 18W LED Bulb, 6 inches outer rim | 5 | sets | | | | | | | | | | | | | | |
| 13.2.24 | Pinlight Fixture with 12W LED Bulb, 6inches outer rim | 4 | sets | | | | | | | | | | | | | | |
| 13.2.25 | Ceiling mounted exhaust fan, 12"Ø with piping | 3 | sets | | | | | | | | | | | | | | |
| 13.2.26 | Ceiling mounted exhaust fan, 10"Ø with piping | 2 | sets | | | | | | | | | | | | | | |
| 13.2.27 | Automatic Emergency Light, 2 x 3W High Power SMT LED. Battery: 12v, 9.0Ah, Sealed Lead Acid | 6 | sets | | | | | | | | | | | | | | |
| 13.2.28 | Mica tube, 1" diameter | 16 | m | | | | | | | | | | | | | | |
| 13.2.29 | Pullbox with cover, pre-painted (250mmx250mmx100mm) | 1 | set | | | | | | | | | | | | | | |
| 13.2.30 | Miscellaneous (support for rsc pipes) | 1 | lot | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| **13.3** | **Supply and installation of Cables for the Presser Equipment** | | | | | | | | | | | | | | | | |
| 13.3.1 | 38 $mm^2$ THHN/THWN wire | 12 | m | | | | | | | | | | | | | | |
| 13.3.2 | 22 $mm^2$ THHN/THWN wire | 4 | m | | | | | | | | | | | | | | |
| 13.3.3 | 50 mmØ liquid tight flexible hose with complete adapters | 4 | m | | | | | | | | | | | | | | |
| 13.3.4 | Miscellaneous | 1 | lot | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| | ***Sub-total of Item D*** | | | | | | | | | | | | | | | | |
| **E** | **UPGRADING OF GRAFTING LABORATORY** | | | | | | | | | | | | | | | | |
| 1 | Repaint of interior concrete walls and ceiling including cabinets/shelves | 125 | sq.m | | | | | | | | | | | | | | |
| 2 | Modification/upgrading of two (2) units existing laboratory sink | | | | | | | | | | | | | | | | |
| 2.1 | Laboratory goose type faucet "CAE" Model 75-3363C Chrome plated finish, Single Lever Sink mixer w/ pull out spray, 586mm height, Series THAMES | 2 | set | | | | | | | | | | | | | | |
| 2.2 | Stainless steel flexible hose | 4 | pcs | | | | | | | | | | | | | | |
| 2.3 | Stainless steel angle valve | 4 | pcs | | | | | | | | | | | | | | |
| 2.4 | Stainless steel strainer | 2 | pcs | | | | | | | | | | | | | | |
| 2.5 | Stainless steel P-trap | 2 | pcs | | | | | | | | | | | | | | |
| 2.6 | Laboratory sink (0.45m x 0.70m x 0.22m depth) G.A 16 stainless steel sink w/ strainer | 2 | set | | | | | | | | | | | | | | |

| Item No. | ITEM/DESCRIPTION | QTY | UNIT | MATERIAL COST | | LABOR COST | | ESTIMATED | MARK-UPS IN PERCENT | | | TOTAL MARK-UP | | VAT | TOTAL INDI. COST | TOTAL COST | UNIT COST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNIT COST | TOTAL COST | UNIT COST | TOTAL COST | DIRECT COST | CONT. | OCM | PROFIT | % | VALUE | | | | |
| 2.7 | Miscellaneous (Teflon, epoxy sealant, etc.) | 1 | lot | | | | | | | | | | | | | | |
| | *Sub-total* | | | | | | | | | | | | | | | | |
| 3 | **REPAIR OF MAIN DOOR ENTRACE OF CENTRAL LABORATORY** | | | | | | | | | | | | | | | | |
| 3.1 | (1.80m x 2.10m) Aluminum glass double door | 1 | sets | | | | | | | | | | | | | | |
| | *Sub-total* | | | | | | | | | | | | | | | | |
| | *Sub-total of Item E* | | | | | | | | | | | | | | | | |
| **F** | **PROVISION OF REINFORCED CONCRETE RAMP WITH STAINLESS STEEL RAILING AT CENTRAL LABORATORY, POOLSIDE** | | | | | | | | | | | | | | | | |
| 1 | Concrete site mix (1:2:3 mixture) | 3 | cu.m | | | | | | | | | | | | | | |
| 2 | 12mmØ x 6.00m def. bar | 22 | pcs | | | | | | | | | | | | | | |
| 3 | G.A 16 G.I Wire | 2 | kg | | | | | | | | | | | | | | |
| 4 | Chipping and concrete cutting | 24 | LM | | | | | | | | | | | | | | |
| 5 | Stainless steel railing (Same as existing) | 8 | LM | | | | | | | | | | | | | | |
| 6 | 6" x 8" x 16" CHB | 60 | pcs | | | | | | | | | | | | | | |
| 7 | Portland Cement | 10 | bags | | | | | | | | | | | | | | |
| 8 | White sand | 2 | cu.m | | | | | | | | | | | | | | |
| 9 | Filling materials | 5 | cu.m | | | | | | | | | | | | | | |
| 10 | Plate compactor and concrete cutting machine (Rental) | 1 | lot | | | | | | | | | | | | | | |
| 11 | Painting of ramp and walls | 60 | sq.m | | | | | | | | | | | | | | |
| 12 | Surface preparation (Skim coat) | 60 | sq.m | | | | | | | | | | | | | | |
| | *Sub-total of Item F* | | | | | | | | | | | | | | | | |
| **G** | **PROVISION OF COMFORT ROOM, PANTRY AND NEW SEPTIC TANK AT HPRS OFFICE** | | | | | | | | | | | | | | | | |
| 1 | 6" x 8" x 16" CHB | 95 | pcs | | | | | | | | | | | | | | |
| 2 | (0.60m x 0.60m) Granite tiles w/ design | 65 | pcs | | | | | | | | | | | | | | |
| 3 | Portland Cement | 30 | bags | | | | | | | | | | | | | | |
| 4 | Tile adhesive ABC | 7 | bags | | | | | | | | | | | | | | |
| 5 | White sand | 5 | cu.m | | | | | | | | | | | | | | |
| 6 | 10mmØ x 6.00m def. bar | 15 | pcs | | | | | | | | | | | | | | |
| 7 | 3/4" Crashed gravel | 1 | cu.m | | | | | | | | | | | | | | |
| 8 | G.A 16 G.I Wire | 2 | kg | | | | | | | | | | | | | | |
| 9 | Phenolic board | 1 | pcs | | | | | | | | | | | | | | |
| 10 | 2" x 2" x 10' Coco lumber | 4 | pcs | | | | | | | | | | | | | | |
| 11 | 12mmØ x 6.00m def. bar | 4 | pcs | | | | | | | | | | | | | | |
| 12 | C.W Nail | 1 | kg | | | | | | | | | | | | | | |
| 13 | Tile grout | 2 | kg | | | | | | | | | | | | | | |
| 14 | Water closet "Pozzi" w/ complete accessories | 1 | set | | | | | | | | | | | | | | |

| Item No. | ITEM/DESCRIPTION | QTY | UNIT | MATERIAL COST | | LABOR COST | | ESTIMATED | MARK-UPS IN PERCENT | | | TOTAL MARK-UP | | VAT | TOTAL INDI. COST | TOTAL COST | UNIT COST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNIT COST | TOTAL COST | UNIT COST | TOTAL COST | DIRECT COST | CONT. | OCM | PROFIT | % | VALUE | | | | |
| 15 | Lavatory w/ strainer "Pozzi" w/ stand | 1 | set | | | | | | | | | | | | | | |
| 16 | Medicine cabinet w/ mirror glass door | 1 | set | | | | | | | | | | | | | | |
| 17 | Stainless steel bidet "Pozzi" | 1 | set | | | | | | | | | | | | | | |
| 18 | Light duty door closer Yale | 1 | set | | | | | | | | | | | | | | |
| 19 | Stainless steel lavatory faucet "Pozzi" | 2 | sets | | | | | | | | | | | | | | |
| 20 | Stainless steel flexible hose | 3 | pcs | | | | | | | | | | | | | | |
| 21 | Stainless steel angle valve | 3 | pcs | | | | | | | | | | | | | | |
| 22 | Stainless steel soap holder | 1 | pc | | | | | | | | | | | | | | |
| 23 | Stainless steel tissue holder | 1 | pc | | | | | | | | | | | | | | |
| 24 | Stainless steel towel bar | 1 | pc | | | | | | | | | | | | | | |
| 25 | Stainless steel telephone shower w/ bibb "Pozzi" | 1 | set | | | | | | | | | | | | | | |
| 26 | Thoroseal waterproofing cement | 1 | gal | | | | | | | | | | | | | | |
| 27 | Stainless steel floor strainer 4" x 4" | 2 | pcs | | | | | | | | | | | | | | |
| 28 | 1" x 4" x 10' S4S K.D Cornice painted | 3 | pcs | | | | | | | | | | | | | | |
| 29 | 10mm thk gypsum board ceiling w/ 1" x 2" furring frame | 3 | sq.m | | | | | | | | | | | | | | |
| 30 | (0.60m x 2.10m) PVC Door w/ louver and jamb | 1 | set | | | | | | | | | | | | | | |
| 31 | Stainless steel lockset Yale | 1 | set | | | | | | | | | | | | | | |
| 32 | Plastic tile trim | 5 | pcs | | | | | | | | | | | | | | |
| 33 | Skim coat surface preparation | 13 | sq.m | | | | | | | | | | | | | | |
| 34 | Three (3) coats latex paint | 16 | sq.m | | | | | | | | | | | | | | |
| 35 | 4"Ø x 10' S-1000 PVC Pipe | 7 | pcs | | | | | | | | | | | | | | |
| 36 | 3"Ø x 10' S-1000 PVC Pipe | 1 | pc | | | | | | | | | | | | | | |
| 37 | 2"Ø x 10' S-1000 PVC Pipe | 3 | pcs | | | | | | | | | | | | | | |
| 38 | PVC Cement | 1 | lit | | | | | | | | | | | | | | |
| 39 | Asstd. PVC Fittings | 10 | pcs | | | | | | | | | | | | | | |
| 40 | Inca septic tank and accessories | 1 | set | | | | | | | | | | | | | | |
| 41 | Excavation (Septic tank and piping layout) | 5 | cu.m | | | | | | | | | | | | | | |
| 42 | Backfilling and compaction | 1 | lot | | | | | | | | | | | | | | |
| 43 | Chipping and restoration of CHB Plant box | 1 | lot | | | | | | | | | | | | | | |
| 44 | Concealed lavatory "Pozzi" w/ strainer | 1 | set | | | | | | | | | | | | | | |
| 45 | PVC door cabinet w/ pvc jamb | 1 | set | | | | | | | | | | | | | | |
| 46 | Cutting and demolition of asphalt/ concrete road | 12 | mts | | | | | | | | | | | | | | |
| 47 | Restoration of asphalt/concrete road (4" thk) | 12 | mts | | | | | | | | | | | | | | |
| 48 | (0.45m x 0.90m x 2.00m) Bench w/ 6"thk foam w/ leatherette cover | 1 | set | | | | | | | | | | | | | | |
| 49 | (0.45m x 0.40m x 2.00m) Bench w/ 6"thk foam w/ leatherette cover | 1 | set | | | | | | | | | | | | | | |
| 50 | Enclosed aircon wall opening w/ CHB, plastered and painted finish | 1 | lot | | | | | | | | | | | | | | |

| Item No. | ITEM/DESCRIPTION | QTY | UNIT | MATERIAL COST | | LABOR COST | | ESTIMATED DIRECT COST | MARK-UPS IN PERCENT | | | TOTAL MARK-UP | | VAT | TOTAL INDI. COST | TOTAL COST | UNIT COST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNIT COST | TOTAL COST | UNIT COST | TOTAL COST | | CONT. | OCM | PROFIT | % | VALUE | | | | |
| 51 | Enclosed wall gap opening w/ 12mm thk, Ficem board, painted finish both side | 1 | lot | | | | | | | | | | | | | | |
| 52 | Painting of concrete walls | 1 | lot | | | | | | | | | | | | | | |
| | ***Sub-total of Item G*** | | | | | | | | | | | | | | | | |
| **H** | **UPGRADING OF CARAGEENAN PILOT PLANT** | | | | | | | | | | | | | | | | |
| 1 | Chipping/demolition of existing concrete walls | 47 | sq.m | | | | | | | | | | | | | | |
| 2 | Removal/demolition of existing ceiling, roofing fascia/façade at front and left side elev. | 1 | lot | | | | | | | | | | | | | | |
| 3 | Chipping/removal of existing doors, windows and jamb | 6 | sets | | | | | | | | | | | | | | |
| 4 | Removal of affected waterproofing membrane and chipping works of flooring | 1 | lot | | | | | | | | | | | | | | |
| 5 | Hauling/disposal of concrete debris and waste materials of wall, ceiling, and roofing. | 1 | lot | | | | | | | | | | | | | | |
| 6 | Removal of existing aluminum glass partition and disposal | 1 | lot | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| 7 | **PROVISION OF NEW CONCRETE TABLE W/ 3/4" THK. SOLID GRANITE TOP FINISH W/ STAINLESS STEEL SINK** | | | | | | | | | | | | | | | | |
| 7.1 | 6" x 8" x 16" CHB | 24 | pcs | | | | | | | | | | | | | | |
| 7.2 | Concrete site mix (1:2:3 mixture) | 0.5 | cu.m | | | | | | | | | | | | | | |
| 7.3 | 12mmØ x 6.00m def. bar | 12 | pcs | | | | | | | | | | | | | | |
| 7.4 | G.A 16 G.I Wire | 1 | kg | | | | | | | | | | | | | | |
| 7.5 | Phenolic board | 1 | pc | | | | | | | | | | | | | | |
| 7.6 | Asstd. Coco lumber | 24 | bd.ft | | | | | | | | | | | | | | |
| 7.7 | (0.35m x 0.70m) PVC Cabinet door and jamb | 10 | pcs | | | | | | | | | | | | | | |
| 7.8 | Portland Cement | 6 | bags | | | | | | | | | | | | | | |
| 7.9 | White sand | 1/2 | cu.m | | | | | | | | | | | | | | |
| 7.10 | Tiles adhesive ABC | 3 | bags | | | | | | | | | | | | | | |
| 7.11 | 3/4" x 2' solid black granite rounded corner w/ siding and wall flashing | 4 | LM | | | | | | | | | | | | | | |
| 7.12 | G.A 18 Stainless steel sink (0.45m x 0.75m x 0.25m depth) | 1 | set | | | | | | | | | | | | | | |
| 7.13 | Big goose type faucet "Pozzi" | 1 | set | | | | | | | | | | | | | | |
| 7.14 | Stainless steel strainer | 1 | pc | | | | | | | | | | | | | | |
| 7.15 | Stainless steel P-trap | 1 | pc | | | | | | | | | | | | | | |
| 7.16 | Stainless steel flexible hose | 1 | pc | | | | | | | | | | | | | | |
| 7.17 | Stainless steel angle valve | 1 | pc | | | | | | | | | | | | | | |
| 7.18 | New waterline PPR Pipes w/ gate valve | 1 | lot | | | | | | | | | | | | | | |
| 7.19 | New PVC sewer line pipes and fittings | 1 | lot | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |

| Item No. | ITEM/DESCRIPTION | QTY | UNIT | MATERIAL COST | | LABOR COST | | ESTIMATED DIRECT COST | MARK-UPS IN PERCENT | | | TOTAL MARK-UP | | VAT | TOTAL INDI. COST | TOTAL COST | UNIT COST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNIT COST | TOTAL COST | UNIT COST | TOTAL COST | | CONT. | OCM | PROFIT | % | VALUE | | | | |
| 8 | **PROVISION OF MOVABLE STAINLESS STEEL SINK** | | | | | | | | | | | | | | | | |
| 8.1 | (0.40m x 0.50m x 0.22m) Stainless steel sink w/ stainless steel legs and side cover and frame G.A 18 | 1 | set | | | | | | | | | | | | | | |
| 8.2 | Goose type faucet | 1 | set | | | | | | | | | | | | | | |
| 8.3 | Stainless steel strainer | 1 | set | | | | | | | | | | | | | | |
| 8.4 | Stainless steel flexible hose | 1 | set | | | | | | | | | | | | | | |
| 8.5 | Stainless steel P-trap | 1 | set | | | | | | | | | | | | | | |
| 8.6 | Stainless steel angle valve | 1 | set | | | | | | | | | | | | | | |
| 8.7 | New PPR Waterline and PVC Sewer line w/ gate valve | 1 | lot | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| 9 | **BUILDING EXTENSION OF CARAGEENAN** | | | | | | | | | | | | | | | | |
| 9.1 | 6" x 8" x 16" Ordinary CHB | 1,076 | pcs | | | | | | | | | | | | | | |
| 9.2 | 10mmØ x 6.00m def. bar | 108 | pcs | | | | | | | | | | | | | | |
| 9.3 | G.A 16 G.I Wire | 10 | kg | | | | | | | | | | | | | | |
| 9.4 | Portland Cement | 105 | bags | | | | | | | | | | | | | | |
| 9.5 | White sand | 18 | cu.m | | | | | | | | | | | | | | |
| 9.6 | Concrete site mix (1:2:3 mixture) | 5 | cu.m | | | | | | | | | | | | | | |
| 9.7 | Phenolic board | 8 | pcs | | | | | | | | | | | | | | |
| 9.8 | Asstd. Coco lumber | 200 | bd.ft | | | | | | | | | | | | | | |
| 9.9 | 16mmØ x 6.00m def. bar | 49 | pcs | | | | | | | | | | | | | | |
| 9.10 | Ready fix cement | 8 | gal | | | | | | | | | | | | | | |
| 9.11 | Concrete cutting and chipping of flooring | 42 | LM | | | | | | | | | | | | | | |
| 9.12 | Removal of all existing floor tiles and surface preparation | 52 | sq.m | | | | | | | | | | | | | | |
| 9.13 | Chipping/leveling of concrete flooring with surface preparation | 26 | sq.m | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| 10 | **INSTALLATION OF NEW SPANDREL ROOF FAÇADE AND EXTERIOR CEILING (FRONT AND LEFT SIDE ELEVATION)** | | | | | | | | | | | | | | | | |
| 10.1 | (0.15m x 1.00m x 0.40mm) Metal spandrel | 212 | pcs | | | | | | | | | | | | | | |
| 10.2 | (0.15m x 0.40m x 0.40mm) Metal spandrel | 212 | pcs | | | | | | | | | | | | | | |
| 10.3 | 1 1/2" x 1 1/2" x 20' x 1.5mm Square tubular pipe | 24 | pcs | | | | | | | | | | | | | | |
| 10.4 | 2" x 2" x 20' x 3/16" Angular bar | 4 | pcs | | | | | | | | | | | | | | |
| 10.5 | Welding rod | 1 | box | | | | | | | | | | | | | | |
| 10.6 | 14"Ø Cutting disc | 1 | pc | | | | | | | | | | | | | | |
| 10.7 | 4"Ø Cutting disc | 8 | pcs | | | | | | | | | | | | | | |
| 10.8 | 4"Ø Grinding disc | 4 | pcs | | | | | | | | | | | | | | |
| 10.9 | Aluminum blind rivets | 6 | box | | | | | | | | | | | | | | |

| Item No. | ITEM/DESCRIPTION | QTY | UNIT | MATERIAL COST | | LABOR COST | | ESTIMATED | MARK-UPS IN PERCENT | | | TOTAL MARK-UP | | VAT | TOTAL INDI. COST | TOTAL COST | UNIT COST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNIT COST | TOTAL COST | UNIT COST | TOTAL COST | DIRECT COST | CONT. | OCM | PROFIT | % | VALUE | | | | |
| 10.10 | Pre-painted top capping x 0.40mm x 2.44m | 15 | pcs | | | | | | | | | | | | | | |
| 10.11 | Pre-painted bottom capping x 0.40mm x 2.44m | 15 | pcs | | | | | | | | | | | | | | |
| 10.12 | Pre-painted corner capping x 0.40mm x 1.00m | 5 | pcs | | | | | | | | | | | | | | |
| 10.13 | 1" x 2" x 15' Metal furring | 24 | pcs | | | | | | | | | | | | | | |
| 10.14 | Red Oxide paint | 2 | gal | | | | | | | | | | | | | | |
| 10.15 | Paint thinner | 1 | gal | | | | | | | | | | | | | | |
| 10.16 | Paint brush | 2 | pcs | | | | | | | | | | | | | | |
| 10.17 | Miscellaneous consumables | 1 | lot | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| 11 | **INSTALLATION OF ADDITIONAL STEEL TRUSSES AND METAL PURLINS** | | | | | | | | | | | | | | | | |
| 11.1 | 2" x 2" x 3/16" x 20' Angular bar | 15 | pcs | | | | | | | | | | | | | | |
| 11.2 | 1 1/2" x 1 1/2" x 3/16" x 20' Angular bar | 8 | pcs | | | | | | | | | | | | | | |
| 11.3 | 2" x 4" x 1.5mm x 20' B.I C-purlins | 18 | pcs | | | | | | | | | | | | | | |
| 11.4 | 12mmØ x 6.00m plain round bar | 9 | pcs | | | | | | | | | | | | | | |
| 11.5 | Welding rod | 1 | box | | | | | | | | | | | | | | |
| 11.6 | 12"Ø Cutting disc | 1 | pc | | | | | | | | | | | | | | |
| 11.7 | 4"Ø Cutting disc | 8 | pcs | | | | | | | | | | | | | | |
| 11.8 | 4"Ø Grinding disc | 4 | pcs | | | | | | | | | | | | | | |
| 11.9 | Red Oxide paint | 2 | gal | | | | | | | | | | | | | | |
| 11.10 | Paint thinner | 1 | gal | | | | | | | | | | | | | | |
| 11.11 | Paint brush | 4 | pcs | | | | | | | | | | | | | | |
| 11.12 | Miscellaneous consumables | 1 | lot | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| 12 | **INSTALLATION OF ADDITIONAL PRE-PAINTED LONG SPAN ROOFING AND FLASHING AND CEILING** | | | | | | | | | | | | | | | | |
| 12.1 | (1.09m x 2.70m x 0.40mm) Pre-painted long span roofing "Rib-type" | 18 | pcs | | | | | | | | | | | | | | |
| 12.2 | Metal texscrew | 450 | pcs | | | | | | | | | | | | | | |
| 12.3 | Silicon sealant | 4 | tubes | | | | | | | | | | | | | | |
| 12.4 | (1.22m x 2.44m x 0.40mm) Pre-painted plain sheet | 8 | pcs | | | | | | | | | | | | | | |
| 12.5 | Aluminum blind rivets | 1 | box | | | | | | | | | | | | | | |
| 12.6 | 10mm thk Polyethylene foam insulation with aluminum foil on both side | 2 | roll | | | | | | | | | | | | | | |
| 12.7 | 1" x 1" x 1.00m G.I Chicken wire | 60 | m | | | | | | | | | | | | | | |
| 12.8 | Miscellaneous consumables | 1 | lot | | | | | | | | | | | | | | |
| 12.9 | Installation of 10mm thk gypsum board ceiling with 1" x 2" metal furring @0.30m O.C | 62 | sq.m | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |

| Item No. | ITEM/DESCRIPTION | QTY | UNIT | MATERIAL COST | | LABOR COST | | ESTIMATED DIRECT COST | MARK-UPS IN PERCENT | | | TOTAL MARK-UP | | VAT | TOTAL INDI. COST | TOTAL COST | UNIT COST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNIT COST | TOTAL COST | UNIT COST | TOTAL COST | | CONT. | OCM | PROFIT | % | VALUE | | | | |
| 13 | **PAINTING OF CARAGEENAN PILOT BLDG. (INTERIOR AND EXTEIOR) CONCRETE WALLS AND CEILING** | | | | | | | | | | | | | | | | |
| 13.1 | Concrete surface preparation (Skim coat) | 305 | sq.m | | | | | | | | | | | | | | |
| 13.2 | Concrete walls (interior and exterior) | 305 | sq.m | | | | | | | | | | | | | | |
| 13.3 | Ceiling (interior) | 74 | sq.m | | | | | | | | | | | | | | |
| 13.4 | Removal/chipping of existing ceramic floor tiles | 49 | sq.m | | | | | | | | | | | | | | |
| 13.5 | 2" thk concrete topping of flooring | 74 | sq.m | | | | | | | | | | | | | | |
| 13.6 | Ready fix cement adhesive | 6 | gal | | | | | | | | | | | | | | |
| 13.7 | Application of self-leveling epoxy "Badge or equivalent" | 74 | sq.m | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| 14 | **ELECTRICAL WORKS** | | | | | | | | | | | | | | | | |
| 14.1 | **Re-installation of existing Electrical Panelboard #2 and enclosed circuit breaker (ECB) as indicated in the electrical plan, and supply of an additional bolt-on type circuit breakers as indicated below** | | | | | | | | | | | | | | | | |
| 14.1.1 | Re-installation of Existing Panelboard #2 , 30A, 3P, 250V, Bolt-on type CB and enclosed circuit breaker (ECB) (Labor only) | 1 | lot | | | | | | | | | | | | | | |
| 14.1.2 | 8 $mm^2$ THHN/THWN wire | 27 | m | | | | | | | | | | | | | | |
| 14.1.3 | 3.5 $mm^2$ THHN/THWN wire (Green color) | 18 | m | | | | | | | | | | | | | | |
| 14.1.4 | 25 mm Ø RSC Pipe | 3 | pcs. | | | | | | | | | | | | | | |
| 14.1.5 | 25 mm Ø locknut and bushing | 5 | pc. | | | | | | | | | | | | | | |
| 14.1.6 | 4 11/16" x 4 11/16" square box with cover, metallic | 2 | pcs. | | | | | | | | | | | | | | |
| 14.1.7 | 40A, 3P, 250V, 10 KAIC Bolt-on type CB | 2 | sets | | | | | | | | | | | | | | |
| 14.1.8 | 30A, 2P, 250V, 10 KAIC Bolt-on type CB | 1 | set | | | | | | | | | | | | | | |
| 14.1.9 | 20A, 2P, 250V, 10 KAIC Bolt-on type CB | 1 | set | | | | | | | | | | | | | | |
| 14.1.10 | 15A, 2P, 250V, 10 KAIC Bolt-on type CB | 1 | set | | | | | | | | | | | | | | |
| 14.1.11 | Miscellaneous | 1 | lot | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| 14.2 | **Supply and installation of new three (3) sets Fluorescent fixtures, six (6) sets Pinlights, re-installation of nine (9) sets existing fluorescent fixtures, Enclosed Circuit breaker (ECB) and other distribution power circuits as indicated in the electrical plan** | | | | | | | | | | | | | | | | |
| 14.2.1 | 5.5 $mm^2$ THHN/THWN wire | 6 | m | | | | | | | | | | | | | | |
| 14.2.2 | 3.5 $mm^2$ THHN/THWN wire | 46 | m | | | | | | | | | | | | | | |
| 14.2.3 | 2.0 $mm^2$ THHN/THWN wire | 124 | m | | | | | | | | | | | | | | |
| 14.2.4 | 15 mmØ RSC pipe with coupling, schedule 40, zinc coated | 27 | pcs. | | | | | | | | | | | | | | |

| Item No. | ITEM/DESCRIPTION | QTY | UNIT | MATERIAL COST | | LABOR COST | | ESTIMATED | MARK-UPS IN PERCENT | | | TOTAL MARK-UP | | VAT | TOTAL INDI. COST | TOTAL COST | UNIT COST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNIT COST | TOTAL COST | UNIT COST | TOTAL COST | DIRECT COST | CONT. | OCM | PROFIT | % | VALUE | | | | |
| 14.2.5 | 15 mmØ RSC locknut and bushing | 36 | pcs. | | | | | | | | | | | | | | |
| 14.2.6 | 4" Ø octagonal box with cover, metallic | 18 | pcs. | | | | | | | | | | | | | | |
| 14.2.7 | 2"x4" Utility Box, metallic | 12 | pc. | | | | | | | | | | | | | | |
| 14.2.8 | Duplex Convenience Outlet with ground | 9 | pcs. | | | | | | | | | | | | | | |
| 14.2.9 | Single Convenience Outlet with ground | 2 | pcs. | | | | | | | | | | | | | | |
| 14.2.10 | ECB with 30A, 2P, 230V, 10 KAIC, Bolt-on type circuit breaker, NEMA 3 | 1 | set | | | | | | | | | | | | | | |
| 14.2.11 | One gang switch with cover | 1 | set | | | | | | | | | | | | | | |
| 14.2.12 | 3 Gang Switch with cover | 1 | set | | | | | | | | | | | | | | |
| 14.2.13 | Fluorescent Fixture, T8, 18W, Double, LED, 24" x 48" Housing **(existing 9 sets)** | 1 | lot | | | | | | | | | | | | | | |
| 14.2.14 | Fluorescent Fixture, T8, 18W, Double, LED, 24" x 48" Housing | 3 | sets | | | | | | | | | | | | | | |
| 14.2.15 | Pinlight Fixture with 18W LED Bulb, 6 inches outer rim | 6 | sets | | | | | | | | | | | | | | |
| 14.2.16 | Automatic Emergency Light, 2 x 3W High Power SMT LED. Battery: 12v, 9.0Ah, Sealed Lead Acid | 2 | sets | | | | | | | | | | | | | | |
| 14.2.17 | Mica tube, 1" diameter | 7 | m | | | | | | | | | | | | | | |
| 14.2.18 | Miscellaneous (support for rsc pipes) | 1 | lot | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| **14.3** | **Supply and installation of electrical supply line for Split type aircon.** | | | | | | | | | | | | | | | | |
| 14.3.1 | ECB with 20A, 2P, 230V 10 KAIC, Bolt-on type circuit breaker, NEMA 3 | 1 | set | | | | | | | | | | | | | | |
| 14.3.2 | 15 mmØ RSC pipe with coupling, schedule 40, zinc coated | 5 | pcs. | | | | | | | | | | | | | | |
| 14.3.3 | 15 mmØ RSC locknut and bushing | 4 | pcs. | | | | | | | | | | | | | | |
| 14.3.4 | 4" octagonal box, uPVC | 2 | pcs. | | | | | | | | | | | | | | |
| 14.3.5 | Miscellaneous | 1 | lot | | | | | | | | | | | | | | |
| | ***Sub-total*** | | | | | | | | | | | | | | | | |
| | ***Sub-total of Item H*** | | | | | | | | | | | | | | | | |
| **I** | **UPGRADING OF CHEMICAL STORAGE ROOM** | | | | | | | | | | | | | | | | |
| 1 | **SUPPLY OF DUCTLESS FUMEHOOD WITH METAL STAND** | 1 | lot | | | | | | | | | | | | | | |
| | Outer Dimension: (0.60m x 0.75m x 1.223m) | | | | | | | | | | | | | | | | |
| | Hood material: Welded white polypropylene structure with built-in sealed polypropylene worktop | | | | | | | | | | | | | | | | |
| | Power Supply: 110/220V, 50/60 Hz, Single Phase | | | | | | | | | | | | | | | | |
| | Filter: Carbon filters for solvent, acids, bases, formaldehyde, mult gas (Blend materials) with metal stand. | | | | | | | | | | | | | | | | |

| Item No. | ITEM/DESCRIPTION | QTY | UNIT | MATERIAL COST | | LABOR COST | | ESTIMATED DIRECT COST | MARK-UPS IN PERCENT | | | TOTAL MARK-UP | | VAT | TOTAL INDI. COST | TOTAL COST | UNIT COST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNIT COST | TOTAL COST | UNIT COST | TOTAL COST | | CONT. | OCM | PROFIT | % | VALUE | | | | |
| | Warranty: One year on parts and services | | | | | | | | | | | | | | | | |
| 2 | **HAZARDOUS CHEMICAL CABINETS** | 2 | units | | | | | | | | | | | | | | |
| | Dimension: 1092mm x 457mm x 1118mm (L x W x H) | | | | | | | | | | | | | | | | |
| | Capacity: 30 gallons | | | | | | | | | | | | | | | | |
| | Shelves: 3 | | | | | | | | | | | | | | | | |
| | Safety warning sticker, Double wall construction with 1-1/2" air space, 2 nos 2" vents with ash arrestors, Flush mounted locking handle, Leak proof sill 2" deep prevents leakage in the event of accidental spills, Epoxy powder coated, Galvanized steel shelves adjusted on 1/2" centers. | | | | | | | | | | | | | | | | |
| | Warranty: One year on parts and services | | | | | | | | | | | | | | | | |
| 3 | **WATER PURIFICATION SYSTEM** | 1 | lot | | | | | | | | | | | | | | |
| | **Initial Operation Inclusion**: 10" PP spun fiber cartridge, (4pcs) 10" granular active carbon cartridge, (3pcs) 10" active carbon block cartridge (3pcs) 200 GPD RO Membrane (1 pc) Mixed bed resin cartridge (2 sets, 1 set 3pcs each) | | | | | | | | | | | | | | | | |
| | **Other Inclusions: Consumables Replacement Package**: 10" PP spun fiber cartridge, (4pcs) 10" granular active carbon cartridge, (3pcs) 10" active carbon block cartridge (3pcs) 200 GPD RO Membrane (1 pc) Mixed bed resin cartridge (2 sets, 1 set 3pcs each) | | | | | | | | | | | | | | | | |
| | Warranty: One year on parts and services | | | | | | | | | | | | | | | | |
| | ***Sub-total of Item I*** | | | | | | | | | | | | | | | | |
| J | **RETROFITTING OF REACTOR BUILDING** | | | | | | | | | | | | | | | | |
| 1 | **RENTAL OF TOOLS AND EQUIPMENTS** | | | | | | | | | | | | | | | | |
| 1.1 | Welding machine, Scaffoldings, Electric drill and grinder, Other necessary tools and equipment (Pallet, Jack, A-Frame etc) welding accessories (Ar cylinder tank, welding mask, apron, gloves, etc) | 1 | lot | | | | | | | | | | | | | | |
| 2 | **CONSUMABLES** | | | | | | | | | | | | | | | | |
| 2.1 | Consumables (SS brush, rags, Argon gas content, anchor bolts and nuts, form lumber, plyboards, welding electrode, tie-wire, etc.) | 1 | lot | | | | | | | | | | | | | | |
| 3 | **CONSULTANCY AND MONITORING FEE FOR RETROFITTING AND STRENGTHENING WORKS (AMH PHILIPPINES)** | | | | | | | | | | | | | | | | |
| 3.1 | Pre-Construction Support, Overall Project Monitoring Activities, Overall Project Documentation, Post-Construction Activities, | 46 | days | | | | | | | | | | | | | | |

| Item No. | ITEM/DESCRIPTION | QTY | UNIT | MATERIAL COST | | LABOR COST | | ESTIMATED | MARK-UPS IN PERCENT | | | TOTAL MARK-UP | | VAT | TOTAL INDI. COST | TOTAL COST | UNIT COST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | UNIT COST | TOTAL COST | UNIT COST | TOTAL COST | DIRECT COST | CONT. | OCM | PROFIT | % | VALUE | | | | |
| 4 | **RETROFIT OF BEAMS RB4 AND RB5 (BELOW RUNWAY OF POLAR CRANE)** | | | | | | | | | | | | | | | | |
| 4.1 | Installation of epoxy resin | 1 | lot | | | | | | | | | | | | | | |
| 4.2 | Installation of steel plate 5mm thk | 7 | pcs | | | | | | | | | | | | | | |
| 4.3 | Installation of structural bolts, ASTM A490M Type 1, 16mmØ x 6m | 40 | pcs | | | | | | | | | | | | | | |
| 5 | **BUILDING BASEMENT (WALL SIDE) RETROFIT** | | | | | | | | | | | | | | | | |
| 5.1 | Installation of mild steel corrugated rebars, 12mmØ x 6m | 24 | pcs | | | | | | | | | | | | | | |
| 5.2 | Cement | 11 | bags | | | | | | | | | | | | | | |
| 5.3 | Gravel | 1.14 | cu.m | | | | | | | | | | | | | | |
| 5.4 | Sand | 0.57 | cu.m | | | | | | | | | | | | | | |
| 5.5 | Installation of epoxy resin | 1 | lot | | | | | | | | | | | | | | |
| 5.6 | Form work | 1 | lot | | | | | | | | | | | | | | |
| 6 | **DOME RETROFIT** | | | | | | | | | | | | | | | | |
| 6.1 | Installation of carbon fiber reinforced polymer 0.33mm thk which includes primer, epoxy putty, high strength resin, carbon fiber sheet, polyurethane coating, (2 layers) | 108.7 | sq.m | | | | | | | | | | | | | | |
| | ***Sub-total of Item J*** | | | | | | | | | | | | | | | | |
| | ***TOTAL*** | | | | | | | | | | | | | | | | |

# *Section IX. Checklist of Technical and Financial Documents*

## Checklist of Technical and Financial Documents

***Class "A" Documents***

***Legal Documents***

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

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

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

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

***Technical Documents***

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

☐ (f) 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**

☐ (g) Philippine Contractors Accreditation Board (PCAB) License;
**or**
Special PCAB License in case of Joint Ventures;
**and** registration for the type and cost of the contract to be bid; **and**

☐ (h) 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**

☐ (i) Project Requirements, which shall include the following:
- ☐ 1. Organizational chart for the contract to be bid;
- ☐ 2. 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;
- ☐ 3. 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**

☐ (j) 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.

☐ (k) Bid Bulletin (if applicable)

***Financial Documents***

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

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

***Class "B" Documents***

☐ (n) If applicable, duly signed joint venture agreement (JVA) in accordance with RA No. 4566 and its IRR in case the joint venture is already in existence;

**or**

duly notarized statements from all the potential joint venture partners stating that they will enter into and abide by the provisions of the JVA in the instance that the bid is successful.

**II. FINANCIAL COMPONENT ENVELOPE**

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

***Other documentary requirements under RA No. 9184***

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

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

☐ (r) Cash Flow by Quarter

# *Bidding Forms*

*Procuring Entity:* **PHILIPPINE NUCLEAR RESEARCH INSTITUTE**
*Name of the Project:* **Upgrading of ARC Building (CY 2021)**
*Location of the Project:* **PNRI Compound, Commonwealth Avenue, Diliman, Quezon City**

**List of all Ongoing Government & Private Construction Contracts including contracts awarded but not yet started**

Business Name : _____
Business Address : _____

| Name of Contract/Location Project Cost | a. Owner Name<br>b. Address<br>c. Telephone Nos. | Nature of Work | Contractor's Role | | a. Date Awarded<br>b. Date Started<br>c. Date of Completion | % of Accomplishment | | Value of Outstanding Works |
|---|---|---|---|---|---|---|---|---|
| | | | Description | % | | Planned | Actual | |
| Government | | | | | | | | |
| | | | | | | | | |
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| | | | | | | | | |
| Private | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | Total Cost | | |

Note: This statement shall be supported with:

1 Notice of Award and/or Contract
2 Notice to Proceed issued by the owner
3 Certificate of Accomplishments signed by the owner or Project Engineer

Submitted by : _____
(Printed Name & Signature)
Designation : _____
Date : _____

*Procuring Entity:* **PHILIPPINE NUCLEAR RESEARCH INSTITUTE**
*Name of the Project:* **Upgrading of ARC Building (CY 2021)**
*Location of the Project:* **PNRI Compound, Commonwealth Avenue, Diliman, Quezon City**

**Statement of Single Largest Completed Contracts (SLCC) in the last five (5) years**

Business Name : _____
Business Address : _____

| Name of Contract | d. Owner Name<br>e. Address<br>f. Telephone Nos. | Nature of Work | Contractor's Role | | d. Amount at Award<br>e. Amount at Completion<br>f. Duration | a. Date Awarded<br>b. Contract Effectivity<br>c. Date Completed |
|---|---|---|---|---|---|---|
| | | | Description | % | | |
| Government | | | | | | |
| | | | | | | |
| | | | | | | |
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| | | | | | | |
| Private | | | | | | |
| | | | | | | |
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| | | | | | | |

Note: This statement shall be supported with:

1 Contract
2 CPES rating sheets and/or Certificate of Completion
3 Certificate of Acceptance

Submitted by : _____
(Printed Name & Signature)
Designation : _____
Date : _____

**REPUBLIC OF THE PHILIPPINES )**
**CITY OF _____ ) S.S.**
**x----------x**

**BID-SECURING DECLARATION**
**Project Identification No.:** *[Insert number]*

To: *[Insert name and address of the Procuring Entity]*

I/We, the undersigned, declare that:

1. I/We understand that, according to your conditions, bids must be supported by a Bid Security, which may be in the form of a Bid-Securing Declaration.

2. I/We accept that: (a) I/we will be automatically disqualified from bidding for any procurement contract with any procuring entity for a period of two (2) years upon receipt of your Blacklisting Order; and, (b) I/we will pay the applicable fine provided under Section 6 of the Guidelines on the Use of Bid Securing Declaration within fifteen (15) from the receipt of the written demand by the procuring entity for the commission of acts resulting to the enforcement of the bid securing declaration under Section 23.1(b), 34.2, 40.1 and 69.1, except 69.1(f), of the IRR of RA No. 9184, without prejudice to other legal action the government may undertake.

3. I/We understand that this Bid-Securing Declaration shall cease to be valid on the following circumstances:

   (a) Upon expiration of the bid validity period, or any extension thereof pursuant to your request;

   (b) I am/we are declared ineligible or post-disqualified upon receipt of your notice to such effect, and (i) I/we failed to timely file a request for reconsideration or (ii) I/we filed a waiver to avail of said right; and

   (c) I am/we are declared as the bidder with the Lowest Calculated and Responsive Bid, and I/we have furnished the performance security and signed the Contract.

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

***[Insert NAME OF BIDDER'S AUTHORIZED REPRESENTATIVE]***
***[Insert signatory's legal capacity]***
Affiant

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

*Procuring Entity:* **PHILIPPINE NUCLEAR RESEARCH INSTITUTE**
*Name of the Project:* **Upgrading of ARC Building (CY 2021)**
*Location of the Project:* **PNRI Compound, Commonwealth Avenue, Diliman, Quezon City**

## Contractor's Organizational Chart for the Contract

Submit Copy of the Organizational Chart that the Contractor intends to use to execute the Contract if awarded to him. Indicate in the chart the names of the Project Manager, Project Engineer, Bridge Engineer, Structural Engineer, Materials and Quality Control Engineer, Foreman and other Key Engineering Personnel.

Attached the required Proposed Organizational Chart for the contract as stated above

*Procuring Entity:* **PHILIPPINE NUCLEAR RESEARCH INSTITUTE**
*Name of the Project:* **Upgrading of ARC Building (CY 2021)**
*Location of the Project:* **PNRI Compound, Commonwealth Avenue, Diliman, Quezon City**

**KEY PERSONNEL**
**(FORMAT OF BIO-DATA)**

Give the detailed information of the following personnel who are scheduled to be assigned as full-time field staff for the project. Fill up a form for each person.

- Authorized Managing Officer / Representative
- Sustained Technical Employee

1. Name : _____
2. Date of Birth : _____
3. Nationality : _____
4. Education and Degrees : _____
5. Specialty : _____
6. Registration : _____
7. Length of Service with the Firm : _____ Year from ____ (months) _____ (year)
   To ____ (months) _____ (year)
8. Years of Experience : _____
9. If Item 7 is less than ten (10) years, give name and length of service with previous employers for a ten (10)-year period (attached additional sheet/s), if necessary:

| Name and Address of Employer | Length of Service |
|---|---|
| _____ | _____ year(s) from _____ to _____ |
| _____ | _____ year(s) from _____ to _____ |
| _____ | _____ year(s) from _____ to _____ |

10. Experience:
    This should cover the past ten (10) years of experience. (Attached as many pages as necessary to show involvement of personnel in projects using the format below).

1. Name : _____
2. Name and Address of Owner : _____
3. Name and Address of the Owner's Engineer (Consultant) : _____
4. Indicate the Features of Project (particulars of the project components and any other particular interest connected with the project): _____

| | | | | | | |
|---|---|---|---|---|---|---|
| 5. | Contract Amount Expressed in Philippine Currency | : | _____ | | | |
| 6. | Position | : | _____ | | | |
| 7. | Structures for which the employee was responsible | : | _____ | | | |
| 8. | Assignment Period | : | from | _____ (months) | _____ (years) | |
| | | : | to | _____ (months) | _____ (years) | |

_____
Name and Signature of Employee

It is hereby certified that the above personnel can be assigned to this project, if the contract is awarded to our company.

_____ _____

(Place and Date) (The Authorized Representative)

*Procuring Entity:* **PHILIPPINE NUCLEAR RESEARCH INSTITUTE**
*Name of the Project:* **Upgrading of ARC Building (CY 2021)**
*Location of the Project:* **PNRI Compound, Commonwealth Avenue, Diliman, Quezon City**

## List of Equipment, Owned or Leased and/or under Purchase Agreements, Pledged to the Proposed Contract

Business Name : _____
Business Address : _____
_____

| Description | Model/Year | Capacity / Performance / Size | Plate No. | Motor No. / Body No. | Location | Condition | Proof of Ownership / Lessor or Vendor |
|---|---|---|---|---|---|---|---|
| A. Owned | | | | | | | |
| i. | | | | | | | |
| ii. | | | | | | | |
| iii. | | | | | | | |
| iv. | | | | | | | |
| v. | | | | | | | |
| | | | | | | | |
| B. Leased | | | | | | | |
| i. | | | | | | | |
| ii. | | | | | | | |
| iii. | | | | | | | |
| iv. | | | | | | | |
| v. | | | | | | | |
| | | | | | | | |
| C. Under Purchase Agreements | | | | | | | |
| i. | | | | | | | |
| ii. | | | | | | | |
| iii. | | | | | | | |
| iv. | | | | | | | |
| v. | | | | | | | |

List of minimum equipment required for the project:

Submitted by : _____
(Printed Name & Signature)
Designation : _____
Date : _____

# Omnibus Sworn Statement

---

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

**A F F I D A V I T**

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

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

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

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

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

   *If a sole proprietorship:* As the owner and sole proprietor of *[Name of Bidder]*, I have full power and authority to do, execute and perform any and all acts necessary to represent it in the bidding for *[Name of the Project]* of the *[Name of the Procuring Entity]*;

   *If a partnership, corporation, cooperative, or joint venture:* I am granted full power and authority to do, execute and perform any and all acts necessary and/or to represent the *[Name of Bidder]* in the bidding as shown in the attached *[state title of attached document showing proof of authorization (e.g., duly notarized Secretary's Certificate issued by the corporation or the members of the joint venture)]*;

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

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

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

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

   *If a sole proprietorship:* I am not related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-

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

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

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

7. *[Name of Bidder]* complies with existing labor laws and standards; and
8. *[Name of Bidder]* is aware of and has undertaken the following responsibilities as a Bidder:
   a) Carefully examine all of the Bidding Documents;
   b) Acknowledge all conditions, local or otherwise, affecting the implementation of the Contract;
   c) Made an estimate of the facilities available and needed for the contract to be bid, if any; and
   d) Inquire or secure Supplemental/Bid Bulletin(s) issued for the *[Name of the Project]*.
9. *[Name of Bidder]* did not give or pay directly or indirectly, any commission, amount, fee or any form of consideration, pecuniary or otherwise, to any person or official, personnel or representative of the government in relation to any procurement project or activity.
10. In case advance payment was made or given, failure to perform or deliver any of the obligations and undertakings in the contract shall be sufficient grounds to constitute criminal liability for Swindling (Estafa) or the commission of fraud with unfaithfulness or abuse of confidence through misappropriating or converting any payment received by a person or entity under an obligation involving the duty to deliver certain goods or services, to the prejudice of the public and the government of the Philippines pursuant to Article 315 of Act No. 3815 s. 1930, as amended, or the Revised Penal Code.

**IN WITNESS WHEREOF**, I have hereunto set my hand this __ day of ___, 20__ at _____, Philippines.

[Insert NAME OF BIDDER OR ITS AUTHORIZED REPRESENTATIVE]
[Insert signatory's legal capacity]
Affiant

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

*Procuring Entity:* **PHILIPPINE NUCLEAR RESEARCH INSTITUTE**
*Name of the Project:* **Upgrading of ARC Building (CY 2021)**
*Location of the Project:* **PNRI Compound, Commonwealth Avenue, Diliman, Quezon City**

**AUTHORITY OF SIGNATORY**

# SECRETARY'S CERTIFICATE

I, _____, a duly elected and qualified Corporate Secretary of _____(Name of the Bidder)_____, a corporation duly organized and existing under and by virtue of the law of the _____, DO HEREBY CERTIFY, that:

I am familiar with the facts herein certified and duly authorized to certify the same;

At the regular meeting of the Board of Directors of the said Corporation duly convened and held on _____ at which meeting a quorum was present and acting throughout, the following resolutions were approved, and the same have not been annulled, revoked and amended in any way whatever and are in full force and effect on the date hereof:

RESOLVED, that _____(Name of the Bidder)_____ be, as it hereby is, authorized to participate in the bidding of _____(Name of the Contract)_____ _____ by the __*(Name of the Procuring Entity)*__; and that if awarded the Contract shall enter into a contract with the __*(Name of the Procuring Entity)*__; and in connection therewith hereby appoints _____(Name of Representative)_____, acting as duly authorized and designated representatives of _____(Name of the Bidder)_____, and granted full power and authority to do, execute and perform any and all acts necessary and/or to represent _____(Name of the Bidder)_____ in the bidding as fully and effectively as the _____(Name of the Bidder)_____ might do if personally present with full power of substitution and revocation and hereby satisfying and confirming all that my said representative shall lawfully do or cause to be done by virtue hereof;

RESOLVED FURTHER THAT, the Board hereby authorizes its President to:

(1) execute a waiver of jurisdiction whereby the _____(Name of the Bidder)_____ hereby submits itself to the jurisdiction of he Philippine government and hereby waives its right to question the jurisdiction of the Philippine courts;

(2) execute a waiver that the _____(Name of the Bidder)_____ shall not seek and obtain writ of injunctions or prohibition or restraining order against the AFP or any other agency in connection with this Contract to prevent and restrain the bidding procedures related thereto, the negotiating of and award of a contract to a successful bidder, and the carrying out of the awarded contract.

WITNESS the signature of the undersigned as such officer of the said _____ this _____.

_____
(Corporate Secretary)

# ACKNOWLEDGMENT

SUBSCRIBED AND SWORN to before me this _____ day of _____, 20___ affiant exhibited to me his/her Community Tax Certificate No. _____ issued on _____ at _____, Philippines.

Notary Public
Until 31 December 20____
PTR No._____
Issued at:_____
Issued on:_____
TIN No. _____

Doc. No. _____
Page No. _____
Book No. _____
Series of _____

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**AUTHORITY OF SIGNATORY**

# SPECIAL POWER OF ATTORNEY

I, _____, President of _____, a corporation incorporated under the laws of _____ with its registered office at _____, by virtue of Board Resolution No. _____ dated _____, has made, constituted and appointed _____ true and lawful attorney, for it and its name, place and stead, to do, execute and perform any and all acts necessary and/or represent _____ in the bidding of _____ as fully and effectively as corporation might do if personally present with full power of substitution and revocation and hereby confirming all that said representative shall lawfully do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, I have hereunto set may hand this _____ day of _____, 20____ at _____.

Signed in the Presence of:

_____ _____

## ACKNOWLEDGMENT

REPUBLIC OF THE PHILIPPINES )
QUEZON CITY )SS.

BEFORE ME, a Notary Public for and in Quezon City, Philippines, this _____ day of _____, 20_____, personally appeared:

| NAME | CTC NO. | ISSUED AT/ON |
|---|---|---|
| _____ | _____ | _____ |
| _____ | _____ | _____ |

known to me and known to be the same person who executed the foregoing instrument consisting of _____ ( ) pages, including the page whereon the acknowledgments is written and acknowledged before me that the same is his free and voluntary act and deed and that of the Corporation he represents.

WITNESS MY HAND AND NOTARIAL SEAL, at the place and on the date first above written.

Notary Public
Until 31 December 20____
PTR No._____
Issued at:_____
Issued on:_____
TIN No. _____

Doc. No. _____
Page No. _____
Book No. _____
Series of _____

*Procuring Entity:* **PHILIPPINE NUCLEAR RESEARCH INSTITUTE**
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## FINANCIAL DOCUMENTS FOR ELIGIBILITY CHECK

A. Summary of the Applicant Firm's/Contractor's assets and liabilities on the basis of the attached income tax return and audited financial statement, stamped "RECEIVED" by the Bureau of Internal Revenue or BIR authorized collecting agent, for the immediately preceding year and a certified copy of Schedule of Fixed Assets particularly the list of construction equipment.

| | | Year 20__ |
|---|---|---|
| 1. | Total Assets | |
| 2. | Current Assets | |
| 3. | Total Liabilities | |
| 4. | Current Liabilities | |
| 5. | Total Net Worth (1-3) | |
| 6. | Current Net Worth or Net Working Capital (2-4) | |

B. The Net Financial Contracting Capacity (NFCC) based on the above data is computed as follows:

NFCC = [Current Asset – Current Liabilities] (15) minus value of all outstanding works or uncompleted portions of the project under ongoing contracts including, awarded contracts yet to be started coinciding with the contract to be bid.

The values of the domestic bidder's current assets and current liabilities shall be based on the latest Audited Financial Statements submitted to the BIR

Submitted by:

_____
Name of Firm / Contractor

_____
Signature of Authorized Representative
Date : _____

*NOTE:*
1. *If Partnership or Joint Venture, each Partner or Member Firm of Joint Venture shall submit the above requirements.*

# Bid Form

Date: _____

Project Identification No: _____

To: *[name and address of PROCURING ENTITY]*

Address: *[insert address]*

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

(a) We have examined and have no reservation to the Bidding Documents, including Addenda, for the Contract *[insert name of contract]*;

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

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

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

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

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

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

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

(i) We understand that this Bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal Contract is prepared and executed; and

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

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

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

Name: _____

In the capacity of: _____

Signed: _____

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

Date: _____