



Republic of the Philippines  
Department of Agriculture  
**BUREAU OF FISHERIES AND AQUATIC RESOURCES**  
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## **PHILIPPINE BIDDING DOCUMENTS**

# **Establishment of Multi-Species Marine Hatchery in Brgy. Ata-atahon, Nasipit, Agusan del Norte**

Government of the Republic of the Philippines

**Sixth Edition  
July 2020**

# Preface

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

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

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

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

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

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

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

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# *Glossary of Terms, Abbreviations, and Acronyms*

**ABC** – Approved Budget for the Contract.

**ARCC** – Allowable Range of Contract Cost.

**BAC** – Bids and Awards Committee.

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

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

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

**BIR** – Bureau of Internal Revenue.

**BSP** – Bangko Sentral ng Pilipinas.

**CDA** – Cooperative Development Authority.

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

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

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

**CPI** – Consumer Price Index.

**DOLE** – Department of Labor and Employment.

**DTI** – Department of Trade and Industry.

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

**GFI** – Government Financial Institution.

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

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

**GOP** – Government of the Philippines.

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

**LGUs** – Local Government Units.

**NFCC** – Net Financial Contracting Capacity.

**NGA** – National Government Agency.

**PCAB** – Philippine Contractors Accreditation Board.

**PhilGEPS** - Philippine Government Electronic Procurement System.

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

**PSA** – Philippine Statistics Authority.

**SEC** – Securities and Exchange Commission.

**SLCC** – Single Largest Completed Contract.

**UN** – United Nations.



***Section I. Invitation to Bid***



**BUREAU OF FISHERIES AND AQUATIC RESOURCES  
REGIONAL OFFICE XIII**

**Bid Reference No. 027-22**

**Invitation to Bid for  
ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY  
IN BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE**

1. The **Bureau of Fisheries and Aquatic Resources XIII** through the Government Appropriations FY 2022 intends to apply the sum of **Twenty-Nine Million Five Hundred Forty-One Thousand Three Hundred Eighty-One Pesos Only (₱29,541,381.00)** being the Approved Budget for the Contract (ABC) to payments under the contract for **ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE.**

Bids received in excess of the ABC shall be automatically rejected at bid opening.

<b>P.R. No</b>	<b>Lot No.</b>	<b>Description</b>	<b>Approved Budget for the Contract (ABC) (Php)</b>	<b>Price of Bid Docs (Php)</b>
2022-09-738	1	Establishment of Multi-Species Marine Hatchery in Brgy. Ata-atahon, Nasipit, Agusan del Norte	29,541,381.00	25,000.00

2. The **BUREAU OF FISHERIES AND AQUATIC RESOURCES XIII** now invites bids for **Establishment of Multi-Species Marine Hatchery in Brgy. Ata-atahon, Nasipit, Agusan del Norte** which includes civil works and general items. Completion of the Works is required **within 365 calendar days**. Bidders should have completed a contract similar to the Project. The description of an eligible bidder is contained in the Bidding Documents, particularly, in **Error! Reference source not found.**
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 9184 (RA 9184), otherwise known as the “Government Procurement Reform Act.”

Bidding is restricted to Filipino citizens/sole proprietorships, cooperatives, and partnerships or organizations with at least seventy five percent (75%) interest or outstanding capital stock belonging to citizens of the Philippines.

4. Interested bidders may obtain further information from **BUREAU OF FISHERIES AND AQUATIC RESOURCES XIII** and inspect the Bidding Documents at the address given below during office hours, Monday – Friday; 8:00AM – 5:00PM from *October 10, 2022 to October 31, 2022 not later than 8:30 AM*.
5. A complete set of Bidding Documents may be acquired by interested bidders on **October 10, 2022 – October 31, 2022**, from given address and website/s below and upon payment of a nonrefundable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the Government Procurement Policy Board (GPPB), in the amount of **₱25,000.00**. The Procuring Entity shall allow the bidder to present its proof of payment for the fees in person or through electronic means.
6. The **BUREAU OF FISHERIES AND AQUATIC RESOURCES XIII** will hold a Pre-Bid Conference on **October 17, 2022, 1:30pm** at **BFAR Caraga Regional Fisherfolk Training Center, Butuan City**, and/or via “Google Meet” application, which shall be open to prospective bidders.
7. Bids must be duly received by the BAC Secretariat through i) manual submission at the office address indicated below, (ii) online or electronic submission as indicated below, or (iii) both} on or before **October 31, 2022; 8:30am**. 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 **October 31, 2022, 9:00am** at **BFAR Caraga Regional Fisherfolk Training Center, Butuan City** and/or via “Google Meet” application. Bids will be opened in the presence of the bidders’ representatives who choose to attend the activity.
10. Bidders are advised to submit their bids in accordance with the BFAR XIII BAC procedure for online bidding as well as for the printed as provided under **ITB** Clause 10 and Clause 11.
11. The Bureau of Fisheries and Aquatic Resources (BFAR) XIII 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 IRR of RA No. 9184, without thereby incurring any liability to the affected bidder or bidders.
12. For further information, please refer to:

**BFAR XIII - BAC Secretariat**  
**Sitio Tawilon, Brgy. Ambago, Butuan City**  
**Mobile # : 09094817511/09973293794**  
**E-mail address: bfar13\_bac@gmail.com**

13. You may visit the following websites:

For downloading of Bidding Documents: *caraga.bfar.da.gov.ph*

For online bid submission: [*https://caraga.bfar.da.gov.ph/*]

*Issued this 7<sup>th</sup> day of October, 2022.*

**Sgd. ANNA MELISSA TALAVERA**

BAC Chairperson

## ***Section II. Instructions to Bidders***

## 1. Scope of Bid

The Bureau of Fisheries and Aquatic Resources (BFAR) XIII wishes to receive Bids for the **Establishment of Multi-Species Marine Hatchery in Brgy. Ata-atahon, Nasipit, Agusan del Norte.**

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 FY 2022 in the amount of **Twenty-Nine Million Five Hundred Forty-One Thousand Three Hundred Eighty-One Pesos Only (₱29,541,381.00).**

2.2. The source of funding is **General Appropriations Act FY 2022.**

## 3. Bidding Requirements

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

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

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

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

The Procuring Entity, as well as the Bidders and Contractors, shall observe the highest standard of ethics during the procurement and execution of the contract. They or through an agent shall not engage in corrupt, fraudulent, collusive, coercive, and obstructive practices defined under Annex “I” of the 2016 revised IRR of RA No. 9184 or other integrity violations in competing for the Project.

## 5. Eligible Bidders

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

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

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

## 6. Origin of Associated Goods

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

## 7. Subcontracts

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

The Procuring Entity has prescribed that: b. Subcontracting is not allowed.

- 7.2. 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 **October 17, 2022; 1:30pm** and/or through video-conferencing as indicated in paragraph 6 of the **IB**.

## 9. Clarification and Amendment of Bidding Documents

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

## 10. Documents Comprising the Bid: Eligibility and Technical Components

- 10.1. The first envelope shall contain the eligibility and technical documents of the Bid as specified in **Section IX. Checklist of Technical and Financial Documents**.
- 10.2. If the eligibility requirements or statements, the bids, and all other documents for submission to the BAC are in foreign language other than English, it must be accompanied by a translation in English, which shall be authenticated by the appropriate Philippine foreign service establishment, post, or the equivalent office having jurisdiction over the foreign bidder's affairs in the Philippines. For Contracting Parties to the Apostille Convention, only the translated documents shall be authenticated through an apostille pursuant to GPPB Resolution No. 13-2019 dated 23 May 2019. The English translation shall govern, for purposes of interpretation of the bid.
- 10.3. A valid PCAB License is required, and in case of joint ventures, a valid special PCAB License, and registration for the type and cost of the contract for this Project. Any additional type of Contractor license or permit shall be indicated in the **BDS**.
- 10.4. A List of Contractor's key personnel (e.g., Project Manager, Project Engineers, Materials Engineers, and Foremen) assigned to the contract to be bid, with their complete qualification and experience data shall be provided. These key personnel must meet the required minimum years of experience set in the **BDS**.
- 10.5. A List of Contractor's major equipment units, which are owned, leased, and/or under purchase agreements, supported by proof of ownership, certification of availability of equipment from the equipment lessor/vendor for the duration of the project, as the case may be, must meet the minimum requirements for the contract set in the **BDS**.

## 11. Documents Comprising the Bid: Financial Component

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



- 11.2. Any bid exceeding the ABC indicated in paragraph 1 of the **IB** shall not be accepted.
- 11.3. For Foreign-funded procurement, a ceiling may be applied to bid prices provided the conditions are met under Section 31.2 of the 2016 revised IRR of RA No. 9184.

## **12. Alternative Bids**

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

## **13. Bid Prices**

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

## **14. Bid and Payment Currencies**

- 14.1. Bid prices may be quoted in the local currency or tradeable currency accepted by the BSP at the discretion of the Bidder. However, for purposes of bid evaluation, Bids denominated in foreign currencies shall be converted to Philippine currency based on the exchange rate as published in the BSP reference rate bulletin on the day of the bid opening.
- 14.2. Payment of the contract price shall be made in:
  - a. Philippine Pesos.

## **15. Bid Security**

- 15.1. The Bidder shall submit a Bid Securing Declaration or any form of Bid Security in the amount indicated in the **BDS**, which shall be not less than the percentage of the ABC in accordance with the schedule in the **BDS**.
- 15.2. The Bid and bid security shall be valid until 120 days after the Bid Opening. 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 15 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**

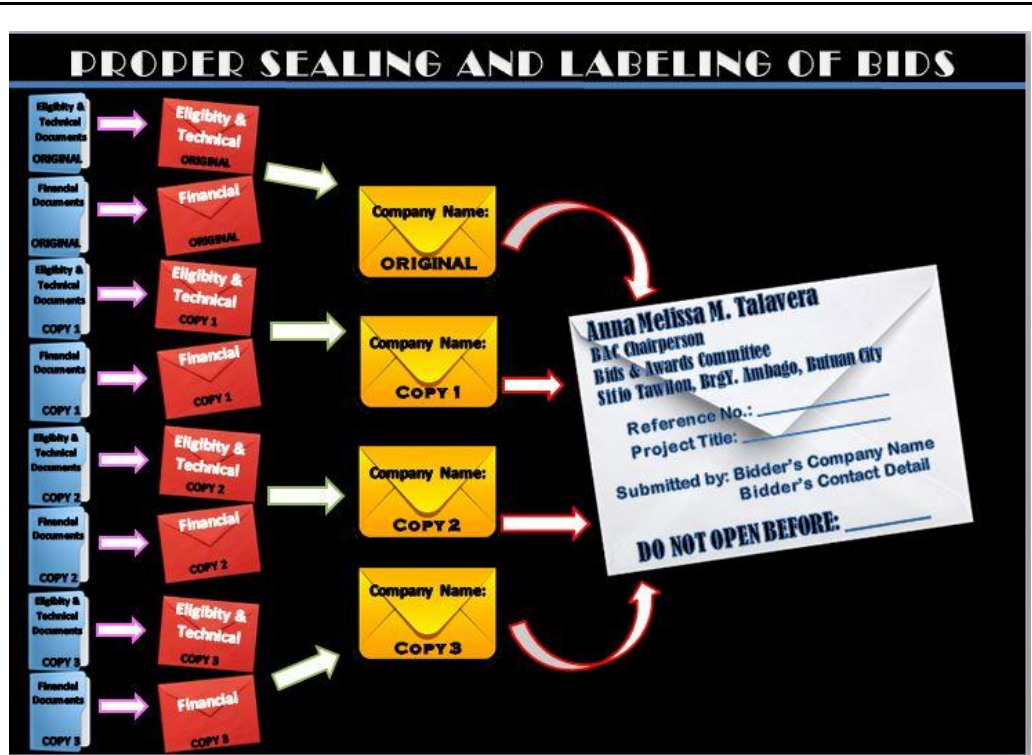
The documents required in Section 37.2 of the 2016 revised IRR of RA No. 9184 shall form part of the Contract. Additional Contract documents are indicated in the **BDS**.

## ***Section III. Bid Data Sheet***

# Bid Data Sheet

ITB Clause																									
5.2	<p>For this purpose, contracts similar to the Project refer to contracts which have the same major categories of work, which shall be:</p> <ul style="list-style-type: none"> <li>a. <b>Construction Projects</b></li> <li>b. completed within <b>5 years</b> prior to the deadline for the submission and receipt of bids.</li> </ul>																								
7.1	Subcontracting is not allowed																								
10.3	A valid and current Philippine Contractors Accreditation Board (PCAB) License with Principal Classification in General Building and/or General Engineering with <u>Minimum Size Range Medium A</u> and <u>Minimum License Category B</u> . General Contractor company with Contractors License issued by PCAB.																								
10.4	<p>The key personnel must meet the required minimum years of experience set below:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;"><u>Key Personnel</u></th> <th style="text-align: center;"><u>General Experience</u></th> <th style="text-align: center;"><u>Relevant Experience</u></th> </tr> </thead> <tbody> <tr> <td>Civil Engineer</td> <td style="text-align: center;">5 years</td> <td></td> </tr> <tr> <td>Electrical Engineer</td> <td style="text-align: center;">5 years</td> <td></td> </tr> <tr> <td>Master Plumber</td> <td style="text-align: center;">5 years</td> <td></td> </tr> <tr> <td>Foreman</td> <td style="text-align: center;">5 years</td> <td></td> </tr> <tr> <td>Skilled Laborer</td> <td style="text-align: center;">3 years</td> <td></td> </tr> <tr> <td>Unskilled Laborer</td> <td style="text-align: center;">N/A</td> <td></td> </tr> </tbody> </table>	<u>Key Personnel</u>	<u>General Experience</u>	<u>Relevant Experience</u>	Civil Engineer	5 years		Electrical Engineer	5 years		Master Plumber	5 years		Foreman	5 years		Skilled Laborer	3 years		Unskilled Laborer	N/A				
<u>Key Personnel</u>	<u>General Experience</u>	<u>Relevant Experience</u>																							
Civil Engineer	5 years																								
Electrical Engineer	5 years																								
Master Plumber	5 years																								
Foreman	5 years																								
Skilled Laborer	3 years																								
Unskilled Laborer	N/A																								
10.5	<p>The minimum major equipment requirements are the following:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;"><u>Equipment</u></th> <th style="text-align: center;"><u>Capacity</u></th> <th style="text-align: center;"><u>Number of Units</u></th> </tr> </thead> <tbody> <tr> <td>Transit Mixer</td> <td style="text-align: center;">5-6 cu.m.</td> <td style="text-align: center;">1</td> </tr> <tr> <td>Backhoe</td> <td style="text-align: center;">1 cu.m.</td> <td style="text-align: center;">1</td> </tr> <tr> <td>Payloader</td> <td></td> <td style="text-align: center;">1</td> </tr> <tr> <td>Dump Track</td> <td style="text-align: center;">10 cu.m.</td> <td style="text-align: center;">1</td> </tr> <tr> <td>Road Roller</td> <td></td> <td style="text-align: center;">1</td> </tr> <tr> <td>Road Grader</td> <td style="text-align: center;">140Hp/G710A</td> <td style="text-align: center;">1</td> </tr> <tr> <td>One Bagger Mixer</td> <td style="text-align: center;">25-36 cu.ft./min</td> <td style="text-align: center;">1</td> </tr> </tbody> </table>	<u>Equipment</u>	<u>Capacity</u>	<u>Number of Units</u>	Transit Mixer	5-6 cu.m.	1	Backhoe	1 cu.m.	1	Payloader		1	Dump Track	10 cu.m.	1	Road Roller		1	Road Grader	140Hp/G710A	1	One Bagger Mixer	25-36 cu.ft./min	1
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Road Grader	140Hp/G710A	1																							
One Bagger Mixer	25-36 cu.ft./min	1																							
12	<i>No further instructions.</i>																								
15.1	<p>The bid security shall be in the form of a <b>Bid Securing Declaration</b> or any of the following forms and amounts:</p> <ul style="list-style-type: none"> <li>a. The amount of not less than <b>₱590,827.62</b> (2%) of ABC, if bid security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit;</li> </ul>																								

	<p>b. The amount of not less than <b>₱1,477,069.05</b> (5%) of ABC, if bid security is in Surety Bond.</p>
	<p><b><u>Guidelines on the Sealing and Marking</u></b></p> <p>A. Participating bidders/suppliers may submit their bidding documents through either of the following forms:</p> <p><b>1. Hardcopy/ physical document</b></p> <ul style="list-style-type: none"> <li>• Submitted directly thru the Bids and Awards Committee (BAC) Office, at the following address:</li> </ul> <p style="margin-left: 40px;"><i><u><a href="#">Bids and Awards Committee (BAC) Office</a></u></i>  <i><u><a href="#">Bureau of Fisheries and Aquatic Resources XIII</a></u></i>  <i><u><a href="#">Sitio Tawilon, Brgy. Ambago, Butuan City</a></u></i></p> <p><i>Note: If the participating bidders/suppliers only submits a hardcopy of the document, and the same is discovered to be damaged or the entries thereof are not readable during the opening thereof, said participating bidders/suppliers loses his privilege to participate in the bidding.</i></p> <p><b>2. Electronic and hardcopy</b></p> <ul style="list-style-type: none"> <li>• The hardcopy/ physical document shall be scanned and encrypted with password (refer to Annexes - BFAR Online bidding for the procedure).</li> <li>• The scanned document will be sent via email at: <u><a href="mailto:bfarbac13@gmail.com">bfarbac13@gmail.com</a></u></li> <li>• Bidders/suppliers may opt to submit both electronic and hardcopy in compliance with the abovementioned details.</li> </ul> <p><i>Note: In case the electronic copy is discovered to be corrupted during opening, the back-up hardcopy will be opened as alternative option. However, in the event that both electronic copy and hardcopy are corrupted and/or not readable participating bidders/suppliers loses his privilege to participate in the bidding.</i></p>



**A. LABELLING AND MARKING INSTRUCTIONS FOR THE SUBMISSION OF HARD COPIES.**

1. Main envelope shall:
  - (a) bear address to the Procuring Entity's BAC;
  - (b) bear the specific identification/Bid ref. no. of this bidding;
  - (c) contain the name of the contract/Project Title to be bid;
  - (d) bear the Company name, address and contact details of the Bidder;
  - (e) bear a warning "DO NOT OPEN BEFORE (the date and time of opening of Bids)."
2. Bidders shall enclose the First component (Eligibility and Technical documents) and Second components (Financial documents) of their bid.
3. Each Bidder shall submit one (1) original and three (3) copies of the first and second components of its bid.
4. The inner envelopes of the first and second component shall be similarly sealed and duly marked as Original, Copy 1, Copy 2 and Copy 3.
5. Each components must contain Table of Contents and all documents attached should be properly tabbed and bound.





**B. FOR BIDS TO BE SUBMITTED ELECTRONICALLY/ONLINE, THE FOLLOWING PROCEDURES SHOULD BE OBSERVED:**

## Preparation of Bid Documents



The bidder shall prepare a final scanned copy of its Bid divided into two different files:

-  Eligibility Documents & Technical Documents; and
-  Financial Documents

To ensure confidentiality, authentication, integrity of the documents, the bidder shall use a two-factor security procedure consisting of an archive format compression of its bid.

### Step 1. Scan the original copy of the Eligibility Documents & Technical Documents and Financial Documents, save as a PDF file and comply with the label format below:

1. "BFAR Bid Reference No. \_\_\_\_\_(Name of Bidder): Legal & Technical Documents"

Example



BFAR BID REFERENCE NO.2022-1 (TOYOTA PHILS.): Legal & Technical Documents  
BFAR BID REFERENCE NO.2022-1 (TOYOTA PHILS.): Legal & Technical Documents

2. "BFAR Bid Reference No. \_\_\_\_\_(Name of Bidder): Financial Documents"

Example



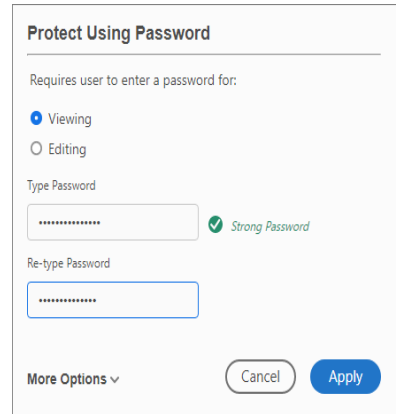
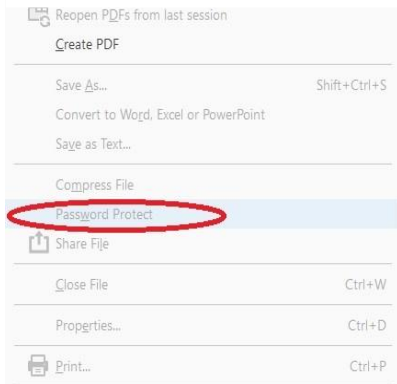
BFAR BID REFERENCE NO.2022-1 (TOYOTA PHILS.): Financial Documents  
BFAR BID REFERENCE NO.2022-1 (TOYOTA PHILS.): Financial Documents



## Adding a password to a .PDF file using Adobe Acrobat Reader DC.

1. Open the PDF file

2. Choose **File > Protect Using Password**

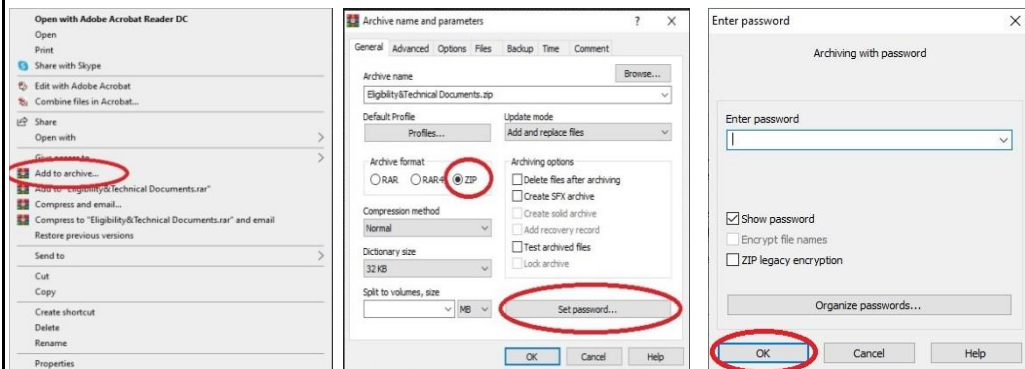


1. Select to set the password for Viewing the PDF

2. Type and retype your password

3. Click **Apply**.

## Step 2. To archive and compress the file using the WinRAR Application



1. Right click the password protected .PDF file.

2. Select **“Add to archive.”**

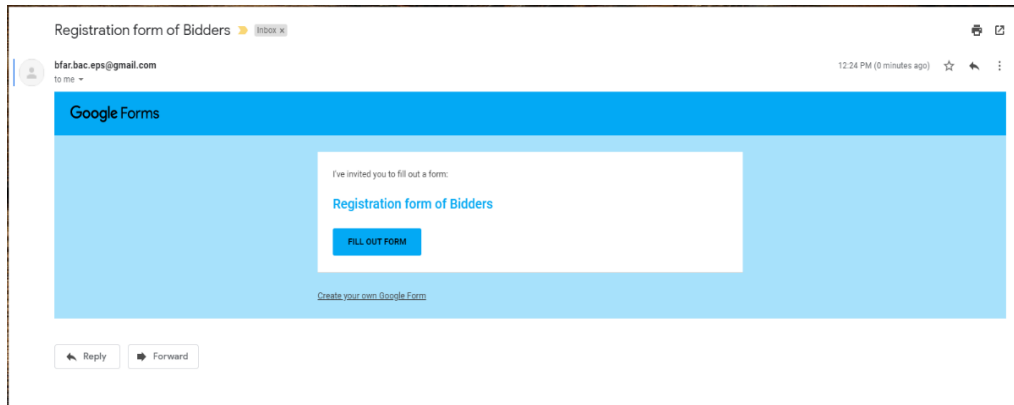
3. In the Archive name and parameters dialog box, select **“Radio button ZIP”** and click **“Set password.”**

4. Type your password and Click **“Ok button.”**

*Note: Passwords must be 8-16 characters and contain both numbers and letters/ special characters. The bidder is required setting a unique combination for each file and folder. Same passwords for all files are not allowed.*

# Submitting of the Bidding Documents

Bidders shall submit their Bids through Google Form at any time before the closing date and time specified in the Bidding Documents.



**Step 2.** Upon received, click the **FILL OUT FORM.**

**Step 3.** Bidder must fill in the following required information

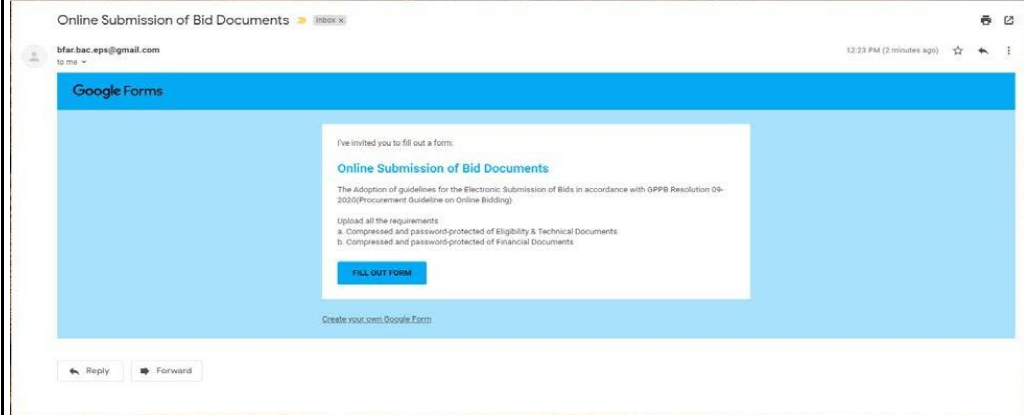
**Step 4.** Click the **Add file** to upload Scanned Copy of Official Receipt (OR)

**Step 5.** After uploading of the Scanned Copy of OR, the bidder shall click **Submit** button to complete the process and BAC Secretariat shall verify the submitted Official

A screenshot of the 'Registration form of Bidders' Google Form. The form is displayed in a light blue theme. At the top, it says 'Thanks for filling out Registration form of Bidders' and 'Here's what we got from you:'. Below this, the form title 'Registration form of Bidders' is shown. The form contains several required fields, each with a red asterisk: 'Email address \*', 'Company Name \*', 'Company Address \*', 'Company Contact No. \*', 'Bid Reference \*', 'Bid Title \*', and 'Upload the Scanned Official Receipt (OR) \*'. The 'Upload the Scanned Official Receipt (OR) \*' field has a file upload icon and the text 'Add file'. At the bottom of the form, there is a 'Submit' button.A detailed view of the 'Registration form of Bidders' Google Form fields. The form title is 'Registration form of Bidders'. Below the title, there is a note: 'The name and photo associated with your Google account will be recorded when you upload files and submit this form. Not @gmail.com? [Switch account](#)'. The form contains several required fields, each with a red asterisk: 'Email address \*', 'Company Name \*', 'Company Address \*', 'Authorized Representative \*', 'Company Contact No. \*', 'Bid Reference \*', 'Bid Title \*', and 'Upload the Scanned Official Receipt (OR) \*'. The 'Upload the Scanned Official Receipt (OR) \*' field has a file upload icon and the text 'Add file'. At the bottom of the form, there is a 'Submit' button. A note at the bottom states: 'A copy of your responses will be emailed to the address you provided.'

**Step 7.** Upon verification of the Official Receipt (OR), the BAC Secretariat shall send the Public Bidding Documents through the given email or shall provide a hard copy upon request. It may also be downloaded free of charge from the website of the Philippine Government Electronic Procurement System (PhilGEPS) and the website of the Procuring Entity, provided that Bidders shall pay the applicable fee for the Bidding Documents not later than the submission of their bids.

**Step 8.** The BAC Secretariat will send another Google Form link to the bidder, who already purchased the bidding documents, through email directing to the "Online Submission of the Bid".

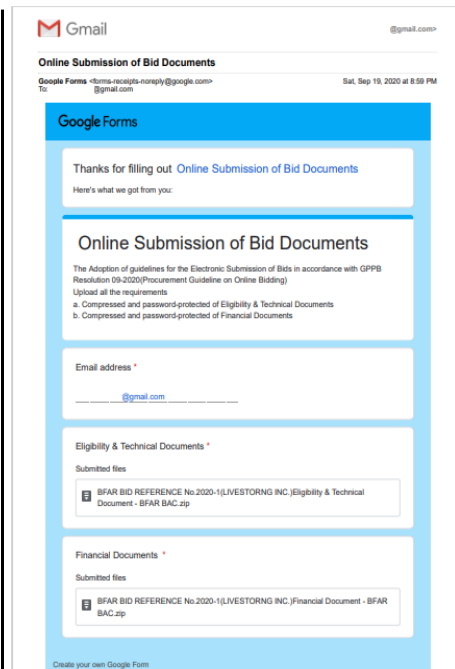


**Step 9.** Upon received, click the **FILL OUT FORM**.

**Step 10.** Click the **Add file** button to upload the compressed and password-protected files of Eligibility & Technical and Financial Documents

**Step 11.** Click the **Submit** button to complete the process. A copy of the response will be automatically emailed to the address provided by the bidder which can be saved or printed by the bidder, as proof of the official time of the submission and

The screenshot shows the Google Form interface. The title is 'Online Submission of Bid Documents'. The description is 'The Adoption of guidelines for the Electronic Submission of Bids in accordance with GPPB Resolution 09-2020(Procurement Guideline on Online Bidding)'. It lists requirements: 'Upload all the requirements: a. Compressed and password-protected of Eligibility & Technical Documents; b. Compressed and password-protected of Financial Documents'. A note states: 'The name and photo associated with your Google account will be recorded when you upload files and submit this form. Not @gmail.com? [Switch account](#)'. A red asterisk indicates required fields. There are three input sections: 'Email address \*' with a text field; 'Eligibility & Technical Documents \*' with an 'Add file' button; and 'Financial Documents \*' with an 'Add file' button. At the bottom, there is a 'Submit' button and a note: 'A copy of your responses will be emailed to the address you provided.'



**IMPORTANT REMINDERS DURING BID OPENING PROCESS**

1. Bidders are encouraged to attend the bid opening online via Google Meet Application. The password for the folders (ZIP) and the files (.PDF) shall be disclosed by the bidders only during actual bid opening.
2. The official representative of the bidder shall respond promptly in the same chat box with the passwords when prompted. Bidders are given within five (5) minutes to respond with the passwords. If the bidder does not provide or respond with the password within five (5) minutes, the BAC Secretariat shall open the submitted hard copy of the bidding documents.
3. The bidder shall first disclose the password for the compressed folder (ZIP file) containing the Eligibility & Technical documents, second disclose the password for the Eligibility & Technical documents (.PDF File). The Secretariat will share screen via Google Meet during accessing the submitted Bid.
4. If the bidder fails to provide the correct password after the third attempt, the BAC Secretariat shall open the submitted hard copy of the bidding documents.

19.2	<i>No further instructions.</i>
20	<i>No further instructions.</i>
21	Additional contract documents relevant to the Project that may be required by existing laws and/or the Procuring Entity, such as construction schedule and S-curve, manpower schedule, construction methods, equipment utilization schedule, construction safety and health program approved by the DOLE, and other acceptable tools of project scheduling.

## ***Section IV. General Conditions of Contract***

## 1. **Scope of Contract**

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

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

## 2. **Sectional Completion of Works**

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

## 3. **Possession of Site**

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

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

## 4. **The Contractor's Obligations**

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

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

## **5. Performance Security**

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

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

## **6. Site Investigation Reports**

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

## **7. Warranty**

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

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

## **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 Dates are the following:  Intended Completion Dates shall be within <b>365 Calendar Days</b> upon receipt of the Notice to Proceed;
4.1	The schedule of delivery of the possession of the site to the Contractor is based on the Section VI of the Bidding Documents.
6	Site Inspection should be conducted prior to the conduct of Bid Opening to enable the bidder/contractor to submit their queries/issues on the project, and the bidder/contractor must have a Certificate of Site Inspection issued by the BFAR Caraga.
7.2	<b>Five (5)</b> years warranty for the structure.
10	No dayworks are applicable to the contract.
11.1	The Contractor shall submit the Program of Work to the Procuring Entity's Representative within <b>seven (7) days</b> of delivery of the Notice of Award.
11.2	No further instruction.
13	The amount of the advance payment is <b>fifteen percent (15%)</b> of the Contract Price.
14	No further instruction.
15.1	The date by which "as built" drawings <b>(1 Original Copy in tracing paper 105/110 tyke, 2 blue print copies and electronic file in DVD disc)</b> are required to be submitted before the release of final payment.
15.2	No final payment shall be made by the BFAR Caraga unless the Contractor prepares and submits the required as-built plans.

## *Section VI. Specifications*

# Technical Specifications

Specification			Statement of Compliance
<b>Unit</b>	<b>Item Description</b>	<b>Quantity</b>	
	A. GENERAL REQUIREMENTS		
months	Temporary Facilities for the Engineers	12.00	
each	Project Billboard	2.00	
lot	Permits & Clearances	1.00	
ls	Mobilization/Demobilization	1.00	
	B. SITE DEVELOPMENT		
hec	Clearing & Grubbing	0.30	
each	Individual Removal of trees	120.00	
cu.m.	Embankment from borrow	2,439.70	
cu.m.	Aggregate Subbase Course	673.20	
	C. RESERVOIR TANK, BROODSTOCK TANK & ELEVATED WATER TANK		
cu.m.	Structure Excavation	394.49	
cu.m.	Embankment from structure excavation	324.41	
cu.m.	Embankment from borrow	290.49	
cu.m.	Gravel Bedding	41.64	
cu.m.	Structural Concrete Class A, 28days	268.53	
kgs.	Reinforcing Steel Bars, Grade 60/Grade 40	28,778.92	
lot	Forms & Scaffoldings	1.00	
lot	GI Pipe Roofing & Railings	1.00	
sq.m.	Waterproofing Cement Base	538.50	
sq.m.	Cement Plaster Finish	262.40	
sq.m.	Painting Works	985.15	
sq.m.	100mm Non Load/Load Bearing CHB	7.76	
	D. RETAINING WALL, TREATMENT TANK & PERIMETER FENCE		
cu.m.	Structure Excavation	546.69	
cu.m.	Embankment from structure excavation	104.28	
cu.m.	Gravel Bedding	55.00	
cu.m.	Structural Concrete Class A, 28 days	159.59	
kgs.	Reinforcing Steel Bars, Grade 60/Grade 40	17,544.08	
lot	Forms & Scaffoldings	1.00	
sq.m.	Waterproofing Cement Base	274.56	
sq.m.	Cement Plaster Finish	1,773.10	
sq.m.	Painting Works	972.36	
sq.m.	100mm/150mm Non Load/Load Bearing CHB	886.55	
lot	Welding Works	1.00	

	E. TECHNICIAN'S QUARTER, HARVESTING, HATCHING & SPAWNING AREA	
cu.m.	Structure Excavation	91.35
cu.m.	Embankment from structure excavation	76.20
cu.m.	Embankment from borrow	28.00
cu.m.	Gravel Bedding	29.65
cu.m.	Structural Concrete Class A, 28 days	47.03
kgs	Reinforcing Steel Bars, Grade 60/Grade 40	4,251.74
lot	Forms & Scaffoldings	1.00
sq.m.	Fiber Cement Board on Metal Frame Ceiling	160.00
lot	Doors & Windows	1.00
In.m.	Fabricated Metal Roofing Accessory	80.00
lm	Prepainted Metal Sheets, Long Span 0.5mm	323.00
sq.m.	Tile Works	148.62
sq.m.	Cement Plaster Finish	589.07
sq.m.	Painting Works	741.75
sq.m.	Masonry Works	322.54
lot	Structural Steel Roof Truss	1.00
lot	Stainless Steel Railing & Grab Bar	1.00
lot	Plumbing Works	1.00
	F. GUARD HOUSE, POWER HOUSE, PUMP HOUSE	
cu.m.	Structure Excavation	21.34
cu.m.	Embankment from structure excavation	15.98
cu.m.	Embankment from borrow	6.00
cu.m.	Gravel Bedding	7.27
cu.m.	Structural Concrete Class A, 28 days	11.17
kgs.	Reinforcing Steel Bars, Grade 60/Grade 40	2,034.50
sq.m.	Fiber Cement Board on Metal Frame Ceiling	36.00
lot	Doors & Windows	1.00
In.m.	Prepainted Metal Sheets, Metaplas Roofing	172.00
sq.m.	Cement Plaster Finish	209.29
sq.m.	Painting Works	237.50
sq.m.	Masonry Works	104.65
lot	Structural Steel Roof Truss	1.00
	G. ALGAL TANK, ROTIFER & LRT WITH ROOFING	
cu.m.	Structure Excavation	504.93
cu.m.	Embankment from structure excavation	52.84
cu.m.	Gravel Bedding	101.60
cu.m.	Structural Concrete Class A, 28 days	266.94
kgs.	Reinforcing Steel Bars, Grade 60/Grade 40	12,550.30
sq.m.	Waterproofing Cement Base	1,120.56
sq.m.	Cement Plaster Finish	1,816.62

sq.m.	Painting Works	2,034.35
sq.m.	Masonry Works	991.12
lot	Welding Works	1.00
	H. PLUMBING, WORKS & EQUIPMENT	
lot	Plumbing Works	1.00
	I. ELECTRICAL WORKS & EQUIPMENT	
lot	Electrical Works	1.00

**I hereby certify to comply all the required above technical specifications.**

\_\_\_\_\_

Name of Company/Bidder      Signature Over Printed Name of Representative      Date

## *Section VII. Drawings*





**A-1**  
2/3 **PERSPECTIVE**



**A-1**  
1/3 **SITE DEVELOPMENT PLAN**



**THIS SITE**



**A-1**  
3/3 **VICINITY MAP**

REPUBLIC OF THE PHILIPPINES  
PROVINCE OF AGUSAN DEL NORTE  
MUNICIPALITY OF NASIPIT  
**OFFICE OF THE  
BUILDING OFFICIAL**

APPROVED BY:

**MUNICIPAL ENGINEER**

LAND USE AND ZONING

LINE AND GRADE

ARCHITECTURAL

STRUCTURAL

ELECTRICAL

MECHANICAL

SANITARY

FIRE SAFETY



**BUREAU OF  
FISHERIES AND  
AQUATIC  
RESOURCES**

CERTIFIED / PREPARED BY:

**MARK RETEP M. LOZADA**  
CIVIL ENGINEER

PRC NO. 514289

VALID UNTIL: 06/19/2022

PTN NO. 851296

DATE ISSUED: 06/06/2021

PLACE ISSUED: PROVINCE OF AGUSAN DEL NORTE

PROJECT TITLE:

**ESTABLISHMENT OF MULTI-SPECIES MARINE  
HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN  
THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)**

PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE

DRAWN BY:

**PELMARK B. IYOG**  
CRD ENGR STAFF

CHECKED BY:

**THESSALYN B. LIMAS**  
SA, ENGINEER

RECOMMENDING APPROVAL:

**RIZALINDA L. ASING**  
CHIEF, P/SED

APPROVED:

**NILO SELIM KATADA, Ph.D.**  
MUNICIPAL DIRECTOR

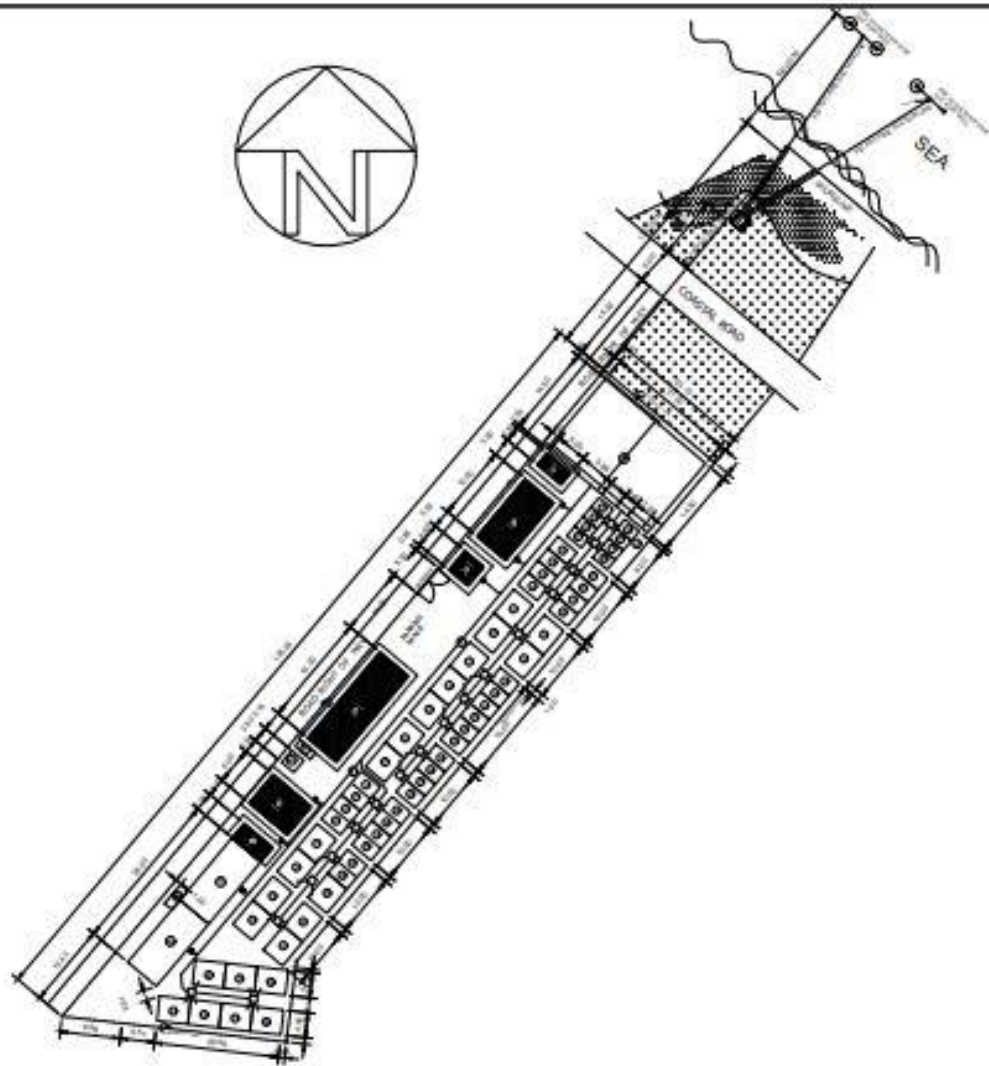
SHEET NO.

**1**

**0104**

**LEGEND :**

- A. GUARD HOUSE - (4.00 x 4.00m)
- B. POWER HOUSE - (2.50 x 5.00m)
- C. HARVESTING AREA - (6.00 x 12.00m)
- D. TECHNICIANS QUARTER- (6.00 x 18.00m)
- E. SEPTIC VAULT - (1.30 x 3.20m)
- F. ELEVATED WATER TANK
- G. ELEVATED FILTER TANK - 2 units  
(2.00x1.50x1.20m)
- H. ELEVATED RESERVOIR -  
2 units (6.00x1.30x2.00m)
- I. HATCHING AREA - (3.00x6.00m)
- J. LARVAL REARING TANKS (LRT) with Black Shading Net
  - 4 units 20 tons capacity, (4.00x5.00x1.20m)
  - 8 units 10 tons capacity, (4.00x2.50m)
  - 8 units 5 tons capacity, (2.00x3.00m)
- K. ROTIFER TANKS with Black Shading Net
  - 5 units 20 tons capacity, (4.00x5.00m)
  - 10 units 10 tons capacity, (4.00x2.50m)
- L. ALGAL TANKS
  - 14 units 20 tons capacity, (4.00x5.00m)
  - 10 units 10 tons capacity, (4.00x2.50m)
- M. TREATMENT TANK - (14.50x21.00m)
- N. PUMP HOUSE - (2.5x3.00m)
- O. SPAWNING - (6.00x8.00m)



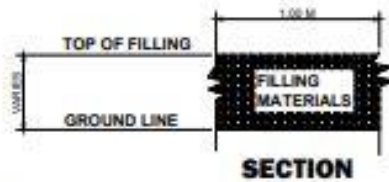
**A-2 SITE DEVELOPMENT PLAN**  
SCALE: 1" = 750' 00"



<b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b>	CERTIFIED / PREPARED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.	
	<b>MARK RETEP M. LOZADA</b> <small>CIVIL ENGINEER</small>	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>PELMARK B. IYOG</b> <small>ORD. ENGRG. STAFF</small>	<b>THESSALYN B. LIMAS</b> <small>SA - INSPECTOR</small>	<b>RIZALINDA L. ABING</b> <small>CHIEF, FEEDS</small>	<b>NILO SELIM KATADA, Ph.D.</b> <small>REGIONS DIRECTOR</small>	<b>1</b>	<b>0204</b>
	<small>PRC NO. - 214289</small> <small>DATE ISSUED - 04/02/2011</small> <small>VALID UNTIL - 09/16/2022</small> <small>DATE ISSUED - 04/02/2011</small> <small>PLACE ISSUED - PROVINCE OF AGUSAN DEL NORTE</small>							



**PLAN**



**SECTION**

**PIPE LINE FILLING DETAIL @ PUMP HOUSE**

A-3  
1/3

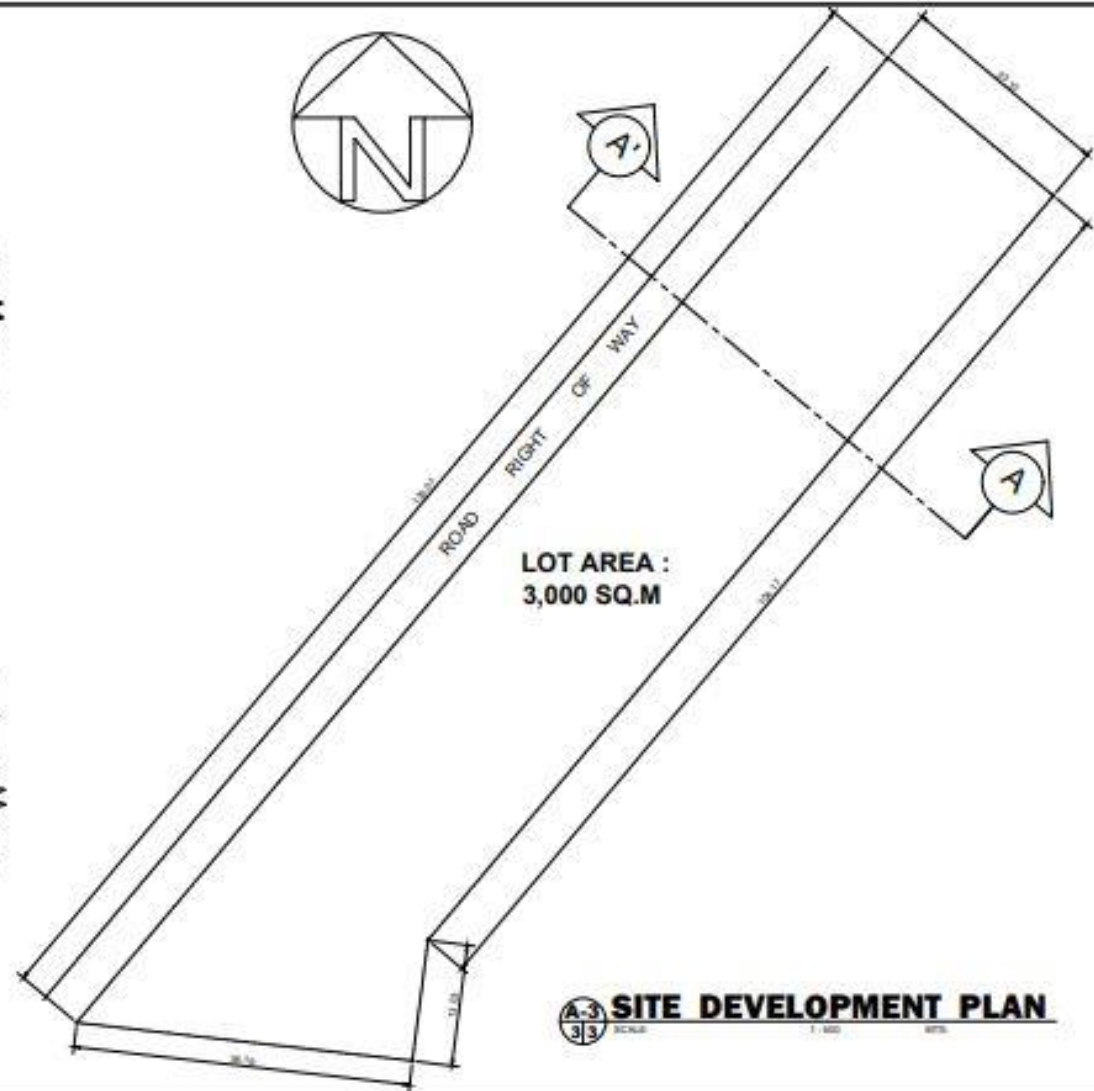
NOT TO SCALE



**SECTION THRU A-A'**

A-3  
2/3

SCALE: 1:50 MTS



A-3  
3/3

**SITE DEVELOPMENT PLAN**

SCALE: 1:500 MTS



CERTIFIED / PREPARED BY:	
<b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER	
PROJ. NO. : 23428F	VALID UNTIL: 09/30/2023
FOR NO. : 911038	DATE ISSUED: 04/02/2021
PLACE ISSUED: PROVINCE OF SORSOGON	

PROJECT TITLE:
<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>
PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE

DRAWN BY:
<b>PELMARK S. IYOG</b> CIVIL ENGINEER III

CHECKED BY:
<b>THESSALYN B. LIMAS</b> CIVIL ENGINEER II

RECOMMENDING APPROVAL:
<b>RIZALINDA L. ABING</b> CHIEF, PPISCD

APPROVED:
<b>NILO SELIN KATADA, Ph.D.</b> REGIONAL DIRECTOR

SHEET NO.
<b>1</b>
<b>0304</b>

# GENERAL STRUCTURAL/CONSTRUCTION NOTES AND SPECIFICATION

**A. GENERAL REQUIREMENTS**

- ALL STRUCTURAL MATERIALS AND WORK SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF THE NATIONAL STRUCTURAL CODE OF THE PHILIPPINE (NSCP 2015).
- VERIFY ALL DIMENSIONS, RESOURCES AND SITE CONDITIONS BEFORE BEGINNING WORK. NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCY.
- NOTICE AND DESIGN CHECKS OR REVISED DRAWINGS SHALL BE PROVIDED TO THE ENGINEER BEFORE ANY COMMENCEMENT OF WORK.
- WHERE CONSTRUCTION DETAILS ARE NOT SHOWN OR NOTED FOR ANY PART OF THE WORK, SUCH DETAILS SHALL BE THE SAME AS FOR SIMILAR WORK SHOWN OR NOTED THEREIN.
- FOR DETAILS SPECIFICALLY INDICATED SHALL NOT BE PLACED IN SUCH MANNER OR SHALL NOT BE SPECIFICALLY SHOWN OR NOTED FOR ANY PART OF THE STRUCTURE FOR ALL THE LOADS THAT HAVE APPLIED THEREON UNLESS SPECIFICALLY SHOWN OR NOTED FROM HEREIN. APPROVAL FROM THE ENGINEER FOR MODIFICATION OF ANY ADDITIONAL PARTICULARS, ETC.
- VERIFY AND PROTECT EXISTING UTILITIES OR CONDUITS, PIPING, OR OTHER STRUCTURES BEFORE ANY WORK IS BEING PERFORMED.
- ONLY NECESSARY PRECAUTIONS TO MAINTAIN AND ENSURE THE SAFETY OF THE STRUCTURE DURING CONSTRUCTION UNDER THE DIRECTION OF ARCHITECT/ENGINEER SHALL ENFORCE SAFETY MEASURES OR REGULATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ADEQUATE WORKING AND BRACING OF THE STRUCTURE FOR ALL THE LOADS THAT HAVE APPLIED DURING CONSTRUCTION. FURNISH THE CONTRACTOR'S OWN DESIGN CALCULATIONS AND HAZARD ANALYSIS SAFETY CHECKS AND SHALL BE FULLY RESPONSIBLE FOR CONFORMING TO ALL SAFETY REGULATIONS, REGULATIONS, LAWS AND REGULATIONS.
- DESIGN PROTECT WITH APPROVAL FROM THE ENGINEER IN CASE OF CHANGES TO WORKING DRAWINGS.

**B. FOUNDATION**

- FOUNDING SHALL BEAR ON SOLID UNDISTURBED EARTH (COMBINED OR COMPACTED STRUCTURE) OR ROCK AT LEAST 300MM BELOW LOWEST FINISHED FINISH GRADE.
- FOUNDING IS DESIGNED FOR SQUARE ALLOWABLE SOIL FOUNDATION PRESSURE OF 100kPa (1 kg/cm<sup>2</sup>).
- SOIL CLASSIFICATION SHALL BE DETERMINED THROUGH CONSTRUCTION AND FINANCIAL REQUIREMENTS SHALL CONFORM STRICTLY WITH THE RECOMMENDATIONS ONLY IN THE SOIL REPORT OR AS DIRECTED BY THE SOIL ENGINEER.
- THE CONTRACTOR SHALL VERIFY THE SOILS AFTER FOUNDING INVESTIGATION HAVE BEEN COMPLETED AND PRIOR TO CONCRETING TO CONFIRM THE DESIGN LOADS CAPACITY.
- SOIL AND AREA SURVEILLANCE SHALL BE CONDUCTED AWAY FROM INVESTIGATIONS.
- IF A WARNING SHALL BE PROVIDED BACKGROUND FOR WALL SHALL BE PROVIDED MATERIAL ACCORDING TO THE DESIGN TECHNICAL SPECIFICATIONS. CHECK PLACES BACKLOG. BRIDGE WALL BEHIND THE WALL ATTACHED WITH BRIDGE STRUCTURE AND PROTECT WALLS FROM LATERAL COLLAPSE. THE SUPPORTING MEMBERS ARE IN PLACE AND HAVE DEVELOPED PROPER CONNECTIONS.

**C. REINFORCED CONCRETE**

- CONCRETE SHALL BE CASTED, PROPERLY CURED AND PLACED IN ACCORDANCE WITH THE PROVISIONS SET BY NSCP 2015.
  - ALL CONCRETE SHALL BE OF A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS WITH CORRESPONDING MAXIMUM SLUMP AND MAXIMUM AIR AGGREGATE AIR CONTENTS.
- | STRUCTURAL MEMBER            | DESIGN STRENGTH     | MAX SLUMP  | MAX AIR AGG. |
|------------------------------|---------------------|------------|--------------|
| 1. SLAB ON GRADE             | 20.7 MPa (3000 PSI) | 100mm (4") | 5.0% (1%)    |
| 2. FOOTING & RETAINING WALLS | 20.7 MPa (3000 PSI) | 100mm (4") | 5.0% (1%)    |
| 3. COLUMN AND WALLS          | 20.7 MPa (3000 PSI) | 100mm (4") | 5.0% (1%)    |
| 4. BEAMS AND SLABS           | 20.7 MPa (3000 PSI) | 100mm (4") | 5.0% (1%)    |

- ALL REINFORCING DEEL BARS SHALL CONFORM TO ASTM A618 GRADE 60 (F60) AND SMALLER SIZES WHILE BARS LARGER SHALL BE GRADE 42.
  - ALL FABRICATIONS, SPICES AND PLACING SHALL CONFORM TO THE PROVISIONS SET BY NSCP 2015 (SECTION 5).
  - CLAS BARS OF SPICES BETWEEN PARALLEL BARS IN SLABS SHALL NOT BE LESS THAN 1.5x BAR SIZE AND MINIMUM DIAMETER OF THE BAR OF 1.5x BAR MINIMUM BAR AGGREGATE. FOR SEE SECTION 5 (1) (F).
  - MAINTAIN MINIMUM COVER FOR REINFORCING BARS AS FOLLOWS:
- | REINFORCING (NOT ARMED) & EXPOSED TO WEAR WHERE CONCRETE IS EXPOSED TO WEAR SURFACES | MINIMUM (F) |
|--|-------------|
| REINFORCING  | 40mm (1.5") |
| SLAB ON GRADE  | 40mm (1.5") |
| COLUMNS, BEAMS AND WALLS   | 40mm (1.5") |
| SLAB ON CHAIRS   | 40mm (1.5") |

- SPICES SHALL BE SECURELY WIRE TOGETHER AND SHALL LAP AT LEAST 4x BAR DIAMETER OR 600MM WHICHEVER IS GREATER (WHICH EVER IS AT LEAST) 1.5x BAR MINIMUM SPICES IN OTHER SCENARIOS REINFORCING IN OTHER SPICES FOR REINFORCEMENT AVAILABLE.
- ALL REINFORCING BARS AND OTHER MEMBERS SHALL BE PROPERLY INSTALLED AFTER POURING BY THE USE OF CURING COMPOUND OR OTHER APPROVED METHODS.
- ALL CONCRETE SHALL BE CURED FOR A MINIMUM OF 7 CONSECUTIVE DAYS IMMEDIATELY AFTER POURING BY THE USE OF CURING COMPOUND OR OTHER APPROVED METHODS.
- ESTIMATING OF FORMS AND SHORES:

FOUNDATION	24 DAYS
SUPPORTED SLAB (EARTH FLOOR)	8 DAYS
ADDITIONAL LOADS ARE APPLIED	8 DAYS
SUPPORTED SLAB	14 DAYS
BEAMS	14 DAYS
COLUMNS (EARTH FLOOR)	14 DAYS
WALLS (EARTH FLOOR)	14 DAYS

**D. BAR BENDING & PLACING**

- BAR SHALL BE BENT COOL & HOT BARS PARTIALLY EMBEDDED IN THE CONCRETE SHALL BE BENT AND LAPPED SHOW ON THE DRAWINGS OR SPECIALLY PERMITTED BY THE ENGINEER.
- BAR STRUCTURE HOT BENDING ON DRAWINGS SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.
- UNLESS APPROVED BY THE ENGINEER AND SPECIALLY PERMITTED ON THE DRAWINGS WHERE CRITICAL REINFORCING MOMENT OCCURS UNDESIRABLE SPICES BETWEEN ADJACENT BARS. A MINIMUM DETAILS OF 4 TIMES BAR DIAMETER.

**DESIGN OF 90 DEGREE AND 180 DEGREE HOOKS**



MIN DIAMETER: 2 - 6mm FOR DIAMETER 20, DIAMETER 22 AND DIAMETER 24  
 L = 6d FOR DIAMETER 20, DIAMETER 22 AND DIAMETER 24



**E. COLUMN REINFORCING**

- SHALL COVERED HOOKS ON THE PLANS OR SPECIFICATIONS CANNOT ALL BE BENT AT LEAST 10mm FOR EVERY 400mm OF CLEAR SPAN EXCEPT CASES WHERE WHICH SHALL BE 50mm FOR EVERY 300mm OF CLEAR SPAN.
  - SHALL COVERED HOOKS ON THE PLANS OR SPECIFICATIONS CANNOT ALL BE BENT FOR 300mm OF SHORER SPAN AND 100mm FOR EVERY 200mm OF SLAB CANTILEVER SPAN.
  - REINFORCING AND CONCRETE BLOCKS
- | BAR THICKNESS  | VERTICAL BARS | HORIZONTAL BARS |
|----------------|---------------|-----------------|
| 6 in (150 mm)  | 12mm @ 400mm  | 12mm @ 400mm    |
| 8 in (200 mm)  | 12mm @ 400mm  | 12mm @ 400mm    |
| 10 in (250 mm) | 12mm @ 400mm  | 12mm @ 400mm    |
- BLOCKS SHALL REINFORCING BARS SHALL BE LAPPED OF 50mm DIAMETER WHERE PLACED HORIZONTAL VERTICAL DOUBLE FROM FOOTING COLUMN. WALLS OF SLAB SHALL NOT BE BENT AND BE BENT AS A MINIMUM OF 3x BAR DIAMETER OR A MINIMUM OF 60mm WHICHEVER IS GREATER AND DOUBLE TO MATCH VERTICAL REINFORCING OF WALL.

**F. STRUCTURAL STEEL**

- ALL STRUCTURAL STEEL SUCH AS ANGLES AND PLATES SECTION FROM STEELER PLANT SHALL CONFORM TO ASTM A36.
- ALL STRUCTURAL STEEL BE GRADED LAMINATED AND BENTED BASED ON THE SPECIFICATION FOR DESIGN, FABRICATION AND Erection OF STRUCTURAL STEEL, GOVERN THE NATIONAL STRUCTURAL CODE OF THE PHILIPPINE (NSCP).
- CONNECTION BOLTS (GROUND ANGLE BARS) CONNECTIONS SHALL CONFORM TO ASTM A307 ANCHOR BOLTS (BASED ON ANCHOR OF CONCRETE) SHALL CONFORM TO ASTM A307 UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- ALL STRUCTURAL STEEL SHALL BE CLEANED AND SHOP COATED WITH THE APPROPRIATE PAINT. STRUCTURAL STEEL AND ANCHOR BOLTS SHALL BE MINIMUM ASTM A307 DOMESTIC LATEST VERSION.
- ANCHORING GROUT PREPARED HIGH METALLIC GROUT BASED GROUT MIXING THE REQUIREMENTS OF ASTM C937 ANCHORING GROUT WITH A MINIMUM COMPRESSIVE STRENGTH OF 7000 PSI AT 28 DAYS.
- FIELDER METAL ANCHOR PLATES ANGLE AND ANCHOR ALL SHOWN ON NOTES ON DRAWINGS.
- ALL CUTTING AND BENDING OF STEEL SHALL BE DONE IN SHOP UNLESS OTHERWISE PERMITTED IN SHOP.
- FIELDER TEMPORARY BRACING AS REQUIRED FOR A SAFE ERECTION IN ALL STEEL CONNECTION ARE MADE.

**RECOMMENDED BAR HOOKS ALL GRADES**

BAR SIZE	MINIMUM BEND DIAMETER (D IN mm)	90° HOOK	135° HOOK	180° HOOK
10mm Ø	40	130	80	100
12mm Ø	40	130	100	100
16mm Ø	50	150	130	130
20mm Ø	100	200	150	150
25mm Ø	110	200	200	150
28mm Ø	140	200	200	150
32mm Ø	170	200	200	150



CERTIFIED / PREPARED BY:  
**MARK RETEP M. LOZADA**  
 CIVIL ENGINEER

PRC NO.: 071428      VALID UNTIL: 09/19/2022  
 PTR NO.: 971138      DATE ISSUED: 06/02/2021  
 PLACE ISSUED: PROVINCE OF BICOL

PROJECT TITLE:  
**ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)**

PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE

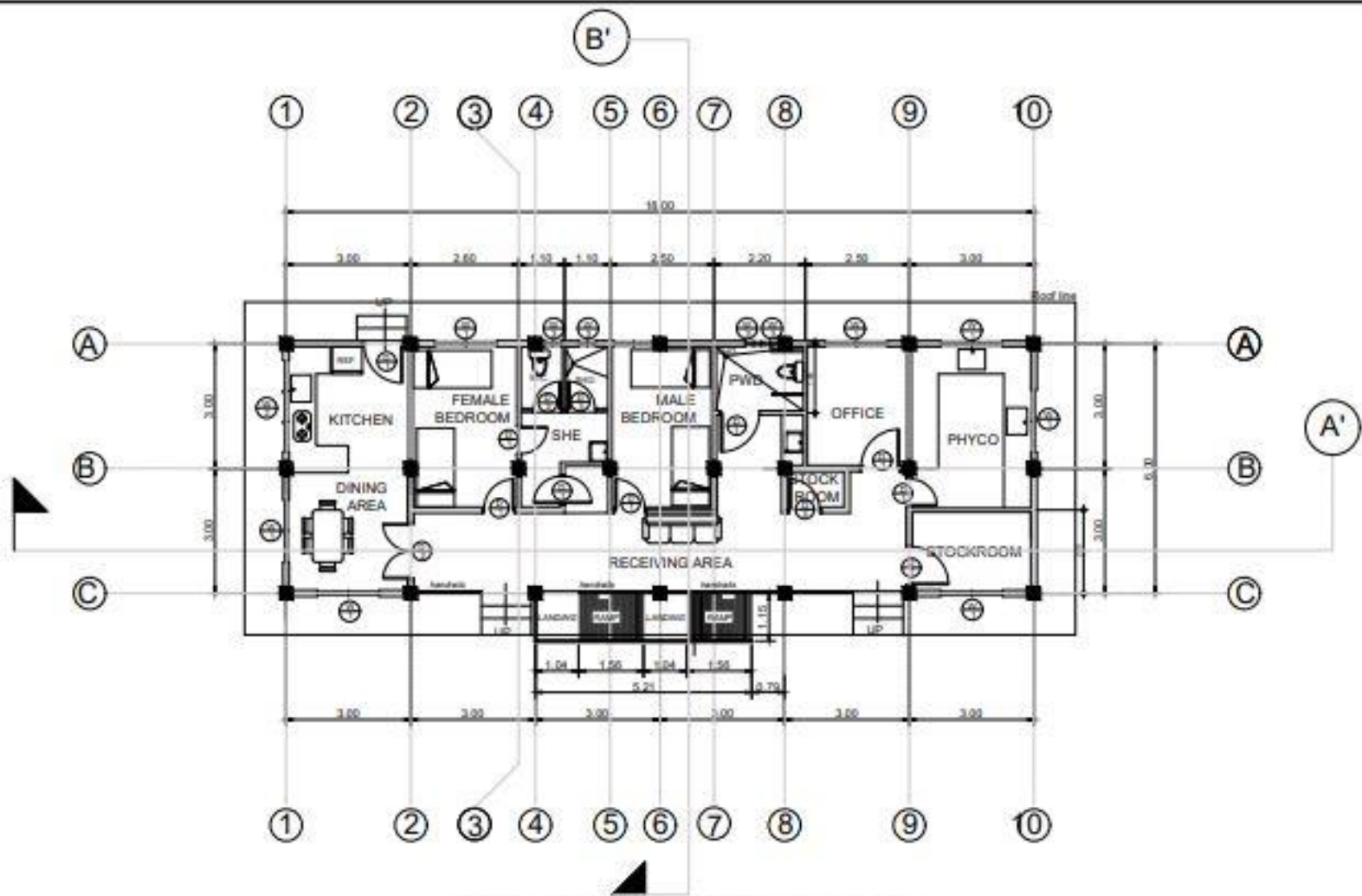
DRAWN BY:  
**PELMARK B. IYOG**  
 GRADUATE ENGINEER

CHECKED BY:  
**THESSALYN B. LIMAS**  
 CIVIL ENGINEER II

RECOMMENDING APPROVAL:  
**RIZALINDA L. ABING**  
 CHIEF, PRESD

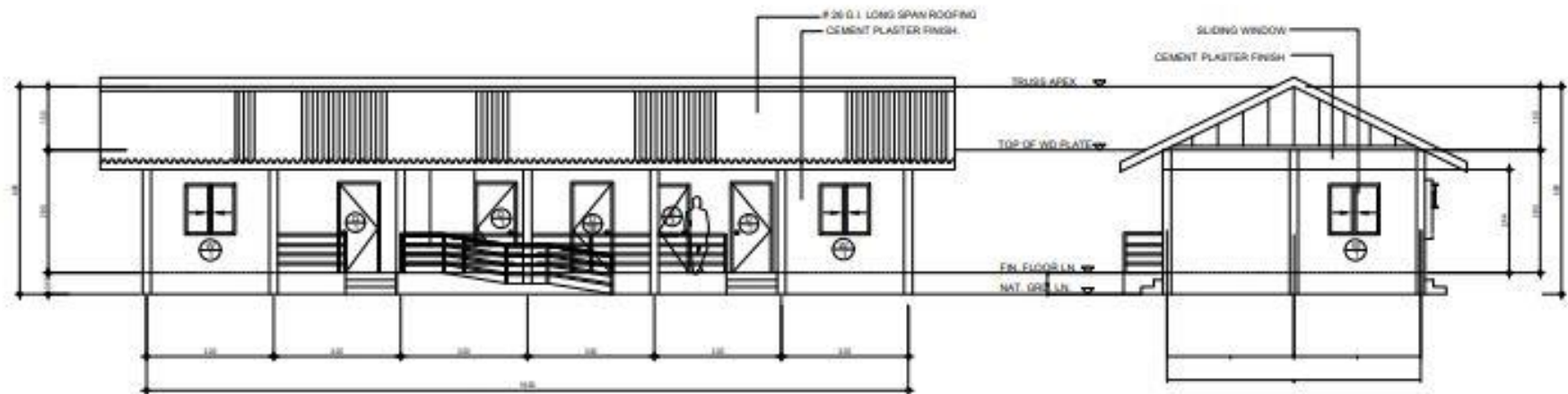
APPROVED:  
**NELO SELIM KATADA, Ph.D.**  
 REGIONAL DIRECTOR

SHEET NO.:  
**1**  
**04** / **04**



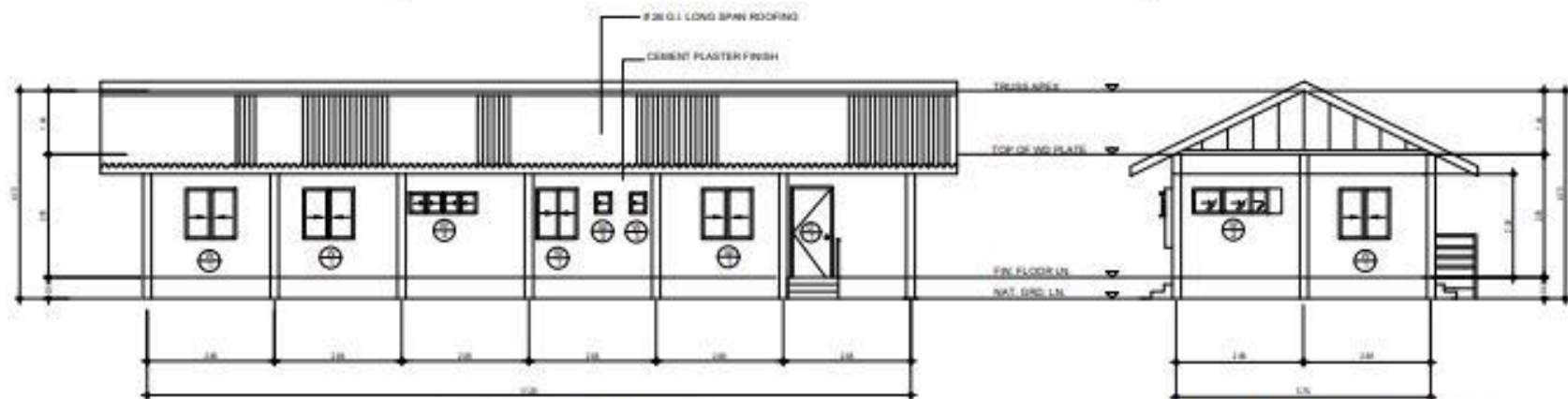
**QUARTER'S AREA FLOOR PLAN**  
 SCALE: 1 : 100 MTS.

<p><b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b></p>	CERTIFIED / PREPARED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.:
	<b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>PELMARK B. ITOG</b> DRAWING STAFF	<b>THESSALYN B. LIMAS</b> SA, ENGINEER'S	<b>RIZALINDA L. ABING</b> CHIEF, PPEED	<b>NILO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>2</b>
	PRC NO. 014208 PDR NO. 011138	VALID DATE: 09/19/2022 DATE ISSUED: 04/26/2021 PLACE ISSUED: PROVINCE OF AGUSAN DEL NORTE	PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE				




**FRONT ELEVATION**  
 SCALE: 1 : 100 MTS.

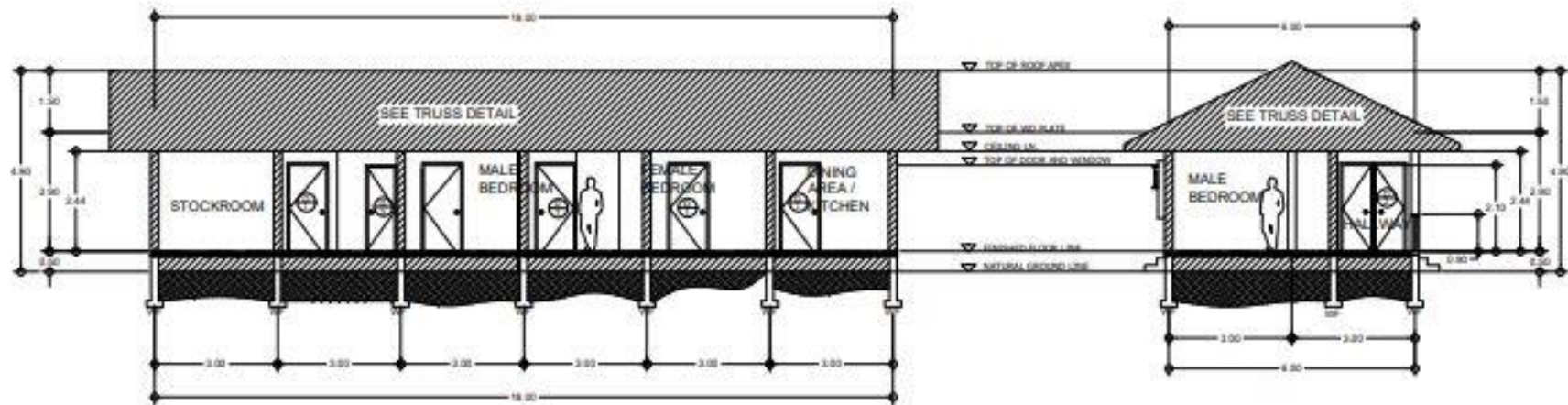
**RIGHT SIDE ELEVATION**  
 SCALE: 1 : 100 MTS.



**REAR ELEVATION**  
 SCALE: 1 : 100 MTS.

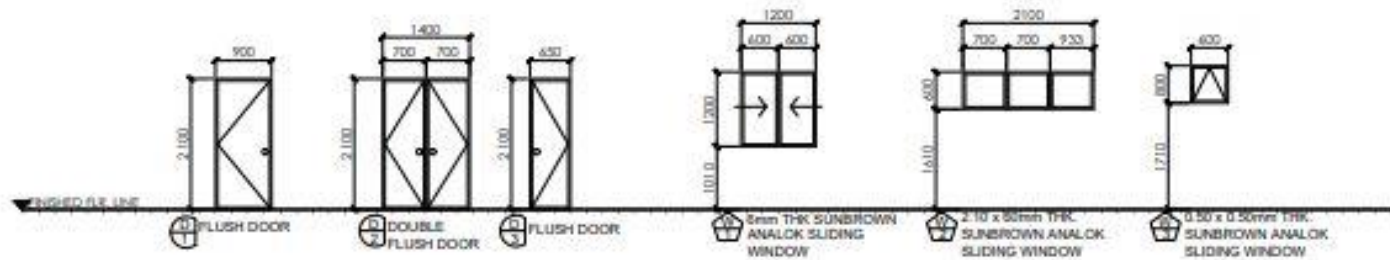
**LEFT SIDE ELEVATION**  
 SCALE: 1 : 100 MTS.

 <b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b>	CERTIFIED / PREPARED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.
	<b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>PELMARK E. IYOG</b> GRD ENGR'S STAFF	<b>THESSALYN B. LIMAS</b> SR. PROJECT ENGR	<b>RIZALINDA L. ABING</b> CHIEF, PRCBZ	<b>NILO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>2</b>
	PRC NO. - 014208 PTR NO. - 011236	VALID UNTIL: 06/16/2022 DATE ISSUED: 04/05/2021 PLACE ISSUED: PROVINCE OF BGC	PROJECT LOCATION: BRGY: ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE				




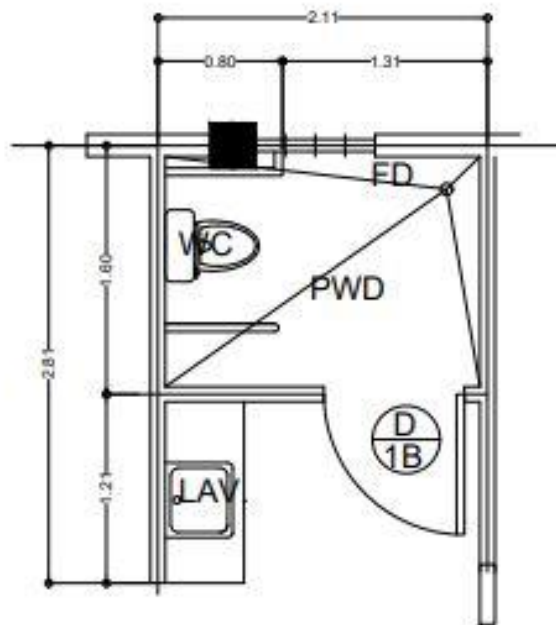
**A-4**  
**1/3** SECTION THRU A'  
SCALE: 1 : 100 MTR.

**A-4**  
**2/3** SECTION THRU A'  
SCALE: 1 : 100 MTR.

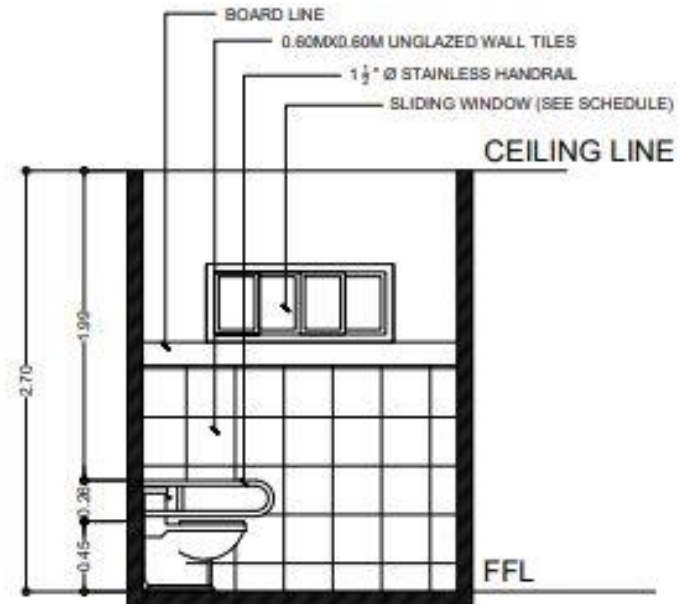


**A-4**  
**3/3** SCHEDULE OF DOORS & WINDOWS  
SCALE: 1 : 75 MTR.

 <b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b>	CERTIFIED / PREPARED BY:		PROJECT TITLE:		DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.
	<b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER		<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>		<b>PELMARK B. IYOD</b> CIVIL ENGINEER	<b>THESSALYN E. LIMAS</b> CIVIL ENGINEER II	<b>RIZALINDA L. ABING</b> CHIEF, PROSD	<b>HILO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>2</b>
	PRC NO. - 014208	VALID UNTIL - 09/12/2022	PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE						<b>0318</b>
	FOR NO. - 011138	DATE ISSUED - 04/02/21							
PLACE BRAND - PROVINCE OF AGUSAN DEL NORTE									




PLAN

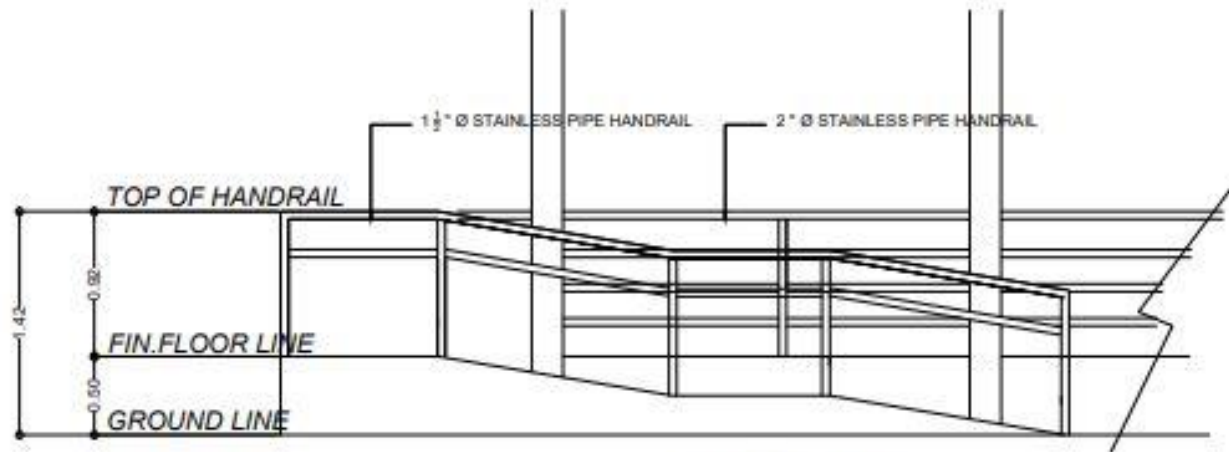


SECTION

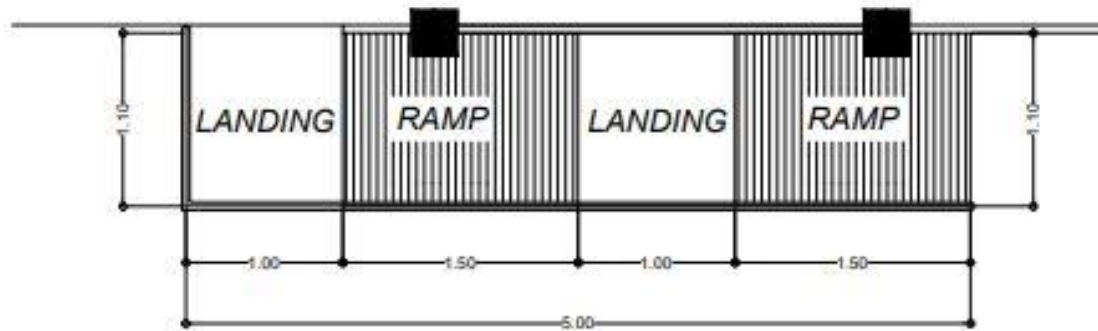
**A-5**  
**SECTION AT PWD COMFORT ROOM**  
SCALE: 1 : 30 MTS.

 <b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b>	CERTIFIED / PREPARED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.
	<b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>PELMARK B. IYOG</b> CIVIL ENGINEER	<b>THESSALYN B. LIMAS</b> CIVIL ENGINEER	<b>RIZALINDA L. ABING</b> CHIEF, PWD	<b>NILO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>2</b>
	PRC NO. 014208 PTR NO. 011208	VALID UNTIL: 08/19/2022 DATE ISSUED: 04/02/21 PLACE ISSUED: PROVINCE OF BUKIDNON	PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE				





ELEVATION



PLAN

**PWD RAMP DETAIL**



SCALE: 1 : 30 MTS.



**BUREAU OF  
FISHERIES AND  
AQUATIC  
RESOURCES**

CERTIFIED / PREPARED BY:

**MARK RETEP M. LOZADA**  
CIVIL ENGINEER

PRC NO. 1714209

VAL ID UNTL. 30/12/2022

PRC NO. 911138

DATE ISSUED: 04/03/21

PLACE ISSUED: PROVINCE OF BICOL

PROJECT TITLE:

**ESTABLISHMENT OF MULTI-SPECIES MARINE  
HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN  
THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)**

PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE.

DRAWN BY:

**PELMARK B. FYOG**  
CIVIL ENGINEER

CHECKED BY:

**THESSALYN B. LIMAS**  
SA - INSPECTOR II

RECOMMENDING APPROVAL:

**RIZALINDA L. ABING**  
CHIEF, PWD

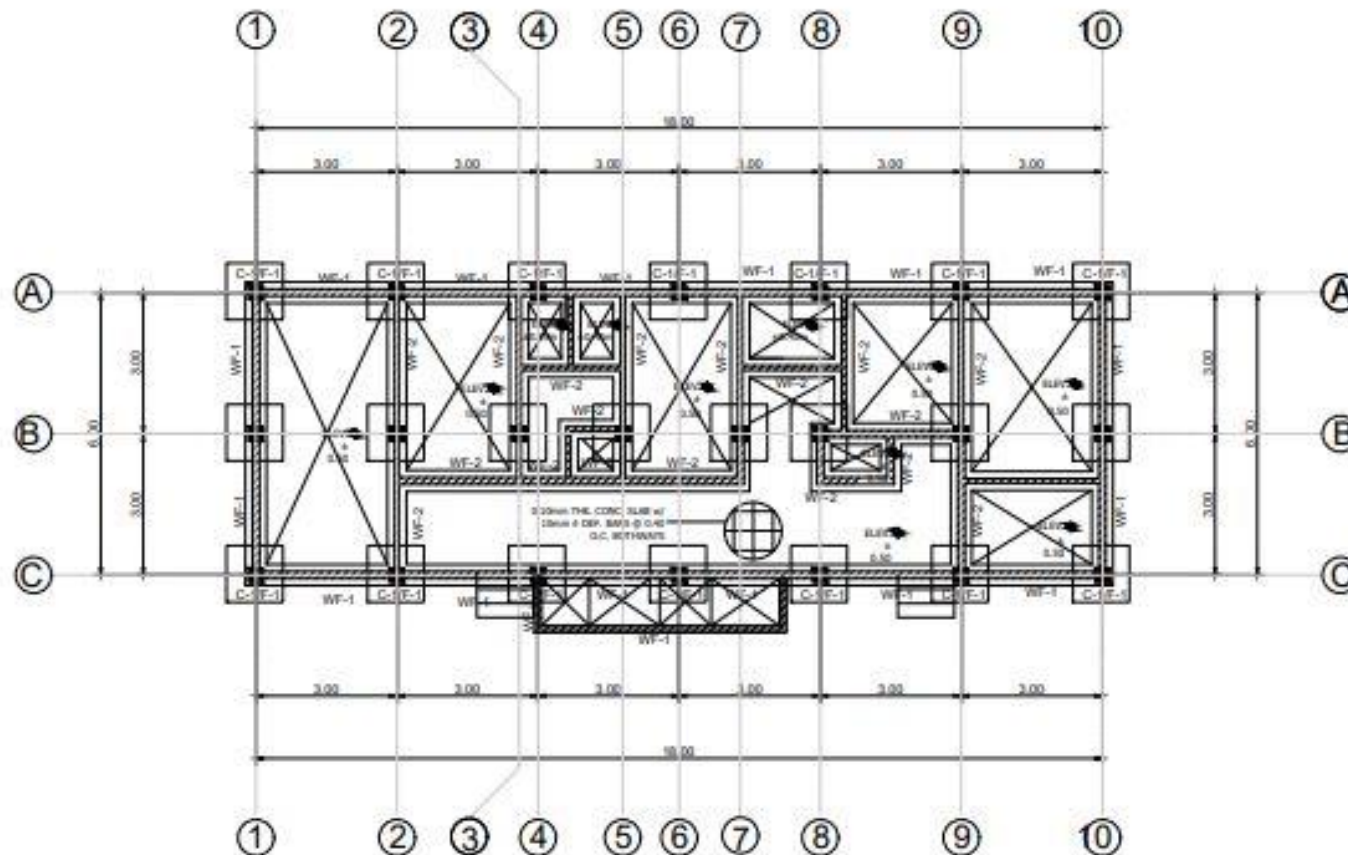
APPROVED:

**MILO SELIM KATADA, Ph.D.**  
REGIONAL DIRECTOR

SHEET NO:


**2**

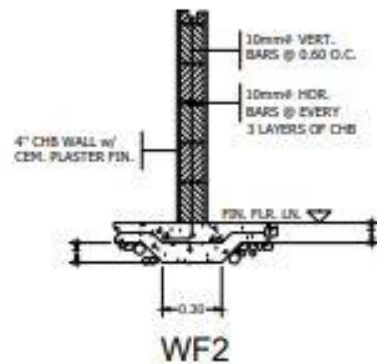
**0518**



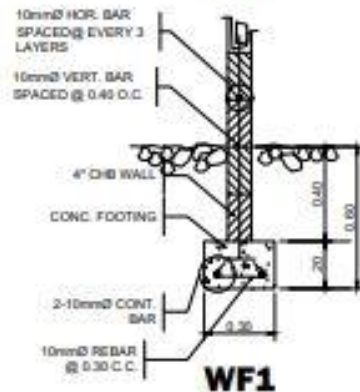
**QUARTER'S AREA FOUNDATION PLAN**

SCALE: 1 : 100 HTS.

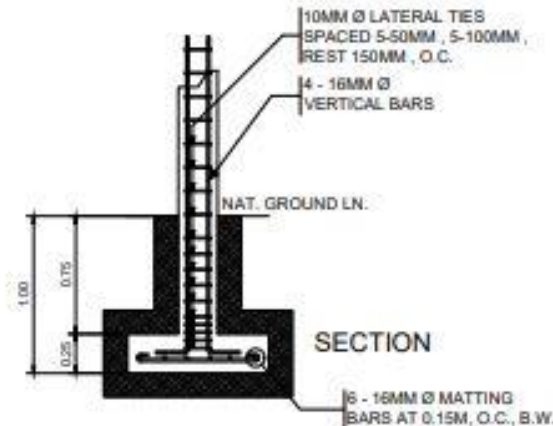
 <p><b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b></p>	CERTIFIED / PREPARED BY:  <p style="text-align: center;"><b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER</p>		PROJECT TITLE:  <p style="text-align: center;"><b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b></p>		DRAWN BY:  <p style="text-align: center;"><b>PELMARK B. ITOG</b> CIVIL ENGINEER</p>	CHECKED BY:  <p style="text-align: center;"><b>THESSALYN B. LIMAS</b> CIVIL ENGINEER</p>	RECOMMENDING APPROVAL:  <p style="text-align: center;"><b>RIZALINDA L. ABING</b> CHIEF, PROJ. SEC.</p>	APPROVED:  <p style="text-align: center;"><b>MILO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR</p>	SHEET NO.  <p style="text-align: center;"><b>2</b></p>
	PRC NO. - 014208 VALID UNTIL - 08/19/2022	PPR NO. - 071128 DATE ISSUED - 24/03/21 PLACE ISSUED - PROVINCE OF BICOL	PROJECT LOCATION - BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE						
	<p style="text-align: right; font-size: 2em; font-weight: bold;">0618</p>								



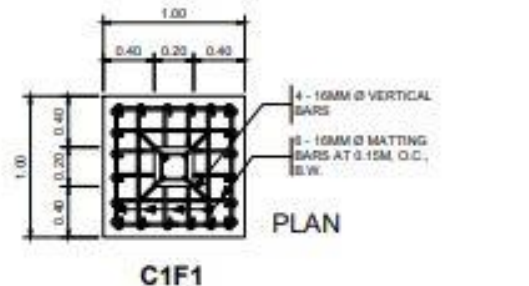
**WF2**



**WF1**

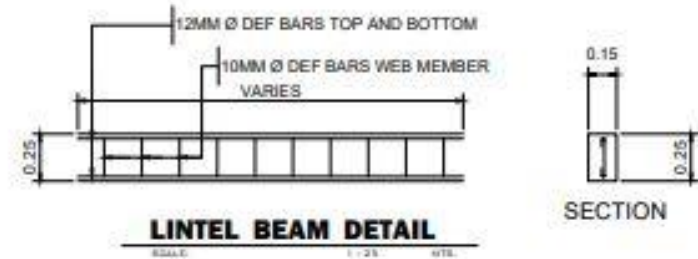


**SECTION**



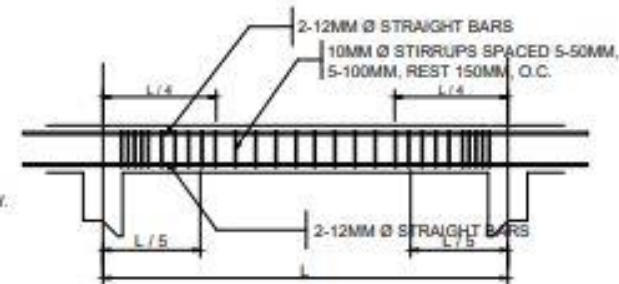
**PLAN**

**C1F1**



**LINTEL BEAM DETAIL**

**SECTION**



**SECTION AT SUPPORT**



**SECTION AT MIDSPAN**

**WALL FOOTING DETAILS**  
SCALE: 1 : 20 MTS.

**COLUMN - FOOTING DETAIL**  
SCALE: 1 : 30 MTS.

**TYPICAL RC ROOF BEAM DETAILS**  
SCALE: 1 : 30 MTS.



CERTIFIED / PREPARED BY:	
<b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER	
PRC NO. 214288	RA-2 UNIT: 2619202
PRC NO. 211138	DATE ISSUED: 04/09/2017
PLACE ISSUED: PROVINCE OF AGUSAN DEL NORTE	

PROJECT TITLE:	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>
PROJECT LOCATION:	BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE

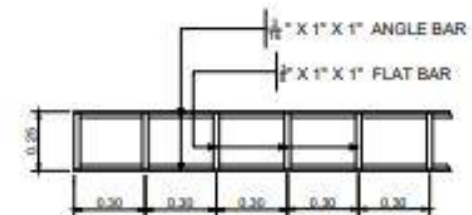
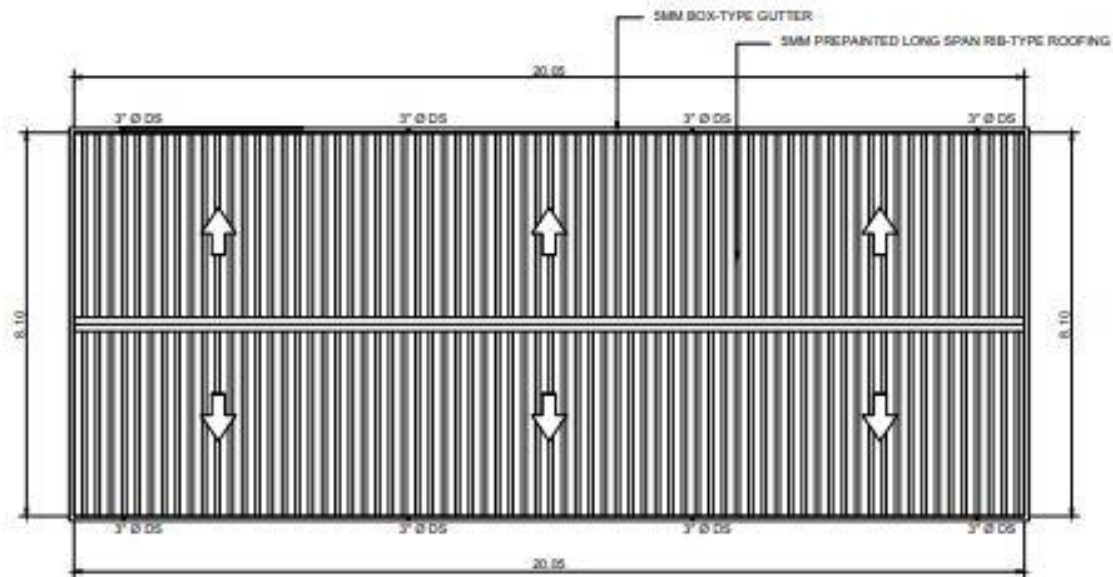
DRAWN BY:	<b>PELMARK B. IYOG</b> CIVIL ENGINEER
-----------	--

CHECKED BY:	<b>THESSALYN B. LIMAS</b> CIVIL ENGINEER
-------------	---

RECOMMENDING APPROVAL:	<b>RIZALINDA L. ABING</b> CHIEF PROJECT
------------------------	--

APPROVED:	<b>NILO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR
-----------	--

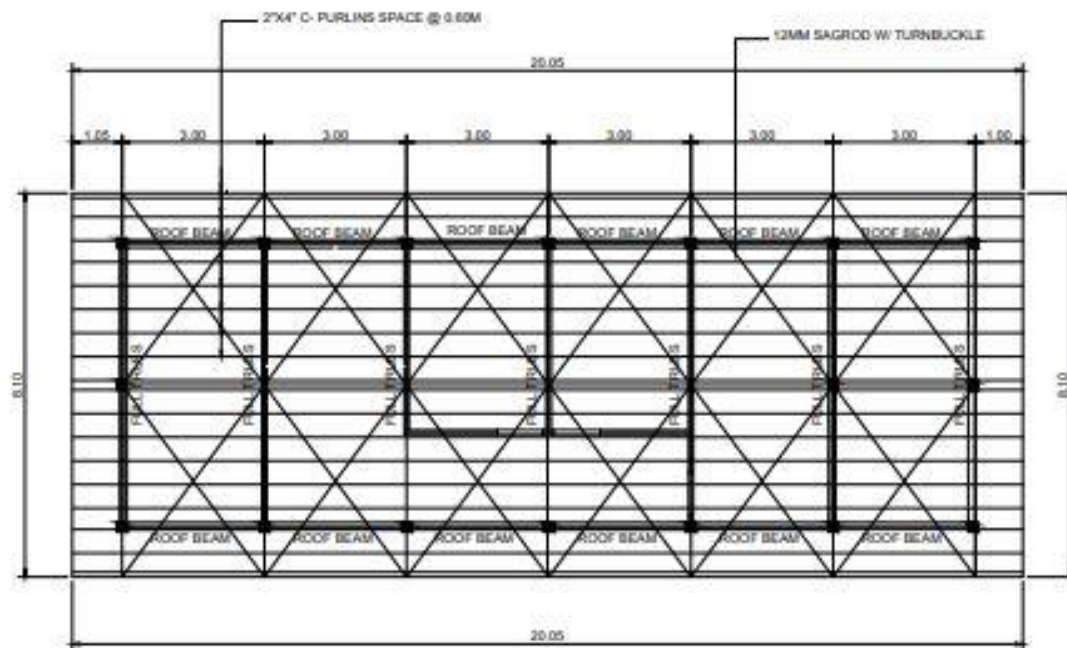
SHEET NO.	<b>2</b>
	<b>0718</b>



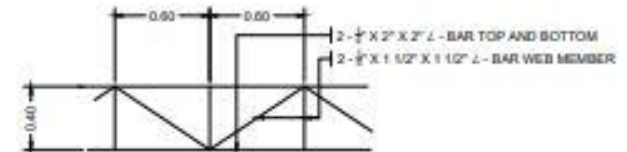
**S-3**  
**22** **FASCIA FRAME DETAILS**  
SCALE: 1 : 20 MTS.

**S-3**  
**12** **ROOF PLAN**  
SCALE: 1 : 100 MTS.

 <b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b>	CERTIFIED / PREPARED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.
	<b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>PELMARK B. IYOG</b> CIVIL ENGINEER	<b>THESSALYN B. LIMAS</b> CIVIL ENGINEER	<b>RIZALINDA L. ABING</b> CHIEF, PPSSD	<b>NILO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>2</b>
	PRC NO. 014289 PFR NO. 161086 VALID UNTIL: 08/18/2020 DATE ISSUED: 04/26/2021 PLACE ISSUED: PROVINCE OF AGUSAN DEL NORTE	PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE					



**S-4**  
**112** **ROOF FRAMING PLAN**  
SCALE: 1 : 100 MTR.



**S-4**  
**112** **CENTER GIRTS DETAILS**  
SCALE: 1 : 30 MTR.



CERTIFIED / PREPARED BY:  
**MARK RETEP M. LOZADA**  
CIVIL ENGINEER  
PRC NO. 10144286 VALID UNTIL: 08/18/2022  
PIN NO. 9111386 DATE ISSUED: 04/04/2021  
PLACE ISSUED: PROVINCE OF ILOILO

PROJECT TITLE:  
**ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)**  
PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE

DRAWN BY:  
**PELMARK B. IYOG**  
CRD. ENGR. STAFF

CHECKED BY:  
**THESSALYN B. LIMAS**  
SA. ENGINEER II

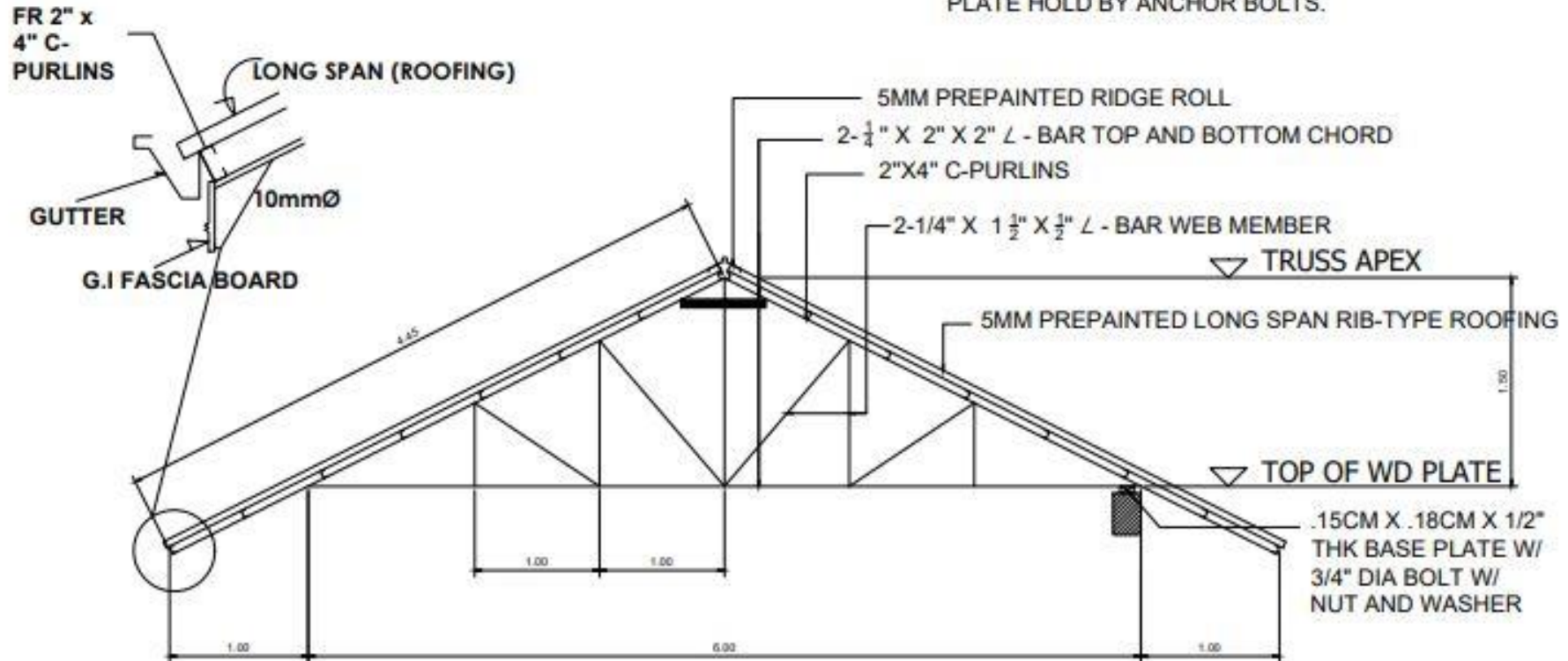
RECOMMENDING APPROVAL:  
**RIZALINDA L. ASING**  
CHIEF, PPSD

APPROVED:  
**NILO SELIM KATADA, Ph.D.**  
REGIONAL DIRECTOR


SHEET NO.  
**2**  
**0918**

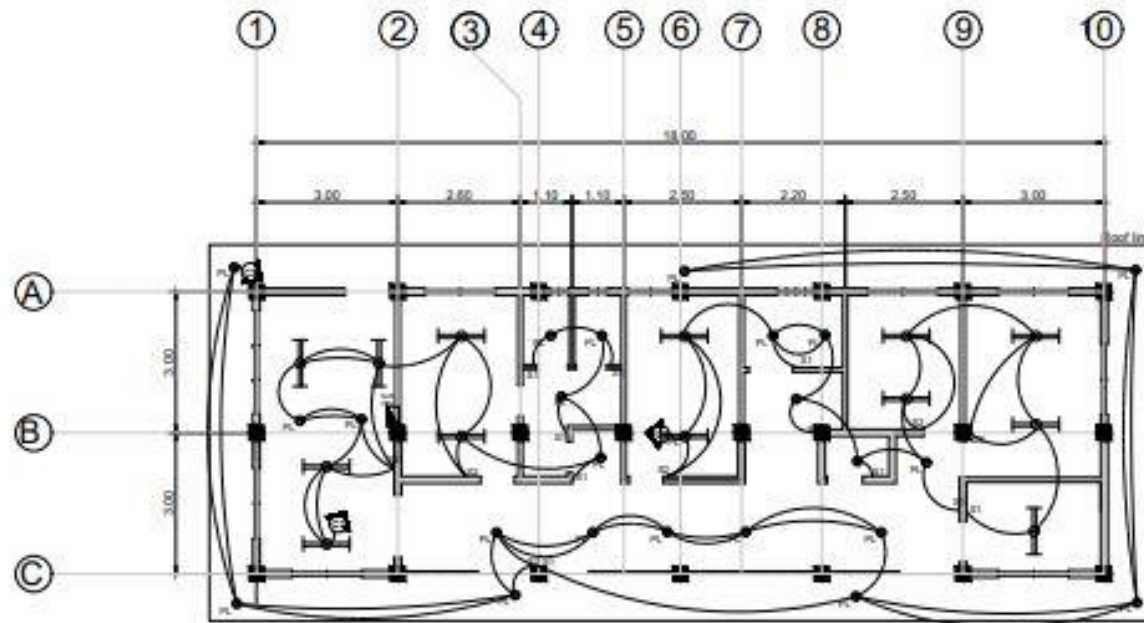
NOTE: \* ALL TRUSSES, GIRT, FASCIA FRAME AND PURLINS MUST BE PAINTED WITH EPOXY PRIMER.

\* ALL TRUSSES WILL BE CONNECTED TO BASE PLATE HOLD BY ANCHOR BOLTS.



**5-5**  
**11**  
**FULL TRUSS DETAILS**  
SCALE: 1 : 30 MTR.

 <b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b>	CERTIFIED / PREPARED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.
	<b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>PELMARK E. IYOG</b> CIVIL ENGINEER	<b>THESSALYN B. LIMAS</b> CIVIL ENGINEER	<b>RIZALINDA L. ABING</b> CHIEF, PPSD	<b>NILO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>2</b>
	PRC NO. : 014038 VALID UNTIL : 08/19/2022 PTR NO. : 011338 DATE ISSUED : 04/06/2021 PLACE ISSUED : PROVINCE OF AGUSAN DEL NORTE	PROJECT LOCATION : BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE.					



**E-1**  
**111**  
**LIGHTING LAY-OUT PLAN**  
SCALE: 1 : 100 MTS.

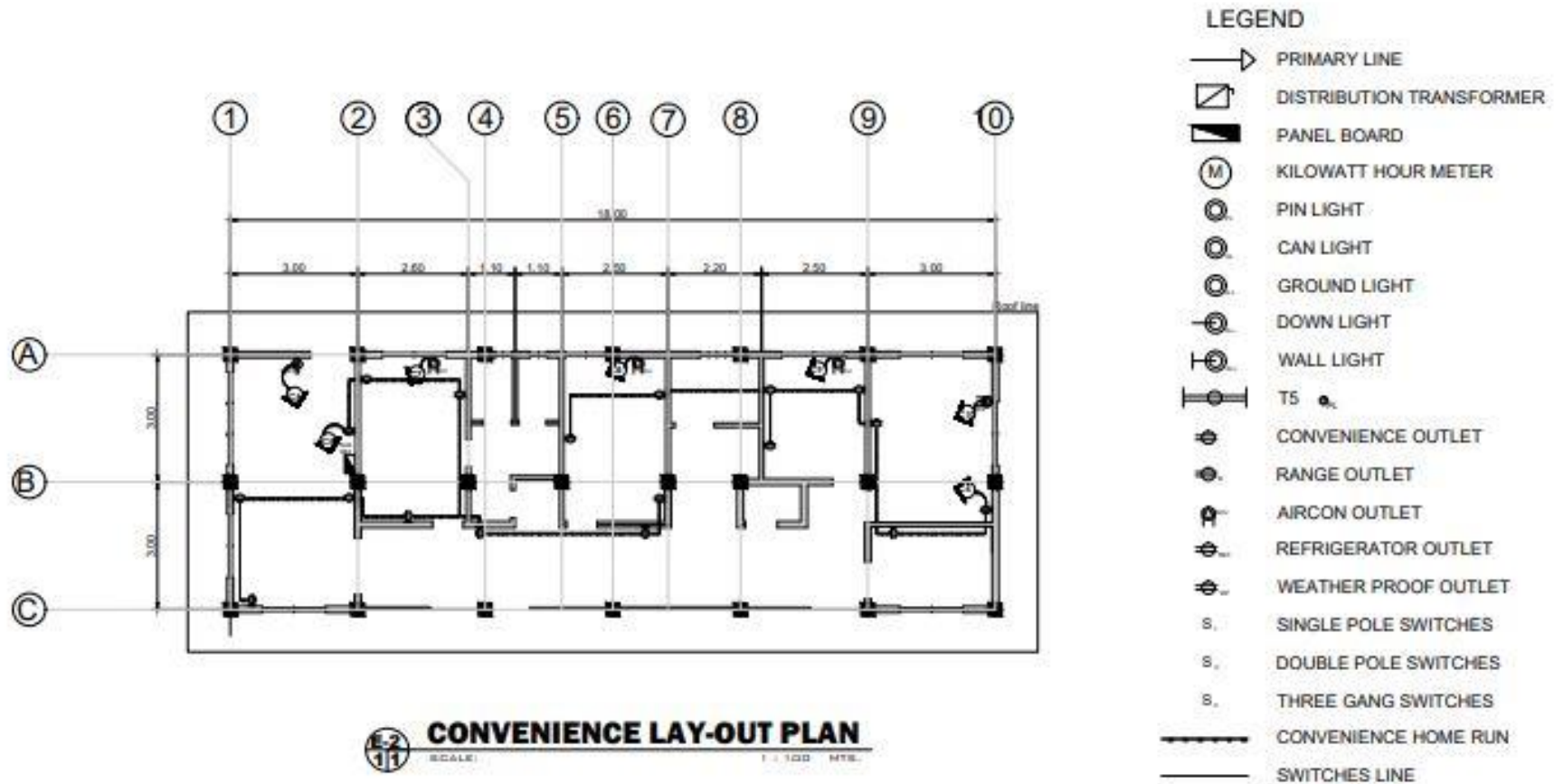
**LEGEND**


- PRIMARY LINE
- ▣ DISTRIBUTION TRANSFORMER
- ▩ PANEL BOARD
- (M) KILOWATT HOUR METER
- ⊙ PIN LIGHT
- ⊙ CAN LIGHT
- ⊙ GROUND LIGHT
- ⊙ DOWN LIGHT
- ⊙ WALL LIGHT
- ⊙ T5
- ⊙ CONVENIENCE OUTLET
- ⊙ RANGE OUTLET
- ⊙ AIRCON OUTLET
- ⊙ REFRIGERATOR OUTLET
- ⊙ WEATHER PROOF OUTLET
- S SINGLE POLE SWITCHES
- S DOUBLE POLE SWITCHES
- S THREE GANG SWITCHES
- CONVENIENCE HOME RUN
- SWITCHES LINE



**BUREAU OF FISHERIES AND AQUATIC RESOURCES**

CERTIFIED BY:  PROFESSIONAL ELECTRICIAN PRC NO. _____ VALID UNTIL _____ PTH NO. _____ DATE ISSUED _____ TR NO. _____ PLACE ISSUED _____	PROJECT TITLE:  <b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>  PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE	DRAWN BY:  <b>PELMARK B. IYOG</b> <small>END ENG'G STAFF</small> PREPARED BY:  <b>MARK RETEP M. LOZADA, CE</b> <small>PROJECT ENGINEER, I/II</small>	CHECKED BY:  <b>THESSALYN B. LINAS</b> <small>CE - ENGINEER II</small>	RECOMMENDING APPROVAL:  <b>RIZALINDA L. ABING</b> <small>CHEF, PP/SD</small>	APPROVED:  <b>NILO SELIM KATADA, Ph.D.</b> <small>REGIONAL DIRECTOR</small>	SHEET NO.  <div style="text-align: center; font-size: 24pt; font-weight: bold;">2</div> <div style="text-align: center; font-size: 36pt; font-weight: bold;">1118</div>
--	---	---	---	---	--	---



 <b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b>	CERTIFIED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.
	PROFESSIONAL ELECTRICAL ENGINEER	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>PELMARK B. IYOG</b> ORD. ENGRG. STAFF				<b>2</b>
	PIC NO. _____ VALID UNTIL _____ PPR NO. _____ DATE ISSUED _____ TA NO. _____ PLACE ISSUED _____	PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE	PREPARED BY: <b>MARK RETEP M. LOZADA, CE</b> PROJECT ENGINEER IN CHARGE	<b>THESSALYN B. LIMAS</b> DR. ENGINEER II	<b>RIZALINDA L. ABING</b> CHIEF FPEED	<b>NILO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>1218</b>



### SUB PANEL BOARD 04

Ckt No.	LOAD DESCRIPTION	L.D.	C.D.	SWITCHES			SERVICE VOLTAGE	LOAD VA	LOAD AMPERES			OC PB	WIRING & CONDUIT TYPE & SIZE	
				1	2	3			AT	AF	KIAC			
1	LIGHTING FIXTURES	12		8	8		230	1260	5.217A		30	100	10	2-0.000" (1/16 AWG) THW WIRE IN 20mm Ø PVC CONDUIT PIPE
2	LIGHTING FIXTURES	12		4	1	1	230	1260	5.217A		30	100	10	2-0.000" (1/16 AWG) THW WIRE IN 20mm Ø PVC CONDUIT PIPE
3	LIGHTING FIXTURES	12		1	1		230	1260	5.217A		30	100	10	2-0.000" (1/16 AWG) THW WIRE IN 20mm Ø PVC CONDUIT PIPE
4	CONVENIENCE OUTLET		8				230	1440	6.269A		30	100	10	2-0.000" (1/16 AWG) THW WIRE IN 20mm Ø PVC CONDUIT PIPE
5	CONVENIENCE OUTLET		10				230	1620	7.021A		30	100	10	2-0.000" (1/16 AWG) THW WIRE IN 20mm Ø PVC CONDUIT PIPE
6	REFRIGERATION OUTLET		1				230	1875	8.152A		30	100	10	2-0.000" (1/16 AWG) THW WIRE IN 20mm Ø PVC CONDUIT PIPE
7	ACU OUTLET		1				230	1875	8.152A		30	100	10	2-0.000" (1/16 AWG) THW WIRE IN 20mm Ø PVC CONDUIT PIPE
8	ACU OUTLET		1				230	1875	8.152A		30	100	10	2-0.000" (1/16 AWG) THW WIRE IN 20mm Ø PVC CONDUIT PIPE
9	ACU OUTLET		1				230	1875	8.152A		30	100	10	2-0.000" (1/16 AWG) THW WIRE IN 20mm Ø PVC CONDUIT PIPE
10	ACU OUTLET		1				230	1875	8.152A		30	100	10	2-0.000" (1/16 AWG) THW WIRE IN 20mm Ø PVC CONDUIT PIPE
11	SPARE						230	300	1.319A		30	100	10	STAB-OUT
12	SPARE						230	300	1.319A		30	100	10	STAB-OUT
	TOTAL	36	23	10	0	1	230	17210	7.8470A		30	100	10	

**COMPUTATION:**

MAIN CKT BREAKER :  
 $I_{cb} = \{ \text{TOTAL AMPERES} + (1.5) (8.15) \}$   
 $= \{ 74.8478 + 12.225 \}$   
 $= 87.0728 \text{ AMPERES}$

THEREFORE, USE 100 AMPERES MAIN CIRCUIT BREAKER

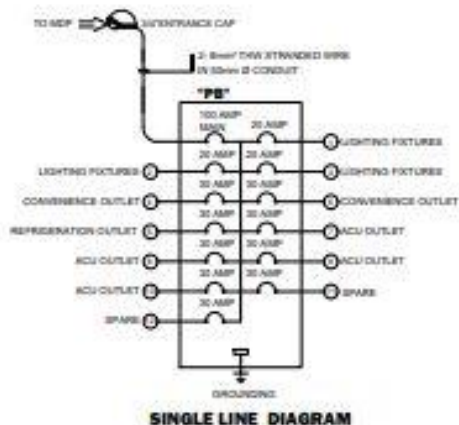
**MAIN FEEDER :**

$I_C = \{ 74.8478 + (0.25) (8.15) \}$   
 $= \{ 74.8478 + 2.0375 \}$   
 $= 76.8853 \text{ AMPERES}$

USE 2 - # 8 AWG (100A@80DEG C.) IN A 20MM Ø PVC & 1 - 100 AT CB  
 ALL OCPO SHALL BE 100AF & 10 KAIC

**TECHNICAL SPECIFICATIONS:**

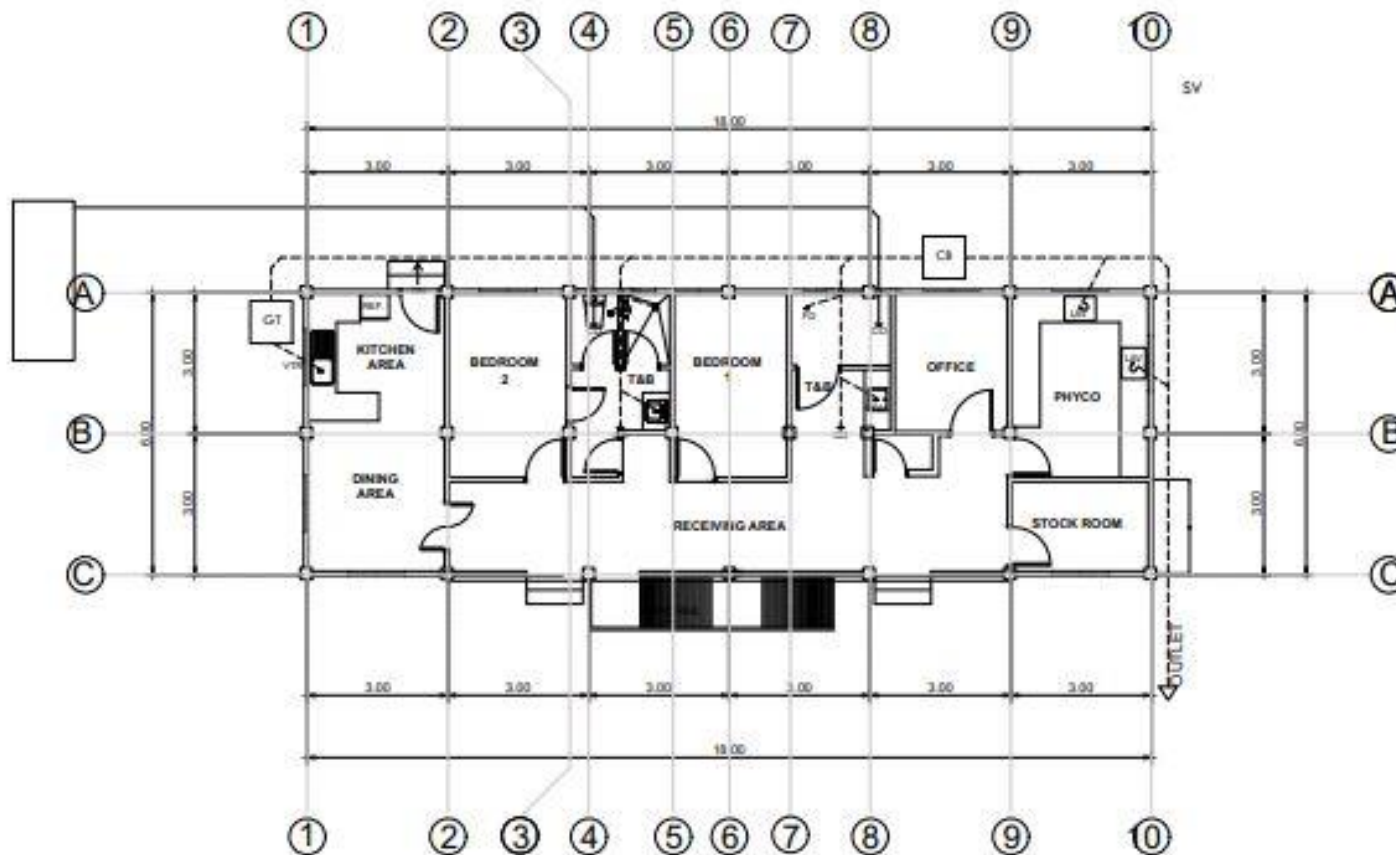
- THE TYPE OF SERVICE SHALL BE 230V, 60Hz, 1 PHASE
- ALL ELECTRICAL WORKS HEREIN SHALL COMPLY TO THE PROVISION OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, LOCAL ORDINANCE OF MUNICIPALITY OR CITY, AND THE RULES AND REGULATION OF LOCAL ELECTRIC COOPERATIVE.
- WIRING METHOD SHALL BE IN EMT, IMC OR RSC IF EMBEDDED OR EXPOSE WORK.
- ALL MATERIALS TO BE USED SHALL BE NEW AND APPROVED TYPE FOR THE PURPOSE AND LOCATION.
- ALL ELECTRICAL WORKS SHALL BE UNDER THE DIRECT SUPERVISION OF A DULY LICENSE ELECTRICAL ENGINEER OR MASTER ELECTRICIAN.
- ALL WIRING WORKS SHALL BE PLACE IN RACEWAY, IN NEON LIGHT, THE HIGH TENSION CABLE SHOULD BE PROVIDED WITH HV INSULATION SUPPORT, OPEN WIRING ARE NOT ALLOWED.
- ALL NEON TRANSFORMERS, BALLAST AND TRANSFORMERS SHALL ENCLOSED IN METAL AND INSTALLED IN APPROVED LOCATION. A GROUND WIRE IN THE RACEWAY SHOULD BE INSTALLED.
- THE CONTRACTOR SHALL PROVIDE SUFFICIENT GROUND ROD AND NECESSARY MATERIALS TO BE ABLE TO OBTAIN ACCEPTABLE EARTH RESISTANCE ON SITE. CONTINUITY OF GROUNDING SYSTEM SHOULD BE MAINTAIN.
- ALL LIGHTING FIXTURES, CONDUITS/PIPES, NEON TRANSFORMERS, PNLIGHTS SHALL BE PROVIDED WITH RIGID STEEL HANGERS WITH MINIMUM SIZE OF 4mmØ.
- CONDUITS/ PIPES LAYOUT ON WALLS AND CEILING SHALL SUPPORTED EVERY 1500mm (SPACING) BY MEANS OF STEEL MALLEABLE CLAMP OR EQUIVALENT.



**MOUNTING HEIGHT :**

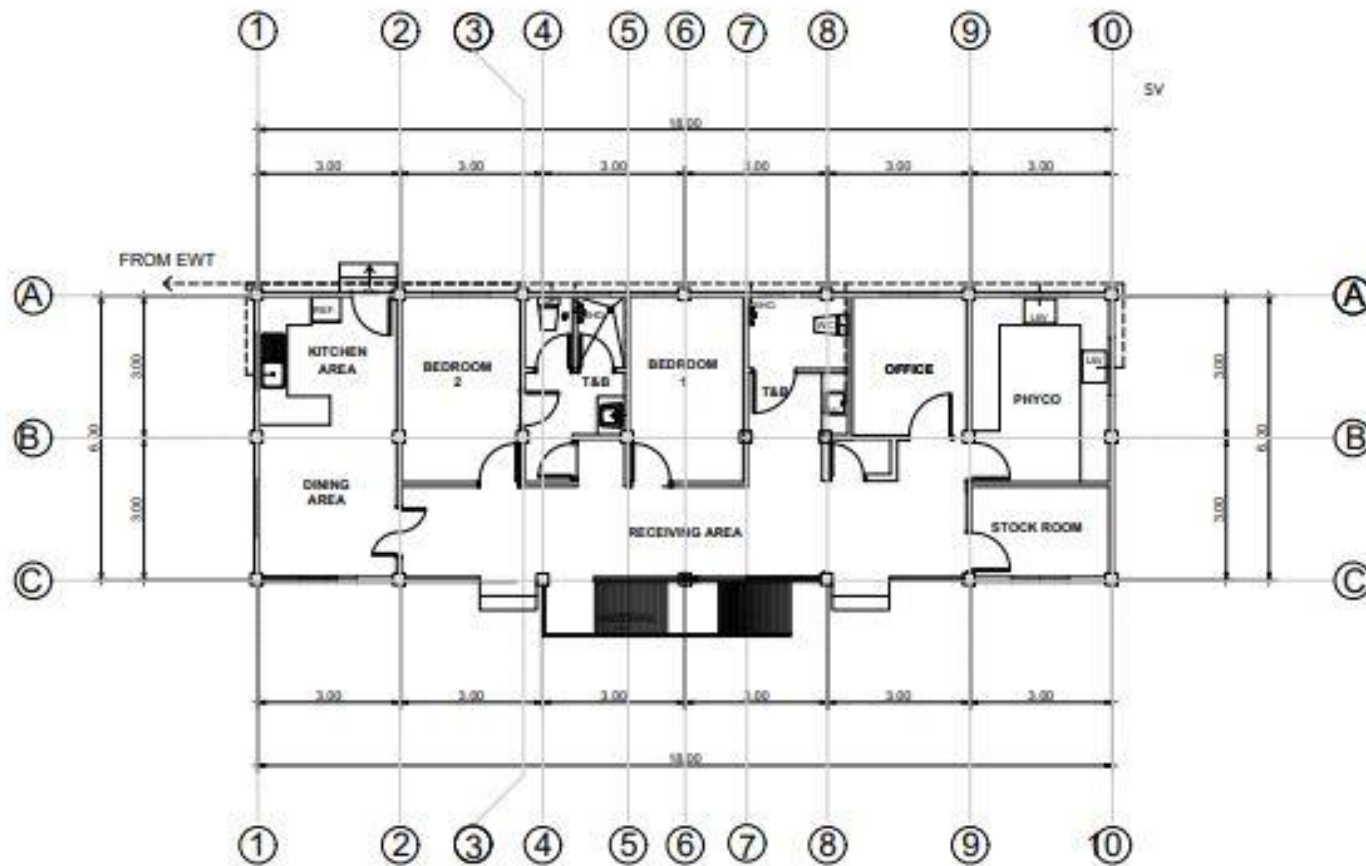
LIGHT SWITCH	1200 mm A.F.F.
PANLEBOARD	1800 mm A.F.F.
TEL. DATA C.D.	300 mm A.F.F.
COUNTER TOP OUTLET	REFER TO ARCHT. OR PEE
OTHERS	REFER TO ARCHT. OR PEE

<p><b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b></p>	CERTIFIED BY:	PROJECT TITLE:	DESIGNED BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.
	PROFESSIONAL ELECTRICAL ENGINEER	<p style="text-align: center;"><b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b></p>	<b>PELMARK B. DYOG</b> DND-ENR01 STAFF				<b>2</b>
	PRC NO. _____ PPR NO. _____ TIN NO. _____		DATE ISSUED _____ PLACE ISSUED _____	PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE	<b>MARK REYEP M. LOZADA, CE</b> PROJECT ENGINEER IN CH	<b>THESSALYN B. LIMAS</b> DR - ENGINEER	<b>RIZALINDA L. ABING</b> CHIEF FIELD




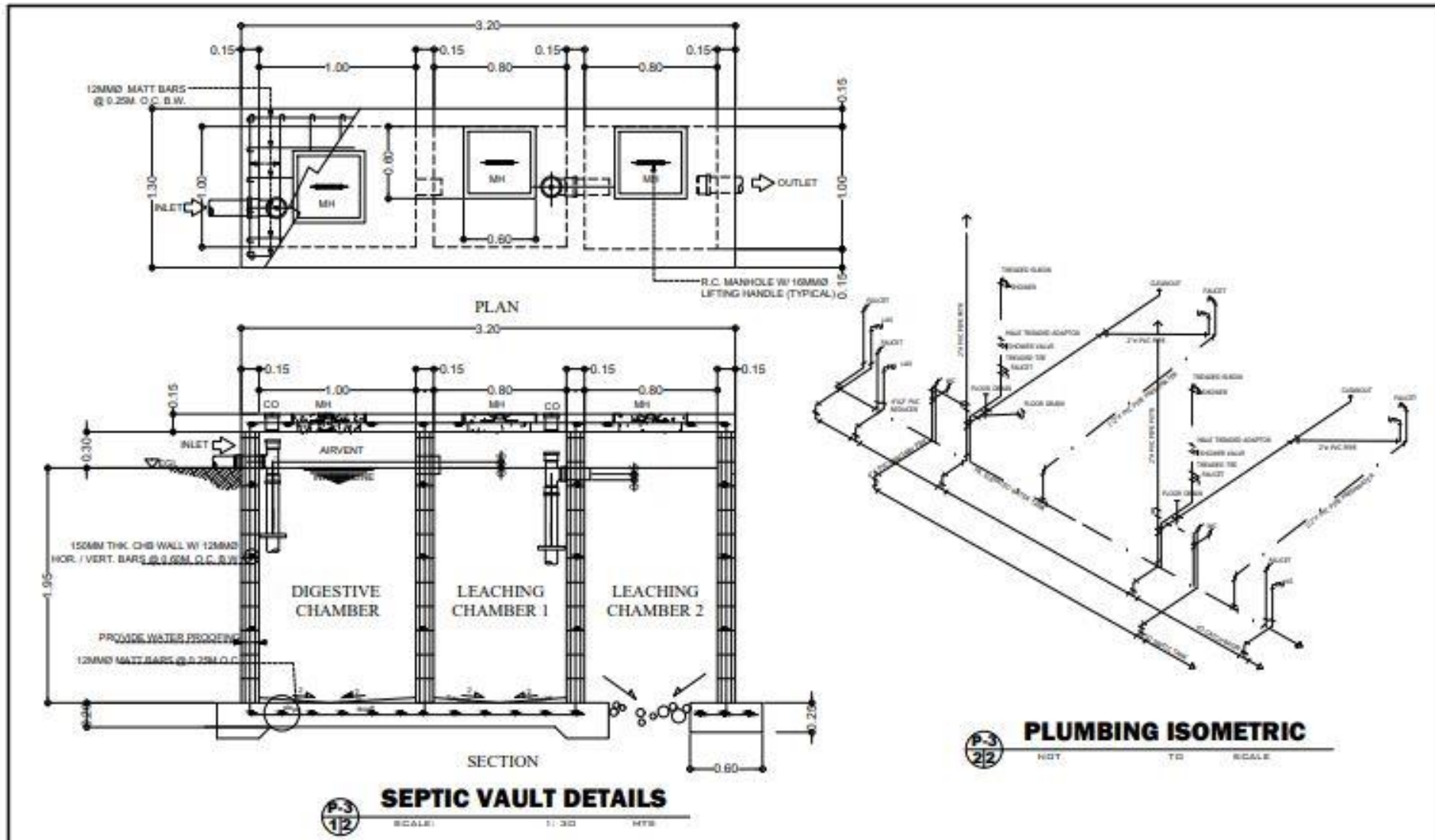
**P-1**  
**11**  
**SANITARY LINE LAYOUT**  
SCALE: 1 : 100 MTS.

 <b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b>	CERTIFIED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO:
	DATE ISSUED:	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>PELMARK B. IYOG</b> CDD ENGR. STAFF				<b>2</b>
	DATE REVISION:	PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE	PREPARED BY:	<b>THESSALYN B. LIMAS</b> CR - GRADUATE E	<b>RIZALINDA L. ABING</b> CHIEF PEED	<b>NILO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>1418</b>
DATE ISSUED:			<b>MARK RETEP M. LOZADA, CE</b> PROJECT ENGINEER, LH				



**WATER LINE LAYOUT**  
 SCALE: 1 : 100 MTR.

 <b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b>	CERTIFIED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.:	
	PROJECT NUMBER: PFC NO.: PFR NO.: PFA NO.:	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>PELMARK B. IVOG</b> <small>ENR. ENGR. STMP</small>	<b>THESSALYN B. LIMAS</b> <small>ENR. ENGINEER</small>	<b>RIZALINDA L. ABING</b> <small>CHIEF, PFCED</small>	<b>NILO SELIN KATADA, Ph.D.</b> <small>REGULATORY DIRECTOR</small>	<b>2</b>	<b>1518</b>
	VALID UNTIL: DATE ISSUED: PLACE ISSUED:	PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE	<b>MARK RETEP M. LOZADA, CE</b> <small>PROJECT ENGINEER, I/II</small>					



P-3  
12

**SEPTIC VAULT DETAILS**

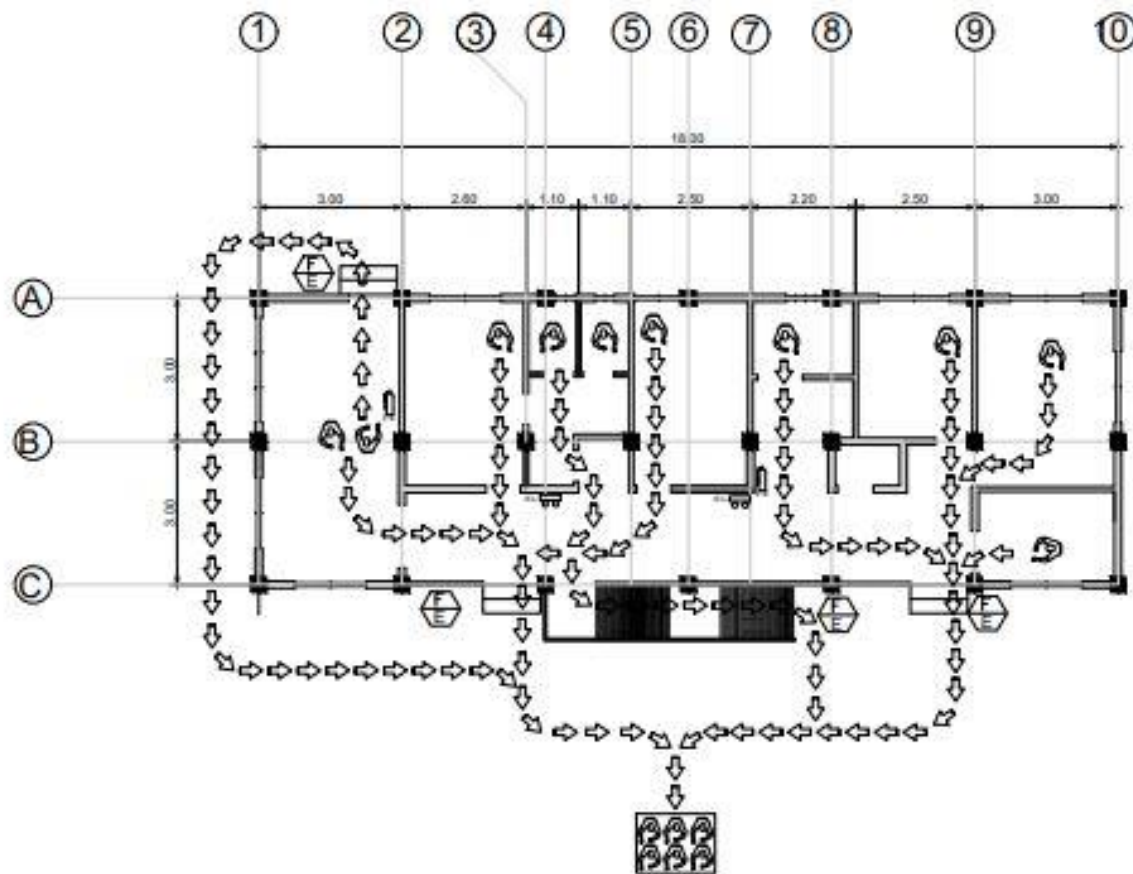
SCALE: 1:30 HTS

P-3  
22

**PLUMBING ISOMETRIC**

NOT TO SCALE

<p><b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b></p>	CERTIFIED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO:
	DESIGNER/PROJECT	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>PELMARK B. IYOG</b> DPO ENVO STAFF				<b>2</b>
	PRC NO. / VALID UNTIL PFR NO. / DATE ISSUED TR NO. / PLACE ISSUED	PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE	PREPARED BY:	<b>THESSALYN B. LIMAS</b> DR. DESIGNER	<b>RIZALINDA L. ABING</b> CHIEF, PFRSD	<b>MILO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>1618</b>



- LEGEND :**
-  FIRE EXTINGUISHER
  -  PANEL BOARD
  -  EVACUATION ASSEMBLY AREA
  -  FIRE EXIT FLOW
  -  EMERGENCY LIGHT
  -  FIRE EXIT

**F-1 FIRE AND LIFE SAFETY MASTER PLAN**  
 SCALE: 1 : 125 MTL.

 <b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b>	CERTIFIED / PREPARED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.:
	<b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>PELMARK B. ITOG</b> ORD ENGR. I/APP	<b>THESSALYN B. LIMAS</b> ENR. ENGINEER II	<b>RIZALINDA L. ABING</b> CHIEF, P/ISSO	<b>NILO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>2</b>
	PRC NO. 011429      VALID UNTIL: 06/19/2023 PTR NO. 011136      DATE ISSUED: 04/03/2021 PLACE ISSUED: PROVINCE OF AGU	PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE					<b>1718</b>

REPUBLIC OF THE PHILIPPINES  
DEPARTMENT  
OF  
INTERIOR AND LOCAL  
GOVERNMENT

**BUREAU  
OF  
FIRE PROTECTION**

**FSES**

RECOMMENDING APPROVAL

BUILDING PLAN EVALUATOR

NUP    CE    BFP  
CHIEF    -    FSES

APPROVED :




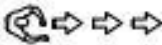




**THIS SITE**

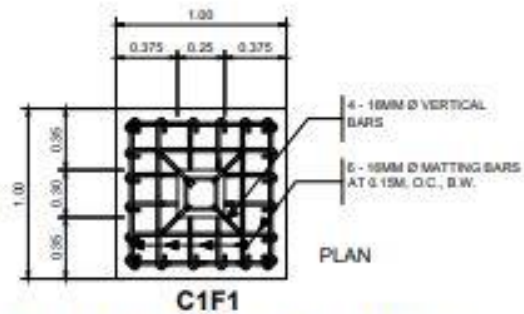
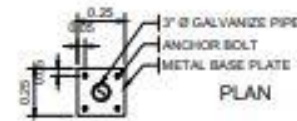
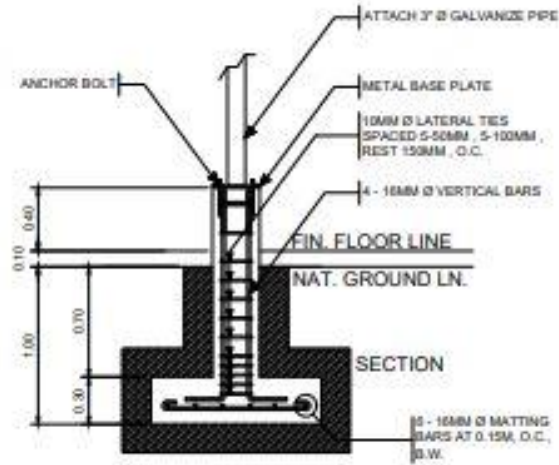
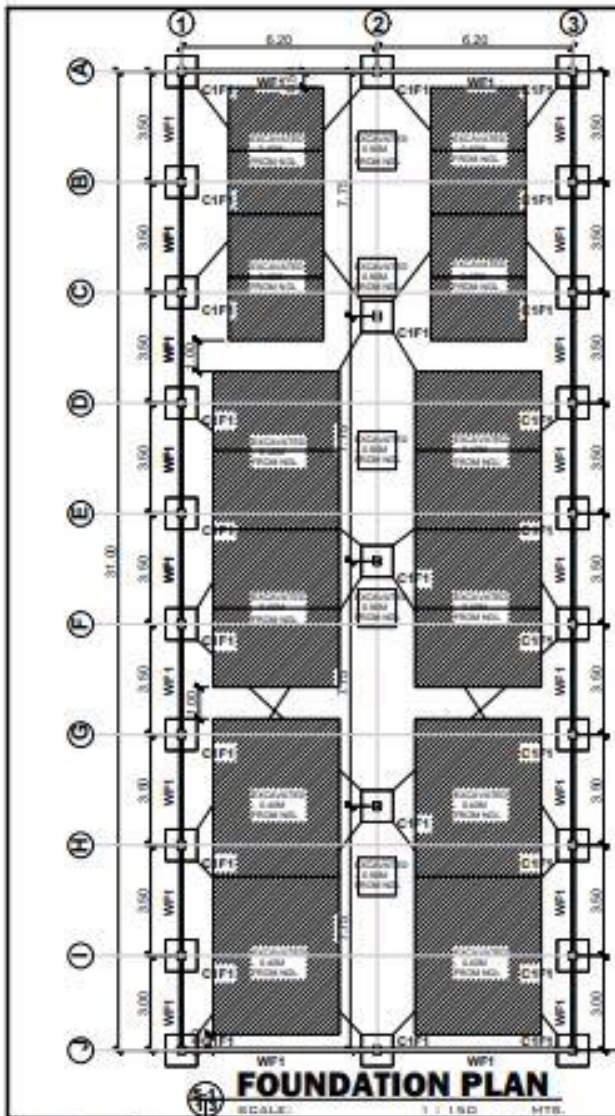


**F-2**  
**1/1**    N    D    T    S

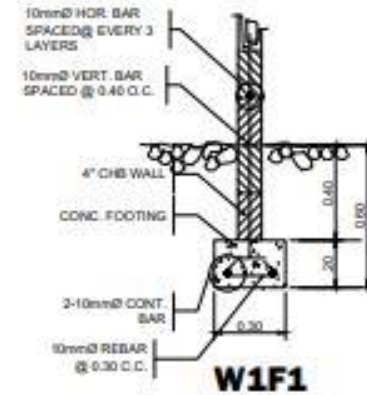
**LEGEND :**

-  FIRE EXTINGUISHER
-  PANEL BOARD
-  EVACUATION ASSEMBLY AREA
-  FIRE EXIT FLOW
-  EMERGENCY LIGHT
-  FIRE EXIT

 <b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b>	CERTIFIED / PREPARED BY: <b>MARK RETEP M. LOZADA</b> <small>CIVIL ENGINEER</small>		PROJECT TITLE: <b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>		DRAWN BY: <b>PELMARK B. IYOG</b> <small>CAD ENGR STMP</small>	CHECKED BY: <b>THESSALYN B. LIMAS</b> <small>DR. REGISTERED</small>	RECOMMENDING APPROVAL: <b>RIZALINDA L. ABING</b> <small>CHIEF FSES</small>	APPROVED: <b>NILO SELIM KATADA, Ph.D.</b> <small>NATIONAL DIRECTOR</small>	SHEET NO. <b>2</b>
	<small>PRC NO. - 814209</small> <small>DATE ISSUED - 04/02/2021</small>	<small>VALID UNTIL - 04/19/2023</small> <small>DATE EXPIRES - 04/02/2021</small>	<small>PROJECT LOCATION - BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE.</small>						<b>1818</b>
	<small>PPR NO. - 811136</small> <small>PLACE ISSUED - PROVINCE OF BGC</small>								

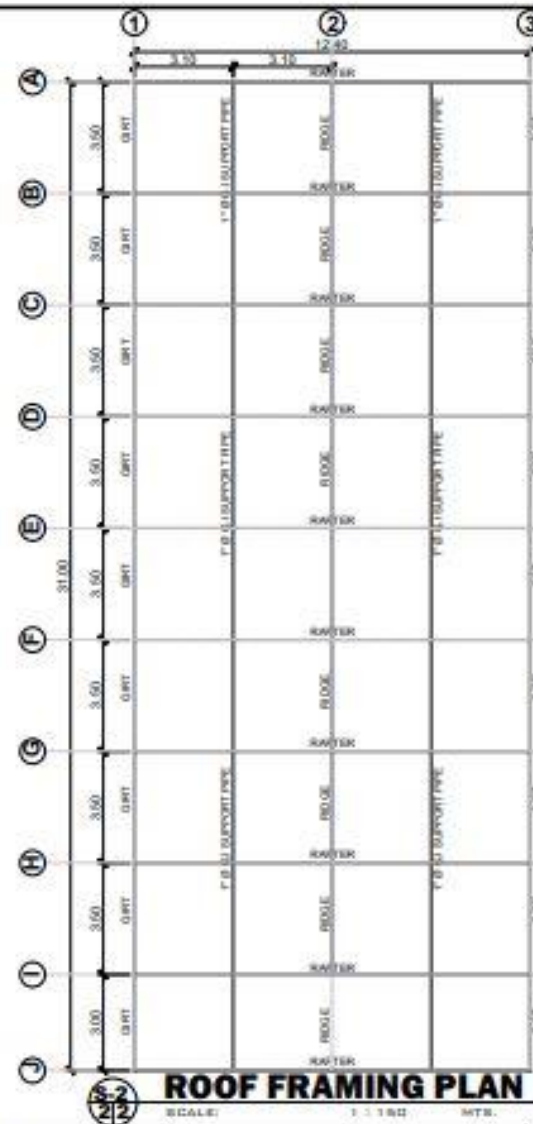
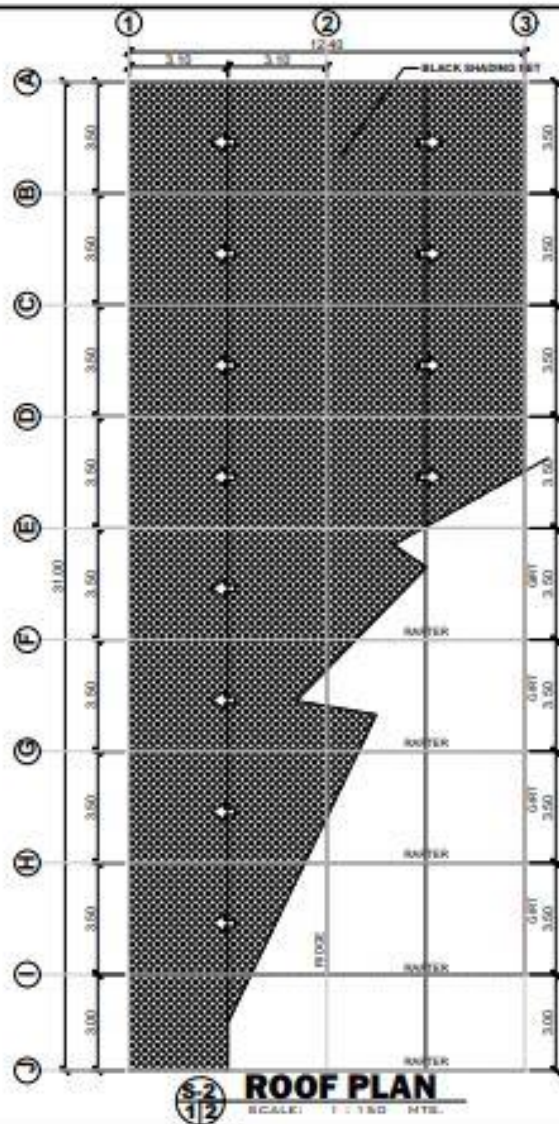


**COLUMN FOOTING DETAILS**  
SCALE: 1 : 3.00 MTS.



**WALL FOOTING DETAILS**  
SCALE: 1 : 3.00 MTS.

<p><b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b></p>	CERTIFIED / PREPARED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.
	<b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>PELMARK B. IYOG</b> CIVIL ENGINEER	<b>THESSALYN B. LIMAS</b> BS - ENGINEER II	<b>RIZALINDA L. ABING</b> CHIEF, PPS2	<b>NILO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>3</b>
	PRC NO.: 214209 VALID UNTIL: 08/19/2022 PTR NO.: 011386 DATE ISSUED: 04/02/21 PLACE ISSUED: PROVINCE OF BO	PROJECT LOCATION: GRZY: ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE					



**BUREAU OF FISHERIES AND AQUATIC RESOURCES**

CERTIFIED / PREPARED BY:

**MARK REYEP M. LOZADA**  
CIVIL ENGINEER

PRC NO.: 014208      VALID UNTIL: 08/19/2022  
PTR NO.: 011136      DATE ISSUED: 24/02/21  
PLACE ISSUED: PROVINCE OF BULACAN

PROJECT TITLE:

**ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)**

PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE

DRAWN BY:

**PELMARK S. IYOG**  
CIVIL ENGINEER

CHECKED BY:

**THESSALYN S. LIMAS**  
CIVIL ENGINEER

RECOMMENDING APPROVAL:

**RIZALINDA L. ADING**  
CHIEF PROJECT

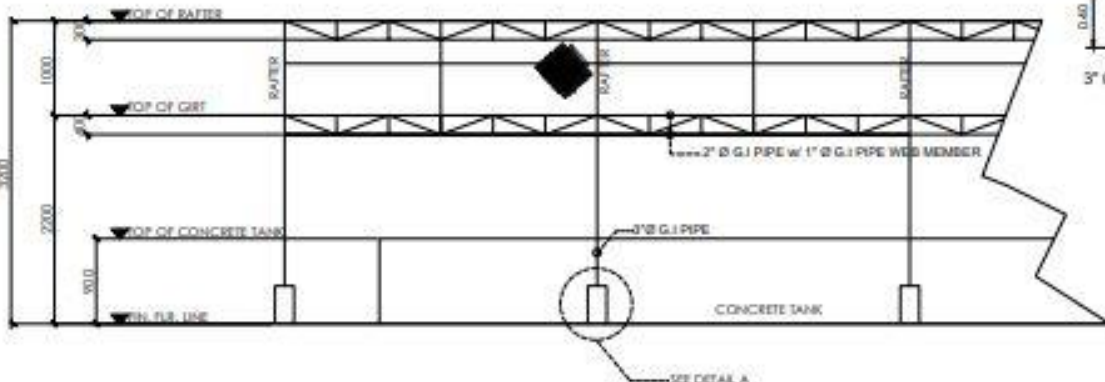
APPROVED:

**NILO SELIM KATADA, Ph.D.**  
REGIONAL DIRECTOR

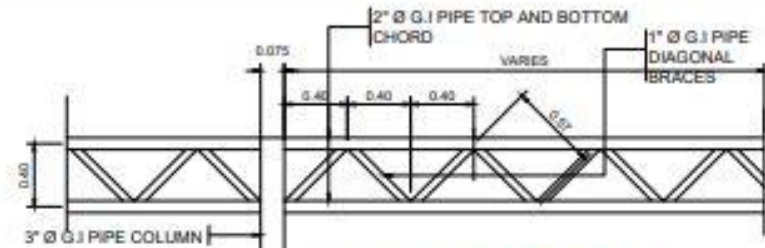
SHEET NO.:

**3**  
**0204**

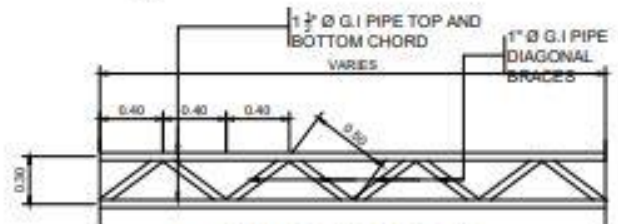




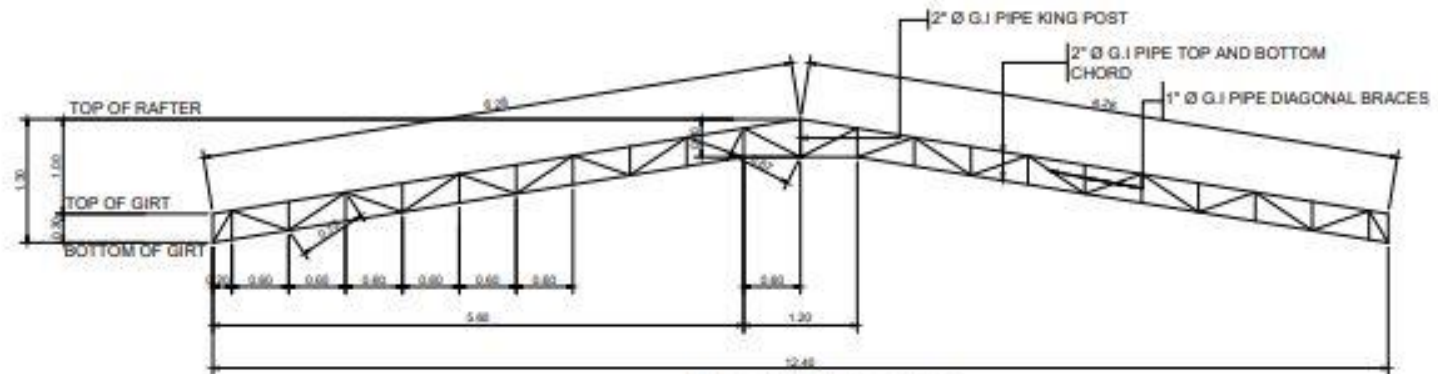
**S-3**  
**2/4** **ELEVATION**  
SCALE: 1 : 50 MTS.



**S-3**  
**3/4** **STEEL GIRTS DETAILS**  
SCALE: 1 : 30 MTS.



**S-3**  
**4/4** **RIDGE DETAILS**  
SCALE: 1 : 30 MTS.



**S-3**  
**1/4** **RAFTER DETAILS**  
SCALE: 1 : 50 MTS.



CERTIFIED / PREPARED BY:  
**MARK RETEP M. LOZADA**  
CIVIL ENGINEER  
PRC NO. 154128  
PTR NO. 81138  
VALID UNTIL: 09/16/2023  
DATE ISSUED: 06/02/2021  
PLACE ISSUED: PROVINCE OF ILO ILO

PROJECT TITLE:  
**ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)**  
PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE.

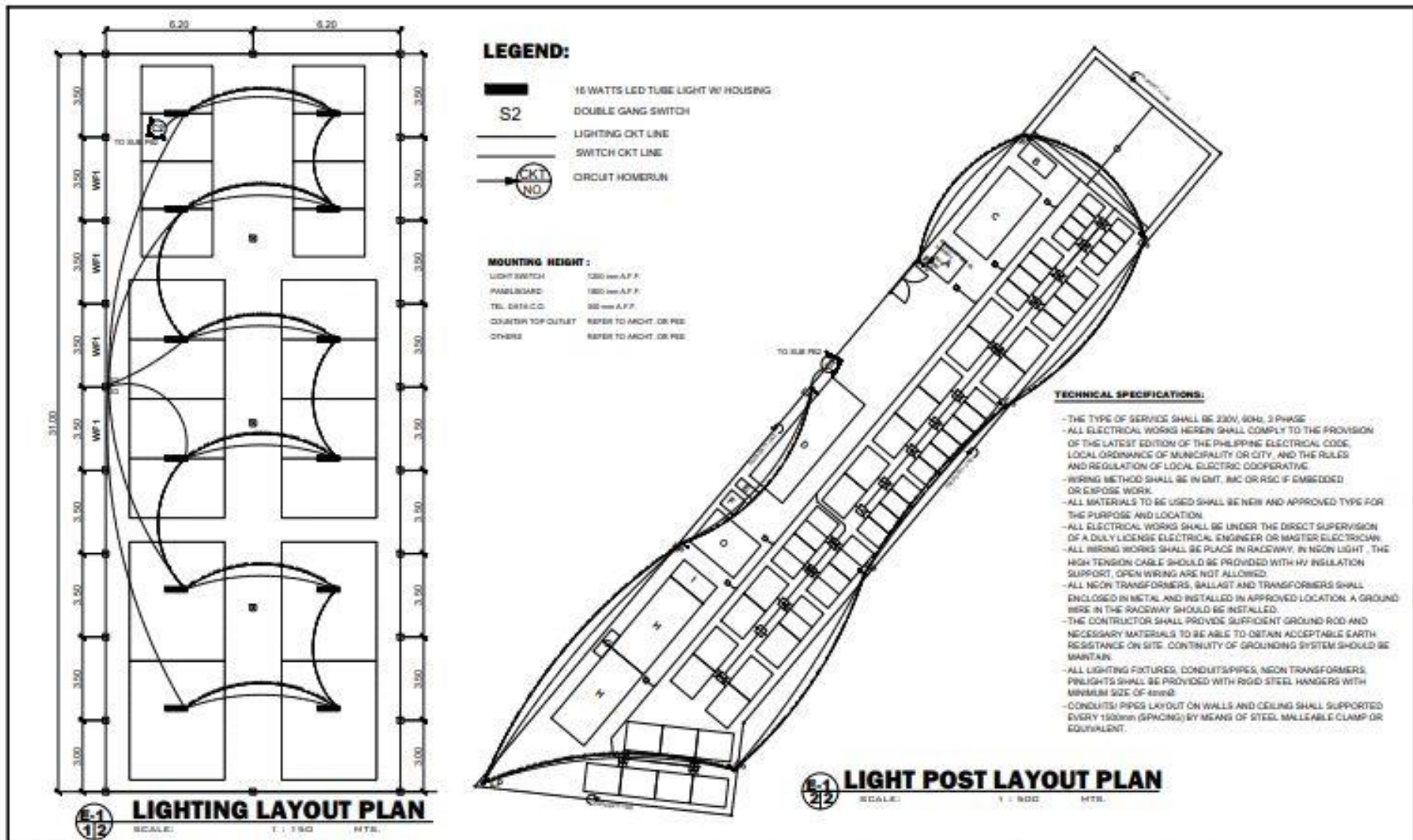
DRAWN BY:  
**PELMARK B. IYOG**  
CIVIL ENGINEER

CHECKED BY:  
**THESSALYN S. LIMAS**  
CIVIL ENGINEER

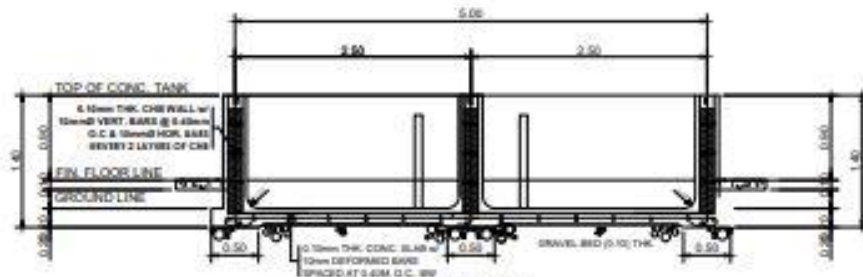
RECOMMENDING APPROVAL:  
**RIZALINDA L. ABING**  
CHIEF, PPS&E

APPROVED:  
**NILO SELIM KATADA, Ph.D.**  
REGIONAL DIRECTOR

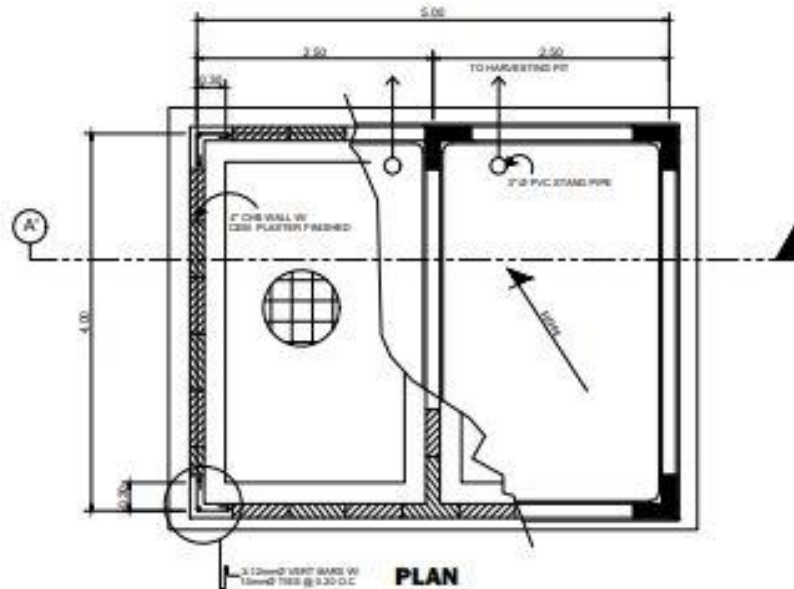
SHEET NO.  
**3**  
**0304**



<p><b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b></p>	CERTIFIED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.:
	PROFESSIONAL ELECTRICAL ENGINEER PRC NO. _____ VALID UNTIL _____ PTR NO. _____ DATE ISSUED _____ TR NO. _____ PLACE ISSUED _____	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b> PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE	<b>PELMARK B. IVOSO</b> DISEGNER/STAFF PREPARED BY: <b>MARK RETEP M. LOZADA, CE</b> PROJECT ENGINEER, LH	<b>THESSALYN B. LIMAS</b> CH. ENGINEER	<b>RIZALINDA L. ABING</b> CHIEF P.E.	<b>MILO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>3</b> <b>0404</b>

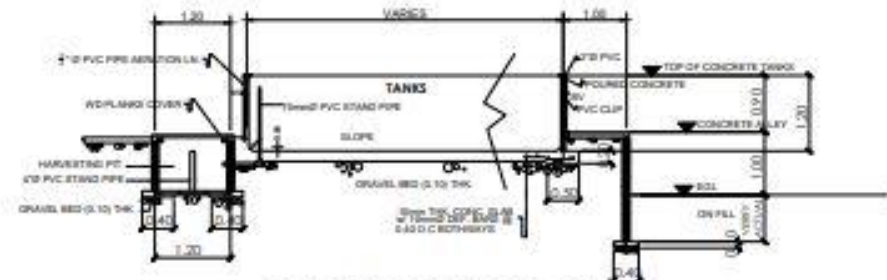


**SECTION**

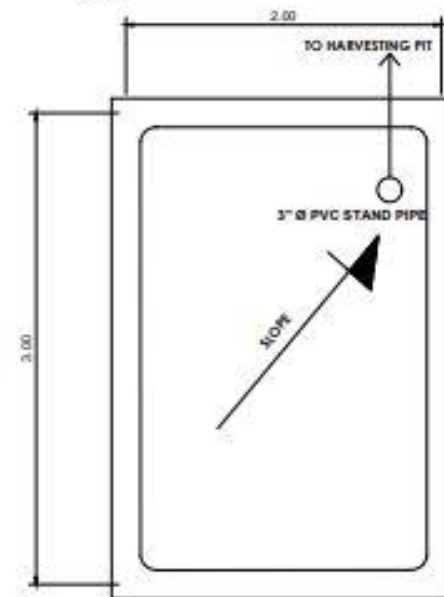


**PLAN**

**S-1  
4/4** **DUPLEX 10 TONS TANK PLAN**  
SCALE: 1 : 50 MTS.



**S-1  
4/4** **SECTION THRU A'**  
SCALE: 1 : 75 MTS.



**S-1  
4/4** **DUPLEX 5 TONS TANK PLAN**  
SCALE: 1 : 30 MTS.



CERTIFIED / PREPARED BY:  
**MARK REYEP M. LOZADA**  
CIVIL ENGINEER  
PIC NO. : 2144289  
PTR NO. : W 11389  
UNID UNTS : 08/19/2022  
DATE ISSUED : 08/04/2021  
PLACE ISSUED : PROVINCE OF AGUSAN DEL NORTE

PROJECT TITLE:  
**ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)**  
PROJECT LOCATION : BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE

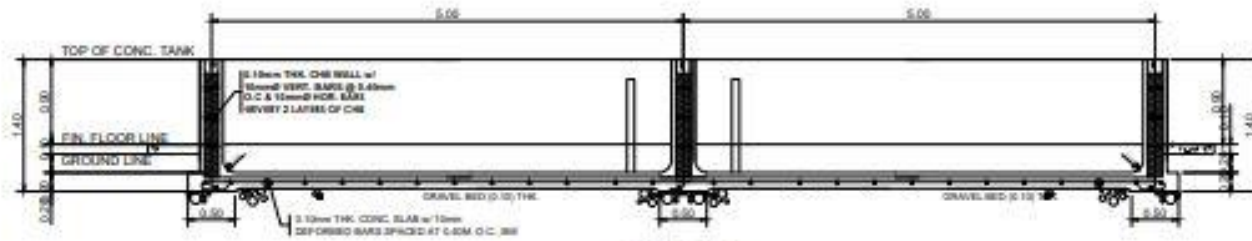
DRAWN BY:  
**PELMARK B. IYOG**  
DIP. ENGR. STAFF

CHECKED BY:  
**THESSALYN B. LIMAS**  
SA. ENGINEER II

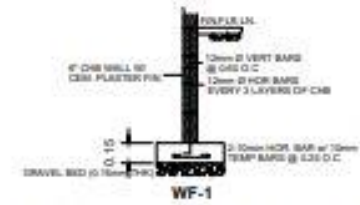
RECOMMENDING APPROVAL:  
**RIZALINDA L. ASING**  
CHP. PRSAD

APPROVED:  
**NILO SELIN KATADA, Ph.D.**  
REGIONAL DIRECTOR

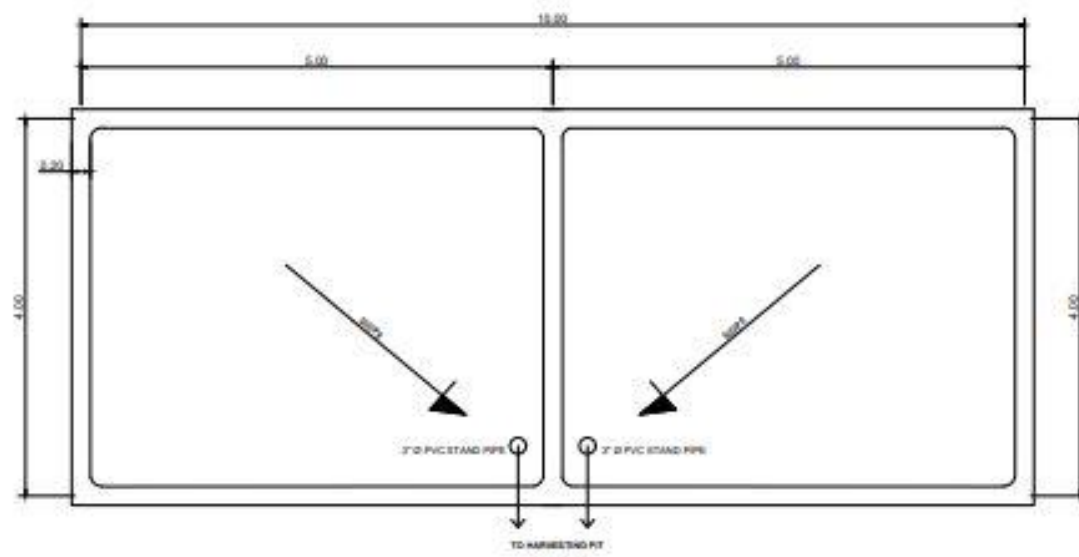
SHEET NO.  
**4**  
**0102**



**SECTION**

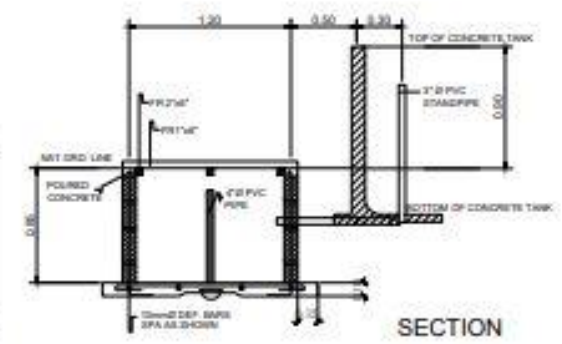


**WF-1**  
**1 METER PERIMETER WALL**  
SCALE: 1 : 20 MTS.

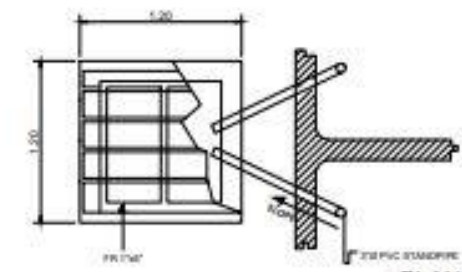


**PLAN**

**DUPLEX 20 TONS TANK PLAN**  
SCALE: 1 : 20 MTS.



**SECTION**



**PLAN**

**HARVESTING PIT PLAN/SECTION**  
SCALE: 1 : 20 MTS.



CERTIFIED / PREPARED BY:  
**MARK RETEP M. LOZADA**  
CIVIL ENGINEER  
PRC NO. - 814286  
PRC NO. - 911386  
VALID UNTIL - 09/18/2022  
DATE ISSUED - 04/03/21  
PLACE ISSUED - PROVINCE OF BICOL

PROJECT TITLE:  
**ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)**  
PROJECT LOCATION - BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE

DRAWN BY:  
**PELMARK B. IYOG**  
CRD-ENGRG STAFF

CHECKED BY:  
**THESSALYN B. LIMAS**  
SA. ENGINEER

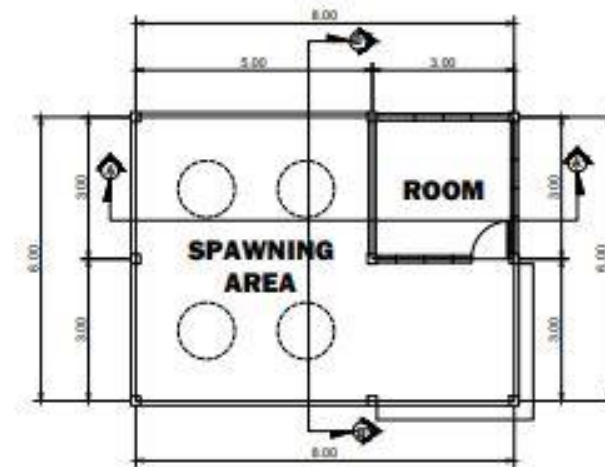
RECOMMENDING APPROVAL:  
**RIZALINDA L. ASING**  
CHIEF. FIELD

APPROVED:  
**NILO SELIM KATADA, Ph.D.**  
REGIONAL DIRECTOR


SHEET NO.  
**4**  
**0202**

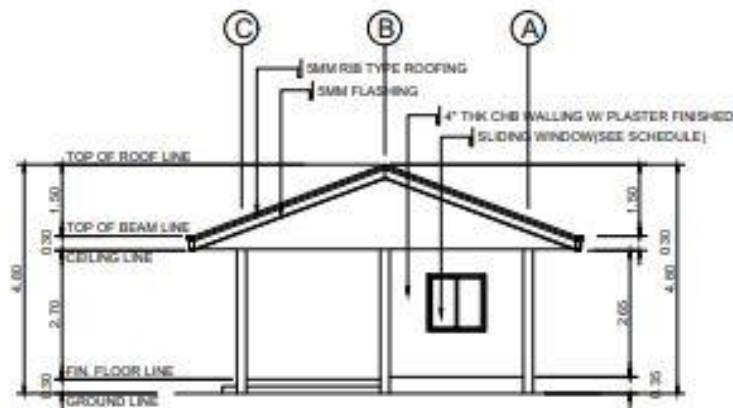


**P E R S P E C T I V E**

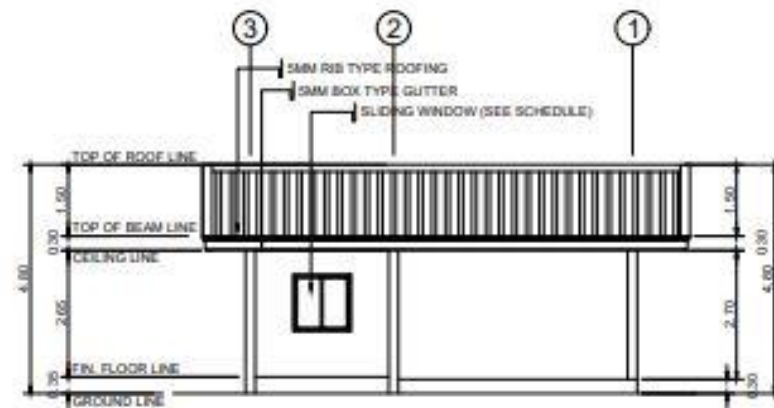


**A-1**  
**11** **FLOOR PLAN (SPAWNING)**  
SCALE: 1 : 100 MTR.

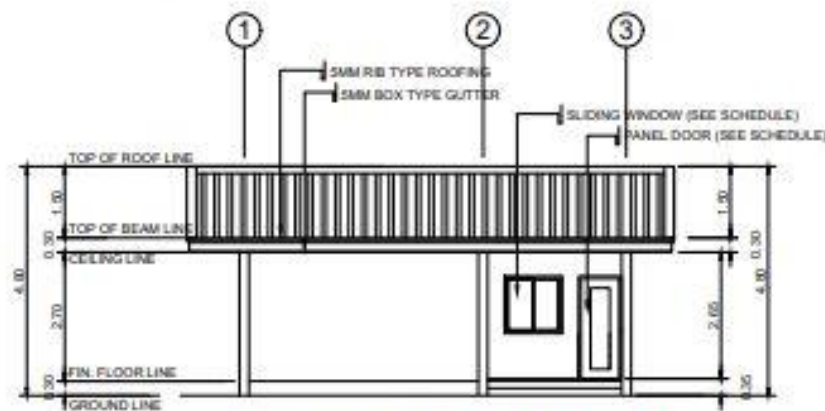
 <b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b>	CERTIFIED / PREPARED BY:		PROJECT TITLE:		DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.
	<b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER		<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>		<b>PELMARK B. IYOG</b> DRA. ENGR. STAFF	<b>THESSALYN B. LIMAS</b> CA. ENGINEER II	<b>RIZALINDA L. ASING</b> CHIEF, FEED	<b>NILO SELIN KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>5</b>
	PRC NO. 014428	VALID UNTIL: 08/16/2023	PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE						<b>0107</b>
	FOR NO. 911286	DATE ISSUED: 04/03/21							



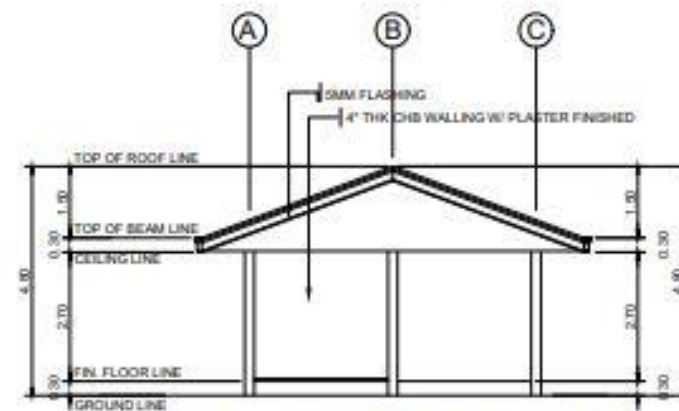
**A-2**  
**2/4** **RIGHT SIDE ELEVATION**  
SCALE: 1 : 100 MTR.




**A-2**  
**3/4** **REAR ELEVATION**  
SCALE: 1 : 100 MTR.

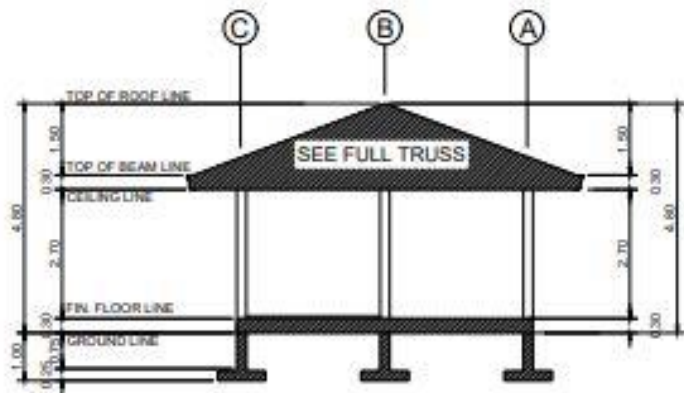


**A-2**  
**1/4** **FRONT ELEVATION**  
SCALE: 1 : 100 MTR.

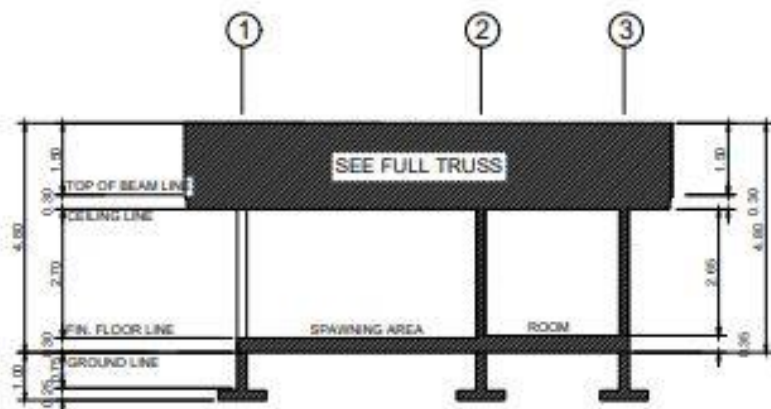


**A-2**  
**4/4** **LEFT SIDE ELEVATION**  
SCALE: 1 : 100 MTR.

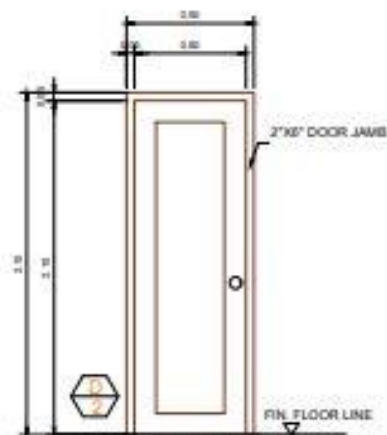
 <b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b>	CERTIFIED / PREPARED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.
	<b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>PELMARK B. IVOG</b> CDD ENGR STAFF	<b>THESSALYN B. LIMAS</b> SA, ENGINEER	<b>RIZALINDA L. ASING</b> CHIEF, PPSO	<b>NILO SELIN KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>5</b>
	PRC NO. 014239 PPR NO. 911139 VALID UNTIL: 08/15/2023 DATE ISSUED: 04/20/23 PLACE ISSUED: PROVINCE OF SOG	PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE					



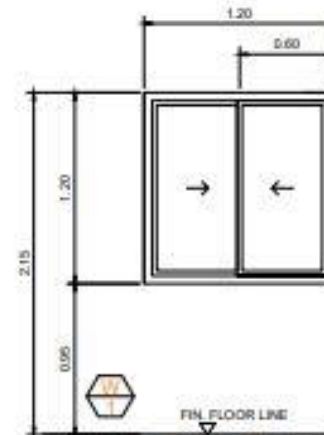
**A-3**  
**2/3** **SECTION THRU B-B'**  
SCALE: 1 : 100 MTS.



**A-3**  
**1/3** **SECTION THRU A-A'**  
SCALE: 1 : 100 MTS.



MADE: SOLID PANEL-TYPE DOOR  
TYPE OF OPENING: SWING-IN  
UNIT: 1 SET



MADE: POWDER COATED WHITE ALUMINUM FRAMED  
W/ 1/2\"/>

**A-3**  
**3/3** **SCHEDULE OF DOORS AND WINDOWS**  
SCALE: 1 : 50 MTS.



**BUREAU OF FISHERIES AND AQUATIC RESOURCES**

CERTIFIED / PREPARED BY:	
<b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER	
PRC NO. 214228	VALID UNTIL: 09/16/2023
PRC NO. 911236	DATE ISSUED: 04/02/2021
PLACE ISSUED: PROVINCE OF SORSOGON	

PROJECT TITLE:
<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>
PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE

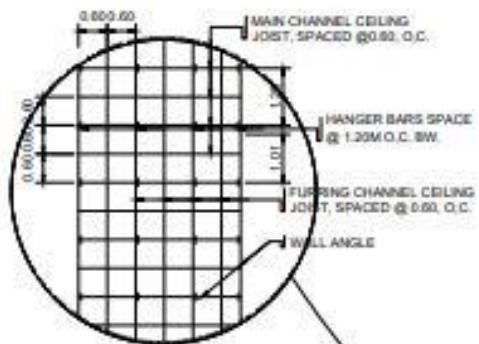
DRAWN BY:
<b>PELMARK B. IYOG</b> CRD. ENGR. STAFF

CHECKED BY:
<b>THESSALYN B. LIMAS</b> ENR. ENGINEER

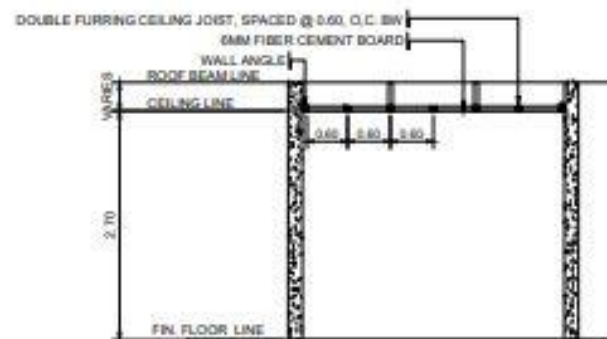
RECOMMENDING APPROVAL:
<b>RIZALINDA L. ASING</b> CHIEF, PPSD

APPROVED:
<b>NILO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR

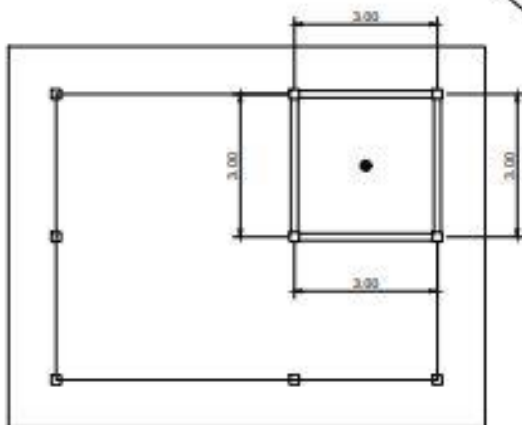
SHEET NO.
<b>5</b>
<b>0307</b>



**BLOW-UP DETAIL**



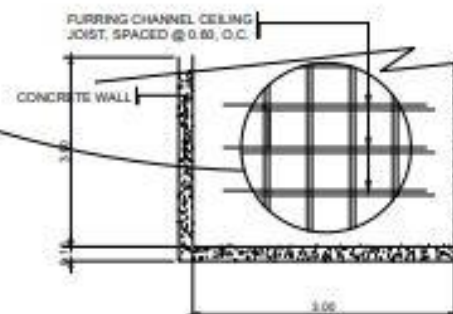
**SECTION**



**REFLECTED CEILING PLAN**

A-4  
1/2

SCALE: 1 : 100 HTS.



**PLAN**

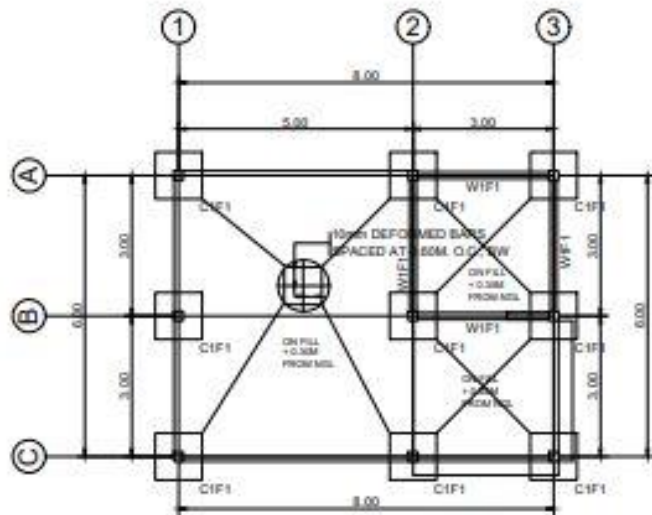
**CEILING DETAILS**

A-4  
2/2

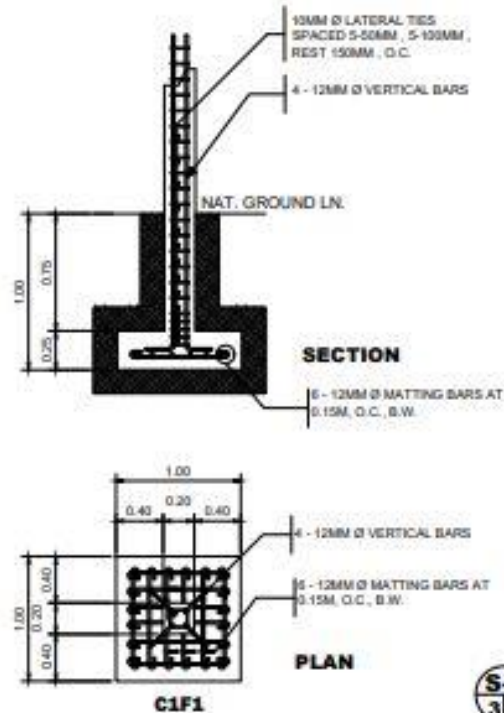
SCALE: 1 : 50 HTS.

<p><b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b></p>	CERTIFIED / PREPARED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.
	<b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>PELMARK B. IYOG</b> CRD ENG'G STAFF	<b>THESSALYN B. LIMAS</b> SA - PROJECTS	<b>RIZALINDA L. ASING</b> CHIEF PRSG	<b>NILO SELIN KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>5</b>
	PRC NO. - 34428 PTR NO. - 91198	VALID UNTIL - 09/10/2021 DATE ISSUED - 06/06/2021 PLACE ISSUED - PROVINCE OF SORSOGON	PROJECT LOCATION - BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE				

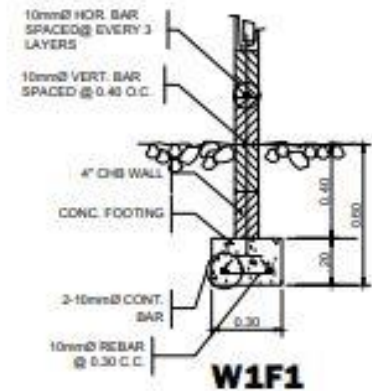




**S-1**  
**1/3** **FOUNDATION PLAN**  
SCALE: 1 : 100 MTG.

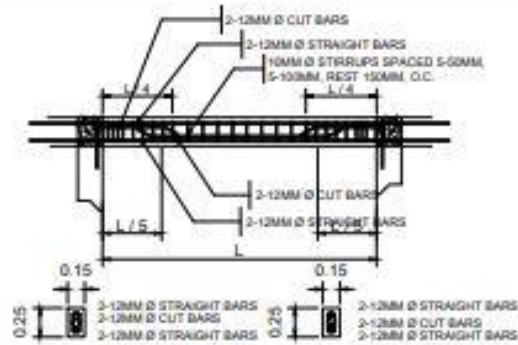


**S-1**  
**2/3** **COLUMN - FOOTING DETAIL**  
SCALE: 1 : 30 MTG.



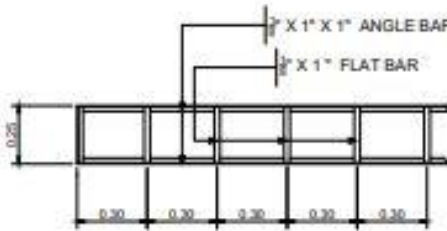
**S-1**  
**3/3** **WALL - FOOTING DETAIL**  
SCALE: 1 : 30 MTG.

	CERTIFIED / PREPARED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.
	<b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>PELMARK B. IYOG</b> DND ENVO STAFF	<b>THESSALYN B. LIMAS</b> SA, ENGINEER II	<b>RIZALINDA L. ABING</b> CHSP, PEED	<b>NILO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>5</b>
	PRC NO. 234288 VALID UNTIL: 09/30/2020 PTR NO. -R13288 DATE ISSUED: 04/09/2021 PLACE ISSUED: PROVINCE OF 303	PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE					

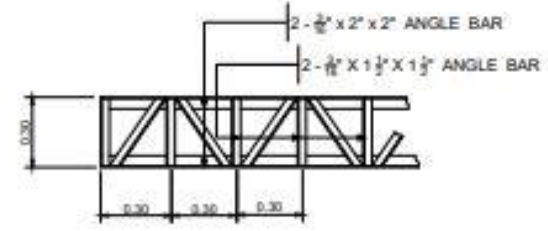


SECTION AT SUPPORT      SECTION AT MIDSPAN

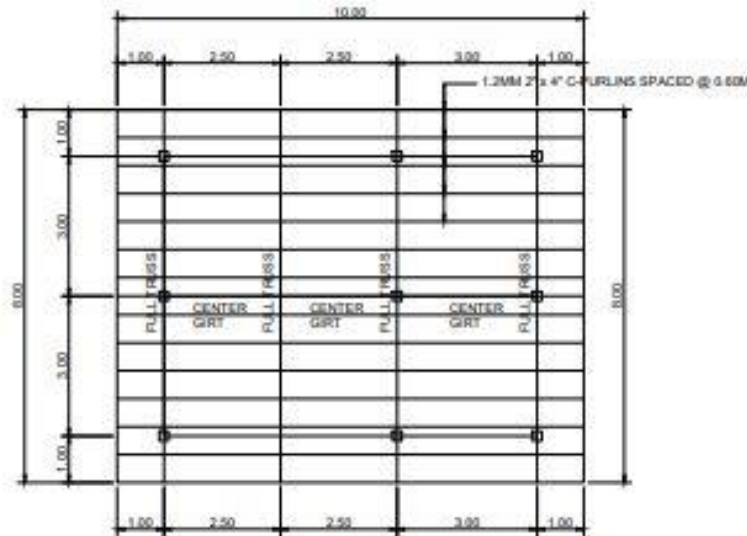
**S-2**  
**3/5**      **ROOF BEAM DETAIL**  
SCALE: 1 : 40      MTS.



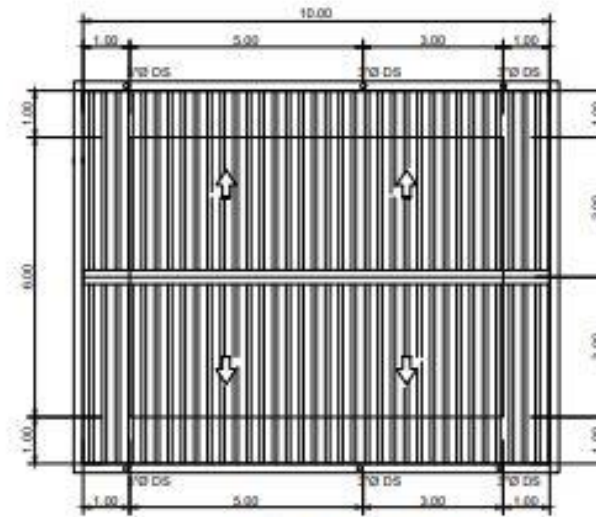
**S-2**  
**4/5**      **FASCIA FRAME DETAILS**  
SCALE: 1 : 20      MTS.



**S-2**  
**5/5**      **STEEL GIRT DETAILS**  
SCALE: 1 : 20      MTS.



**S-2**  
**1/5**      **ROOF FRAMING PLAN**  
SCALE: 1 : 100      MTS.



**S-2**  
**2/5**      **ROOF PLAN**  
SCALE: 1 : 100      MTS.



CERTIFIED / PREPARED BY:

**MARK RETEP M. LOZADA**  
CIVIL ENGINEER

PRC NO. 0744289      VALID UNTIL: 08/15/2023  
PDR NO. 871038      DATE ISSUED: 06/05/2021  
PLACE ISSUED: PROVINCE OF ILOILO

PROJECT TITLE:

**ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)**

PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE

DRAWN BY:

**PELMARK B. IYOD**  
DIPLOMA IN ARCHITECTURE

CHECKED BY:

**THESSALYN B. LIMAS**  
B.S. ARCHITECTURE

RECOMMENDING APPROVAL:

**RIZALINDA L. ABING**  
CHIEF, PDRSU

APPROVED:

**NILO SELIM KATADA, Ph.D.**  
REGIONAL DIRECTOR

SHEET NO.

**5**  
**0607**

# SCHEDULE OF LOADS AND COMPUTATIONS:

## SUB PANEL BOARD 05

CCT NO.	LOAD DESCRIPTION	L.O.	C.O.	SWITCHES			SERVICE VOLTAGE	LOAD VA	LOAD AMPERES			C.C. FC	WIRING & CONDUIT TYPE & SIZE
				1	2	3			AT	AF	MAC		
1	LIGHTING FIXTURES	8	1				230	820	3.703	20	80	10	2.2.0mm <sup>2</sup> @ 10 AWG THW WIRE IN 20mm <sup>2</sup> PVC CONDUIT PIPE
2	LIGHTING FIXTURES	2	1				230	200	0.885	20	80	10	2.2.0mm <sup>2</sup> @ 10 AWG THW WIRE IN 20mm <sup>2</sup> PVC CONDUIT PIPE
3	CONVENIENCE OUTLET		8				230	800	3.473	30	80	10	2.4.0mm <sup>2</sup> @ 10 AWG THW WIRE IN 20mm <sup>2</sup> PVC CONDUIT PIPE
4	SPACE						230	200	0.870	30	80	10	2.4.0mm <sup>2</sup> @ 10 AWG THW WIRE IN 20mm <sup>2</sup> PVC CONDUIT PIPE
5	SPACE						230	200	0.870	30	80	10	2.4.0mm <sup>2</sup> @ 10 AWG THW WIRE IN 20mm <sup>2</sup> PVC CONDUIT PIPE
	TOTAL	8	8	1			230	2620	12.837	80	80	10	3.00 (10mm <sup>2</sup> ) THW WIRE IN 30mm <sup>2</sup> PVC CONDUIT PIPE

### COMPUTATION

#### MAIN CIR. BREAKER

$$I_{LB} = [ \text{TOTAL AMPERES} + (1.25)(3.87) ]$$

$$= [ 12.837 + 4.838 ]$$

$$= 18.675 \text{ AMPERES}$$

THEREFORE, USE 20 AMPERES MAIN CIRCUIT BREAKER

### MAIN FEEDER

$$I_C = [ 12.837 + (1.25)(3.87) ]$$

$$= [ 12.837 + 4.838 ]$$

$$= 17.675 \text{ AMPERES}$$

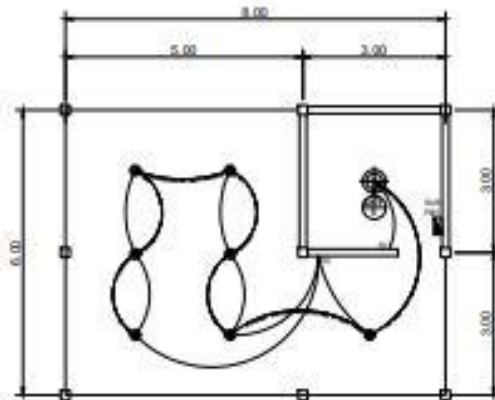
USE 2 - #8 AWG (UNADDED C) IN A 10MM<sup>2</sup> PVC A 1 - 80A CTB  
ALL CDPD SHALL BE 60K & 30 KAC

### MOUNTING HEIGHT:

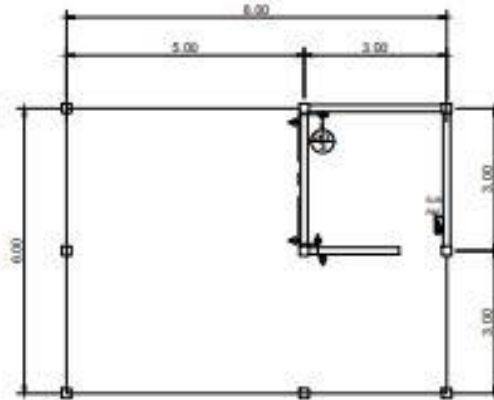
- LIGHT SWITCH
- PANELBOARD
- TEL. DATA C.O.
- COUNTER TOP OUTLET
- CYBER
- 120 mm A.F.F
- 180 mm A.F.F
- 200 mm A.F.F
- REFER TO ARCHT. OR PER
- REFER TO ARCHT. OR PER

### TECHNICAL SPECIFICATIONS:

- THE TYPE OF SERVICE SHALL BE 230V, 60Hz, 3 PHASE
- ALL ELECTRICAL WORKS HEREIN SHALL COMPLY TO THE PROVISION OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, LOCAL ORDINANCE OF MUNICIPALITY OR CITY, AND THE RULES AND REGULATION OF LOCAL ELECTRIC COOPERATIVE.
- WIRING METHOD SHALL BE IN EMT, IMC OR RSC IF EMBEDDED OR EXPOSE WORK.
- ALL MATERIALS TO BE USED SHALL BE NEW AND APPROVED TYPE FOR THE PURPOSE AND LOCATION.
- ALL ELECTRICAL WORKS SHALL BE UNDER THE DIRECT SUPERVISION OF A DULY LICENSE ELECTRICAL ENGINEER OR MASTER ELECTRICIAN.
- ALL WIRING WORKS SHALL BE PLACE IN RACEWAY, IN NEON LIGHT, THE HIGH TENSION CABLE SHOULD BE PROVIDED WITH HV INSULATION SUPPORT, OPEN WIRING ARE NOT ALLOWED.
- ALL NEON TRANSFORMERS, BALLAST AND TRANSFORMERS SHALL ENCLOSED IN METAL AND INSTALLED IN APPROVED LOCATION. A GROUND WIRE IN THE RACEWAY SHOULD BE INSTALLED.
- THE CONTRACTOR SHALL PROVIDE SUFFICIENT GROUND ROD AND NECESSARY MATERIALS TO BE ABLE TO OBTAIN ACCEPTABLE EARTH RESISTANCE ON SITE. CONTINUITY OF GROUNDING SYSTEM SHOULD BE MAINTAIN.
- ALL LIGHTING FIXTURES, CONDUITS/PIPES, NEON TRANSFORMERS, PINLIGHTS SHALL BE PROVIDED WITH RIGID STEEL HANGERS WITH MINIMUM SIZE OF 4mm<sup>2</sup>.
- CONDUITS/ PIPES LAYOUT ON WALLS AND CEILING SHALL SUPPORTED EVERY 1550mm (SPACING) BY MEANS OF STEEL MALLEABLE CLAMP OR EQUIVALENT.



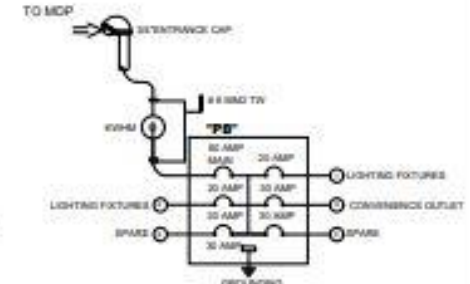
**E-1**  
**1/2** LIGHTING LAY-OUT PLAN  
SCALE: 1 : 100 WTS.



**E-2**  
**1/2** C.O LAY-OUT PLAN  
SCALE: 1 : 100 WTS.

### LEGEND:

- 9W LED BULB
- ⊕ 12W LED OR LINE LIGHT BULB
- S2 DOUBLE GANG SWITCH
- S3 TRIPLE GANG SWITCH
- ⊠ POWER PANEL BOARD
- ⊕ 3 GANG CONVENIENCE OUTLET
- LIGHTING OLT LINE
- SWITCH OLT LINE
- CONVENIENCE OUTLET OLT LINE
- ⊕ CIRCUIT HOMERUN
- ⊕ KWH HOUR METER



**RISER DIAGRAM**



**BUREAU OF FISHERIES AND AQUATIC RESOURCES**

CERTIFIED BY:  
  
PROFESSIONAL ELECTRICAL ENGINEER  
PRC NO. \_\_\_\_\_ VALID UNTIL \_\_\_\_\_  
PTR NO. \_\_\_\_\_ DATE ISSUED \_\_\_\_\_  
TA NO. \_\_\_\_\_ PLACE ISSUED \_\_\_\_\_

PROJECT TITLE:  
**ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)**

PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE

DRAWN BY:  
**PELMARK B. IYOG**  
DIP. ENGR. (EMP)  
PREPARED BY:  
**MARK RETEP M. LOZADA, CE**  
PROJECT ENGINEER (H)

CHECKED BY:  
**THESSALYN B. LIMAS**  
DR. INGENIEER

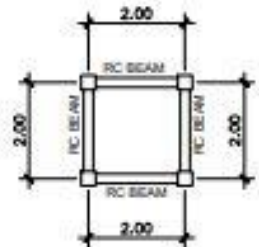
RECOMMENDING APPROVAL:  
**RIZALINDA L. ABING**  
- CHIEF PRSD

APPROVED:  
**NILO SELIM KATADA, Ph.D.**  
REGIONAL DIRECTOR

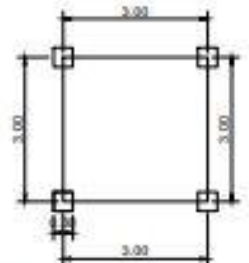
SHEET NO:  
**5**  
**0707**



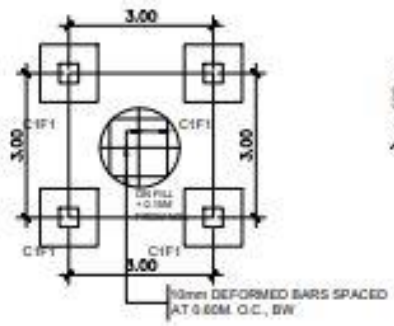
**A-1**  
**TANK PLAN**  
SCALE: 1 : 100 MTR.



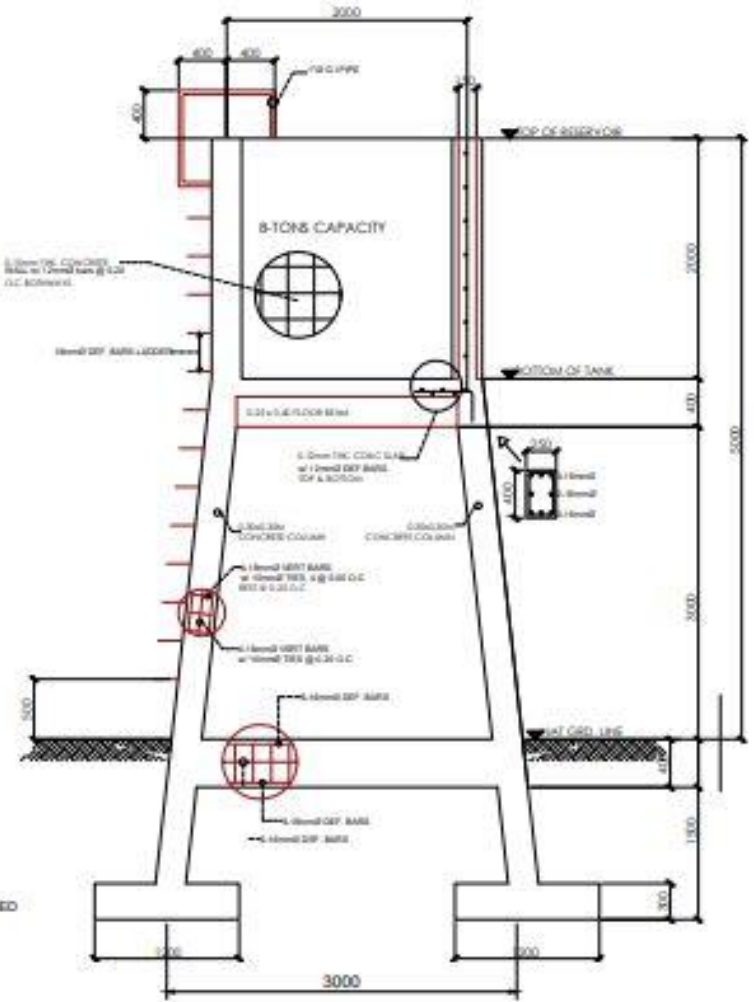
**S-1**  
**FLOOR FRAMING PLAN**  
SCALE: 1 : 100 MTR.



**A-1**  
**FLOOR PLAN (ELEVATED TANK)**  
SCALE: 1 : 100 MTR.



**S-1**  
**FOUNDATION PLAN**  
SCALE: 1 : 100 MTR.



**S-1**  
**ELEVATION / SECTION**  
SCALE: 1 : 100 MTR.



CERTIFIED / PREPARED BY:  
**MARK RETEP M. LOZADA**  
CIVIL ENGINEER  
PRC NO. 81428  
PFR NO. 817188  
VALID UNTIL: 08/19/2022  
DATE ISSUED: 04/02/21  
PLACE ISSUED: PROVINCE OF BICOL

PROJECT TITLE:  
**ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)**  
PROJECT LOCATION: GRDY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE

DRAWN BY:  
**PELMARK B. IYOG**  
CIVIL ENGR. STAMP

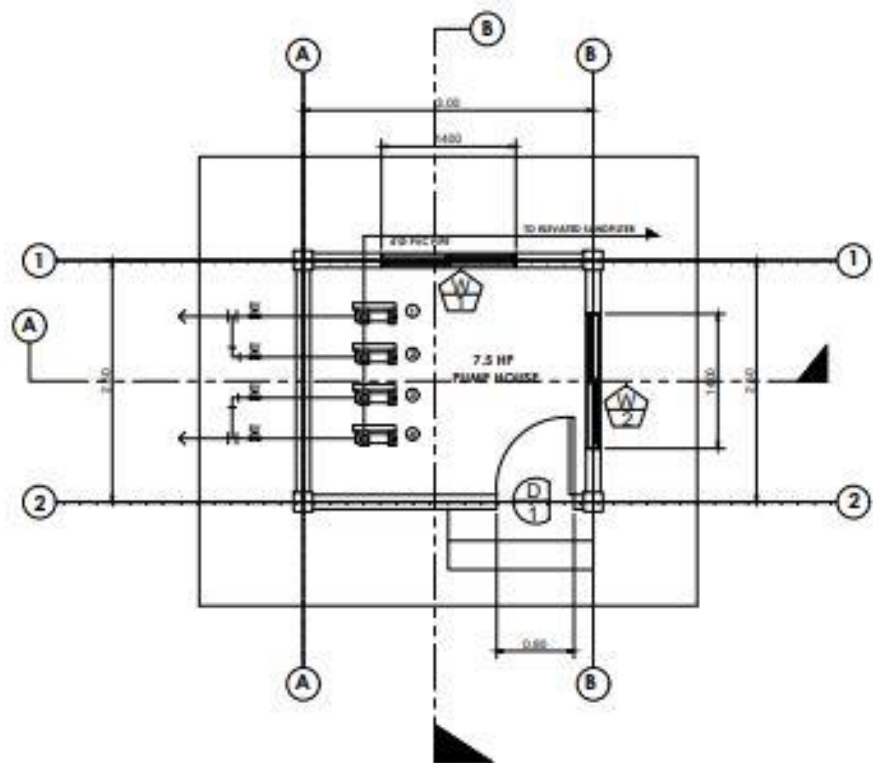
CHECKED BY:  
**THESSALYN S. LIMAS**  
SR. ENGINEER'S

RECOMMENDING APPROVAL:  
**RIZALINDA L. ABING**  
CHIEF PRGSR

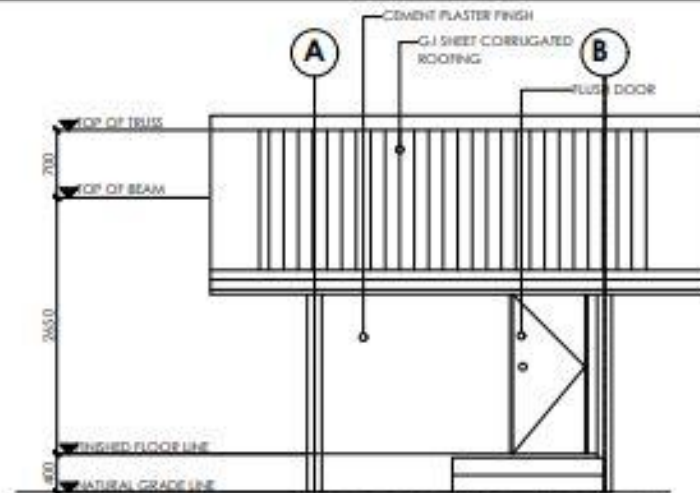
APPROVED:  
**NILO SELIM KATADA, Ph.D.**  
REGIONAL DIRECTOR

SHEET NO.  
**6**  
**0102**

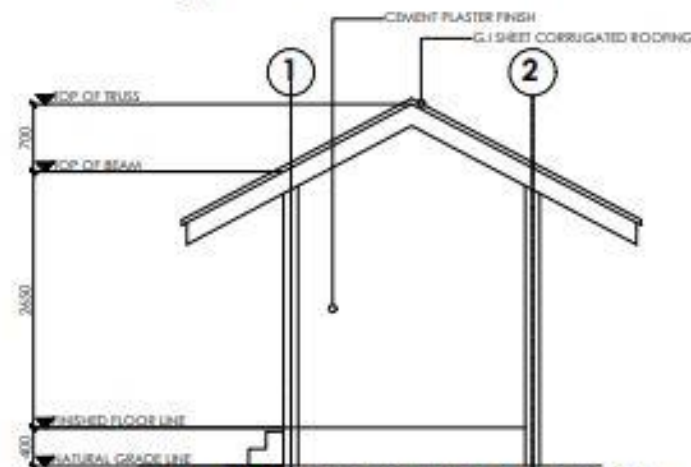




**A-1**  
**FLOOR PLAN (PUMP HOUSE)**  
SCALE: 1 : 50 MTS.



**A-1**  
**2/3**  
**FRONT ELEVATION**  
SCALE: 1 : 50 MTS.



**A-1**  
**3/3**  
**LEFT SIDE ELEVATION**  
SCALE: 1 : 50 MTS.



**BUREAU OF FISHERIES AND AQUATIC RESOURCES**

CERTIFIED / PREPARED BY:

**MARK RETEP M. LOZADA**  
CIVIL ENGINEER

PRC NO. 014409      VALID DATE: 06/19/2022  
PTR NO. 011138      DATE ISSUED: 04/03/21

PLACE ISSUED - PROVINCE OF 000

PROJECT TITLE:

**ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARAGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)**

PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE

DRAWN BY:

**PELMARK B. IYOG**  
CIVIL ENGINEER

CHECKED BY:

**THESSALYN B. LIMAS**  
CIVIL ENGINEER

RECOMMENDING APPROVAL:

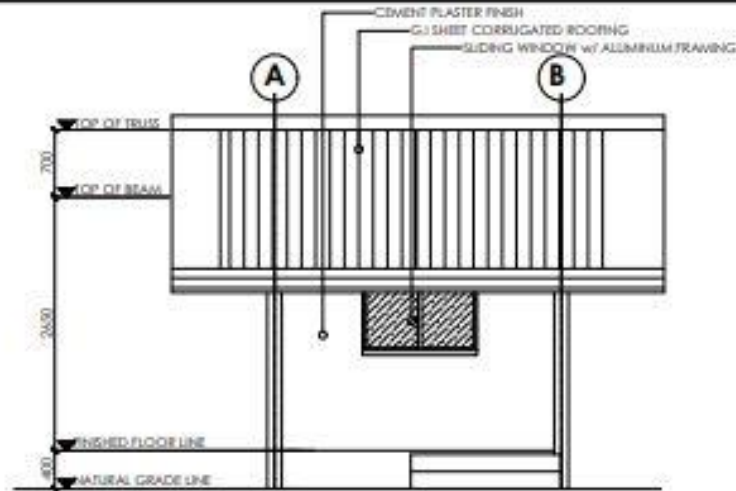
**RIZALINDA L. ABING**  
CHIEF, PRCSD

APPROVED:

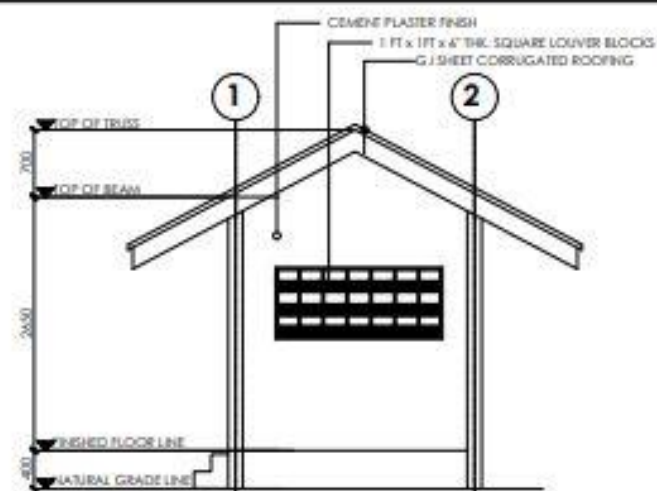
**NILO SELIM KATADA, Ph.D.**  
REGIONAL DIRECTOR

SHEET NO.

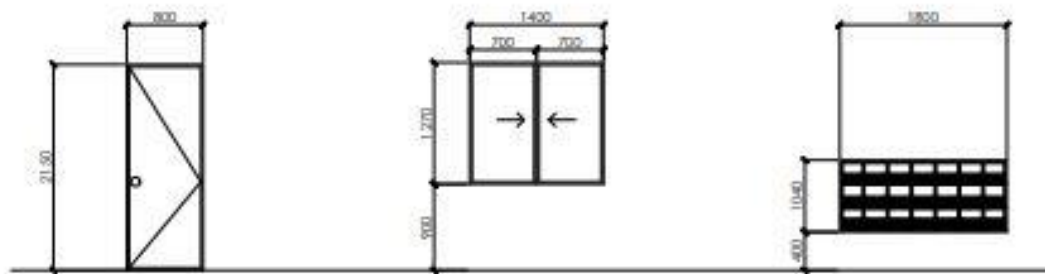
**7**  
**0107**




**A-2**  
**13** **REAR ELEVATION**  
SCALE: 1 : 50 MTR.

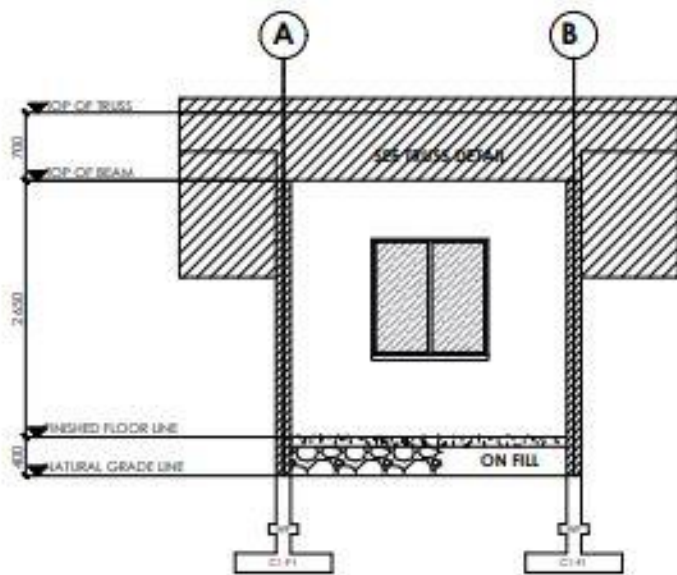


**A-2**  
**23** **RIGHT SIDE ELEVATION**  
SCALE: 1 : 50 MTR.

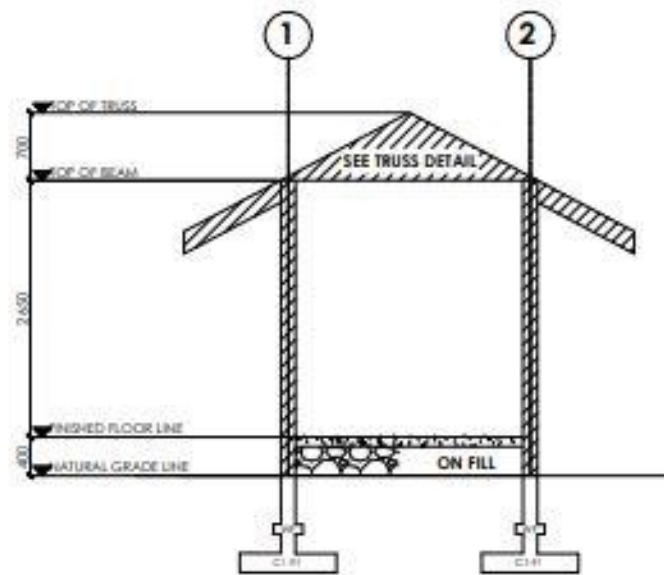


**A-2**  
**33** **SCHEDULE OF DOORS AND WINDOWS**  
SCALE: 1 : 25 MTR.


 <b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b>	CERTIFIED / PREPARED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.
	<b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>PELMARK B. IYOG</b> CRD ENG'G STAFF	<b>THESSALYN B. LIMAS</b> SR. ENGINEER II	<b>RIZALINDA L. ABING</b> CHIEF PRJSD	<b>HILO SELIM KATADA, Ps.D.</b> REGIONAL DIRECTOR	<b>7</b>
	PRC NO. 871428 PRC NO. 871138	VALID UNTIL: 08/19/2022 DATE ISSUED: 04/02/21 PLACE ISSUED: PROVINCE OF SOR	PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE				



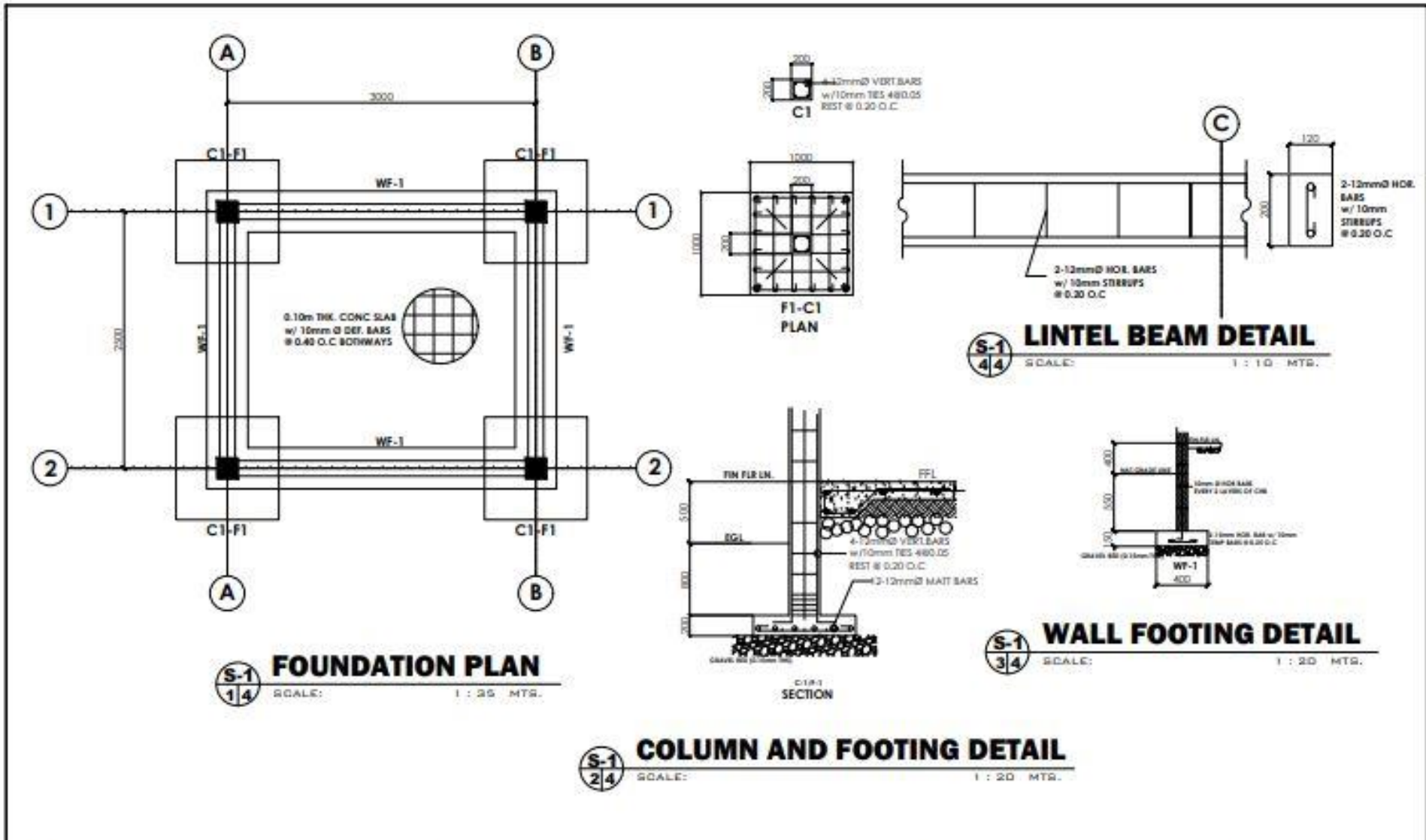
**SECTION A' (PUMP HOUSE)**  
 SCALE: 1 : 50 MTR.



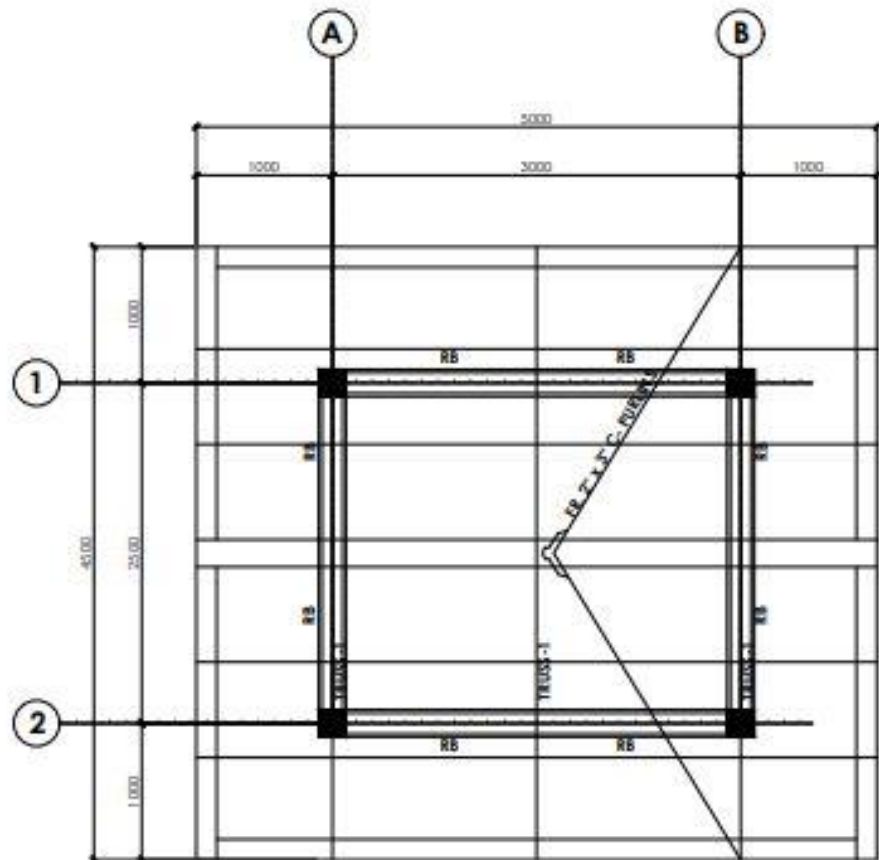
**SECTION B' (PUMP HOUSE)**  
 SCALE: 1 : 50 MTR.

 <b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b>	CERTIFIED / PREPARED BY: <b>MARK RETEP M. LOZADA</b> <small>CIVIL ENGINEER</small>		PROJECT TITLE: <b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>		DRAWN BY: <b>PELMARK B. IYOG</b> <small>DWG. ENGR. STAFF</small>	CHECKED BY: <b>THESSALYN E. LIMAS</b> <small>SA, ENGINEER II</small>	RECOMMENDING APPROVAL: <b>RIZALINDA L. ASING</b> <small>CHIEF, PPUSD</small>	APPROVED: <b>NILO SELIM KATADA, Ph.D.</b> <small>MEDICAL DIRECTOR</small>	SHEET NO: <b>7</b>
	PRC NO. : 214228	VALID UNTIL : 06/19/2021	PROJECT LOCATION : BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE						<b>0307</b>
	PTR NO. : 871296	DATE ISSUED : 06/03/21							
	PLACE ISSUED : PROVINCE OF AGUSAN DEL NORTE								

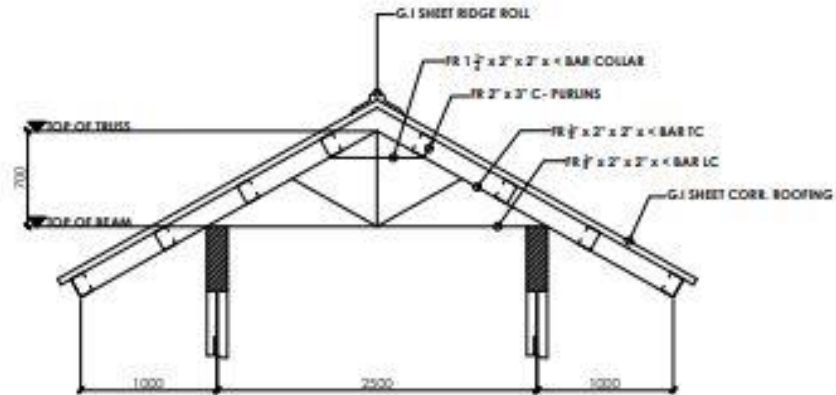




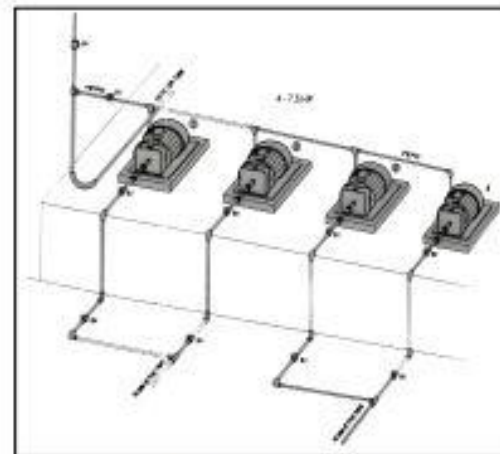
<p><b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b></p>	CERTIFIED / PREPARED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.
	<b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>PELMARK B. IYOG</b> CIVIL ENGINEER	<b>THESSALYN B. LIMAS</b> CIVIL ENGINEER	<b>RIZALINDA L. ABING</b> CIVIL ENGINEER	<b>NILO SELIN KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>7</b>
	PRC NO. : 21428 PDR NO. : 81108	VALID UNTIL : 08/19/2023 DATE ISSUED : 04/04/2023 PLACE ISSUED : PROVINCE OF ILOILO	PROJECT LOCATION : BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE				



**S-2**  
**1/2** **ROOF FRAMING PLAN**  
SCALE: 1 : 25 MTR.



**S-2**  
**2/2** **ROOF TRUSS DETAIL**  
SCALE: 1 : 25 MTR.



**ISOMETRIC**



**BUREAU OF  
FISHERIES AND  
AQUATIC  
RESOURCES**

CERTIFIED / PREPARED BY:

**MARK REYEP M. LOZADA**  
CIVIL ENGINEER

PRC NO. 014289      VALID UNTIL: 08/18/2022  
PTR NO. 191138      DATE ISSUED: 06/06/2021  
PLACE ISSUED: PROVINCE OF AGUSAN DEL NORTE

PROJECT TITLE:

**ESTABLISHMENT OF MULTI-SPECIES MARINE  
HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN  
THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)**

PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE

DRAWN BY:

**PELMARK B. IYOG**  
CIVIL ENGINEER

CHECKED BY:

**THESSALYN S. LIMAS**  
CIVIL ENGINEER

RECOMMENDING APPROVAL:

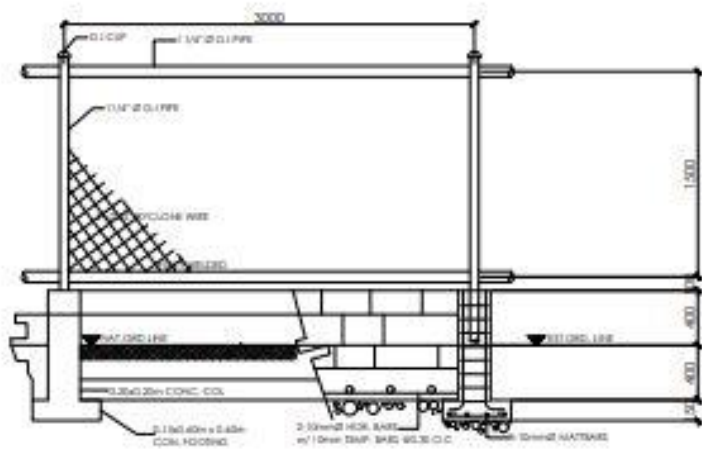
**RIZALINDA L. ASING**  
CHIEF, PPS&D

APPROVED:

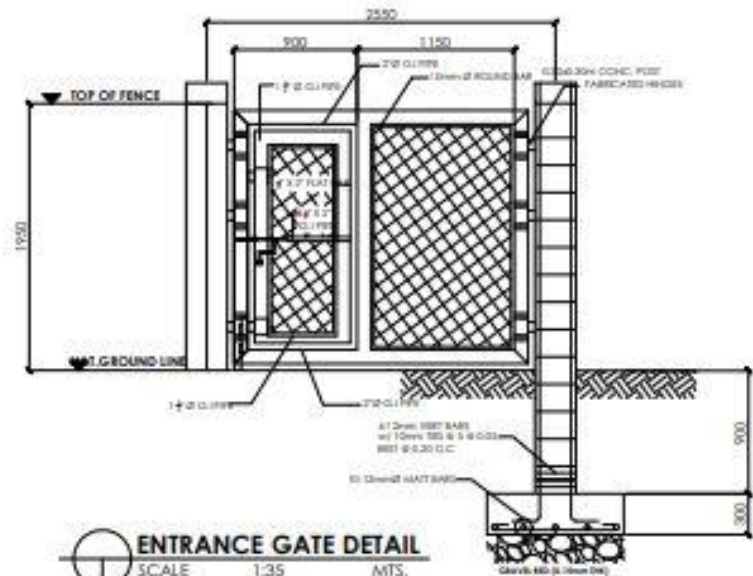
**NILO SELIM KATADA, Ph.D.**  
REGIONAL DIRECTOR

SHEET NO.:

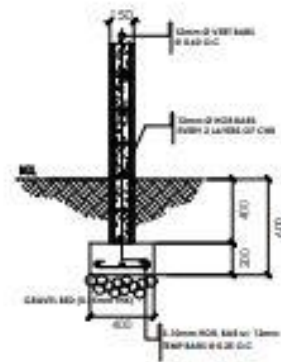
**7**  
**0507**




**PUMP HOUSE FENCE**  
SCALE 1:35 MTS.



**ENTRANCE GATE DETAIL**  
SCALE 1:35 MTS.



**FENCE WALL FOOTING DETAIL**  
SCALE 1:20 MTS.

 <b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b>	CERTIFIED / PREPARED BY:		PROJECT TITLE:		DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.
	<b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER		<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>		<b>PELMARK B. IYOG</b> CIVIL ENGINEER	<b>THESSALYN S. LIMAS</b> CIVIL ENGINEER	<b>RIZALINDA L. ASING</b> CIVIL ENGINEER	<b>NILO SOLIM KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>7</b>
	PRC NO. - 0744289	VALID UNTIL - 08/16/2022	PROJECT LOCATION - BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE						<b>0607</b>
PRR NO. - 811038	DATE ISSUED - 04/03/2021								
	PLACE ISSUED - PROVINCE OF ILO ILO								

# SCHEDULE OF LOADS AND COMPUTATIONS:

## SUB - PANEL BOARD 03

CKT NO.	LOAD DESCRIPTION	L.O.	C.O.	SWITCHES			SERVICE VOLTAGE	LOAD VA	LOAD AMPERES			OC PD			WIRING & CONDUIT TYPE & SIZE
				1	2	3			AT	AF	ANC				
1	WATER PUMP		1				220	3083	24.3136		80	150	15	2-8mm <sup>2</sup> (16 AWG) THW WIRE IN 20mm Ø PVC CONDUIT PIPE	
2	WATER PUMP		1				220	3083	24.3136		80	150	15	2-8mm <sup>2</sup> (16 AWG) THW WIRE IN 20mm Ø PVC CONDUIT PIPE	
3	WATER PUMP		1				220	3083	24.3136		80	150	15	2-8mm <sup>2</sup> (16 AWG) THW WIRE IN 20mm Ø PVC CONDUIT PIPE	
4	WATER PUMP		1				220	3083	24.3136		80	150	15	2-8mm <sup>2</sup> (16 AWG) THW WIRE IN 20mm Ø PVC CONDUIT PIPE	
5	LIGHTING FIXTURES / C.O.	6	1		1		220	740	3.2873		30	150	15	2-3.5mm <sup>2</sup> (12 AWG) THW WIRE IN 20mm Ø PVC CONDUIT PIPE	
6	SPARK						220	502	2.1736		30	150	15	STAB - OUT	
7	SPARK						220	502	2.1736		30	150	15	STAB - OUT	
TOTAL		6	2		1		220	18559	155.0887		150	150	15	2-16 (AWG) THW WIRE IN 50mm Ø PVC CONDUIT PIPE	

### LEGEND:



### MOUNTING HEIGHT:

LIGHT SWITCH	1200 mm A.F.F.
PANELBOARD	1800 mm A.F.F.
TEL. DISTR. C.O.	300 mm A.F.F.
COUNTERTOP OUTLET	REFER TO ARCHT. OR P&E
OTHERS	REFER TO ARCHT. OR P&E

### COMPUTATION:

#### MAIN CKT BREAKER:

$$I_{cb} = [ \text{TOTAL AMPERES} \times (1.5) ] / 24.3174 ]$$

$$= [ 105.0887 \times 36.4785 ]$$

$$= 141.4848 \text{ AMPERES}$$

THEREFORE, USE 150 AMPERES MAIN CIRCUIT BREAKER

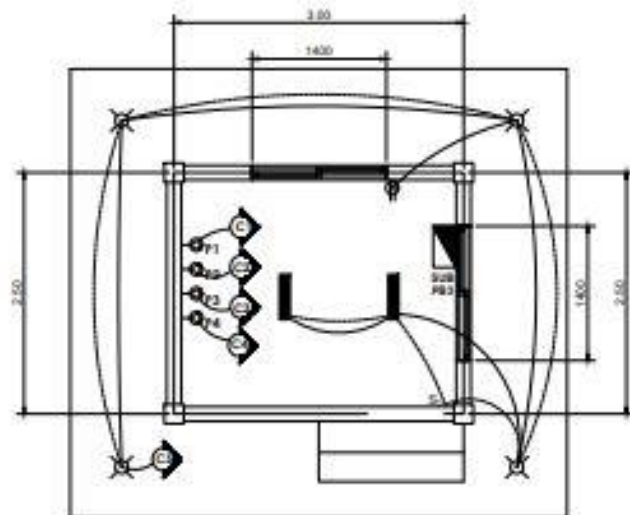
#### MAIN FEEDER:

$$I_c = [ 105.0887 \times (1.25) / 24.3174 ]$$

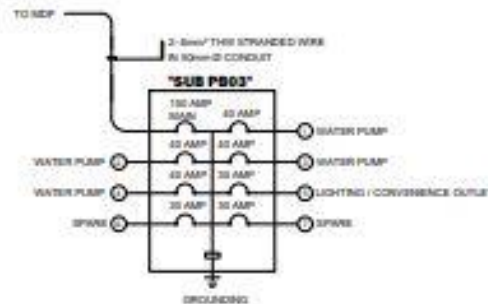
$$= [ 105.0887 \times 6.07835 ]$$

$$= 111.08825 \text{ AMPERES}$$

USE 2 - #6 AWG (150A@60000 C.) IN A 50MM Ø PVC & 1 - 120 AT CB  
ALL OCPD SHALL BE 125AF & 10 KVIC



**ELECTRICAL LAYOUT (PUMP HOUSE)**  
SCALE 1:50 MTS.

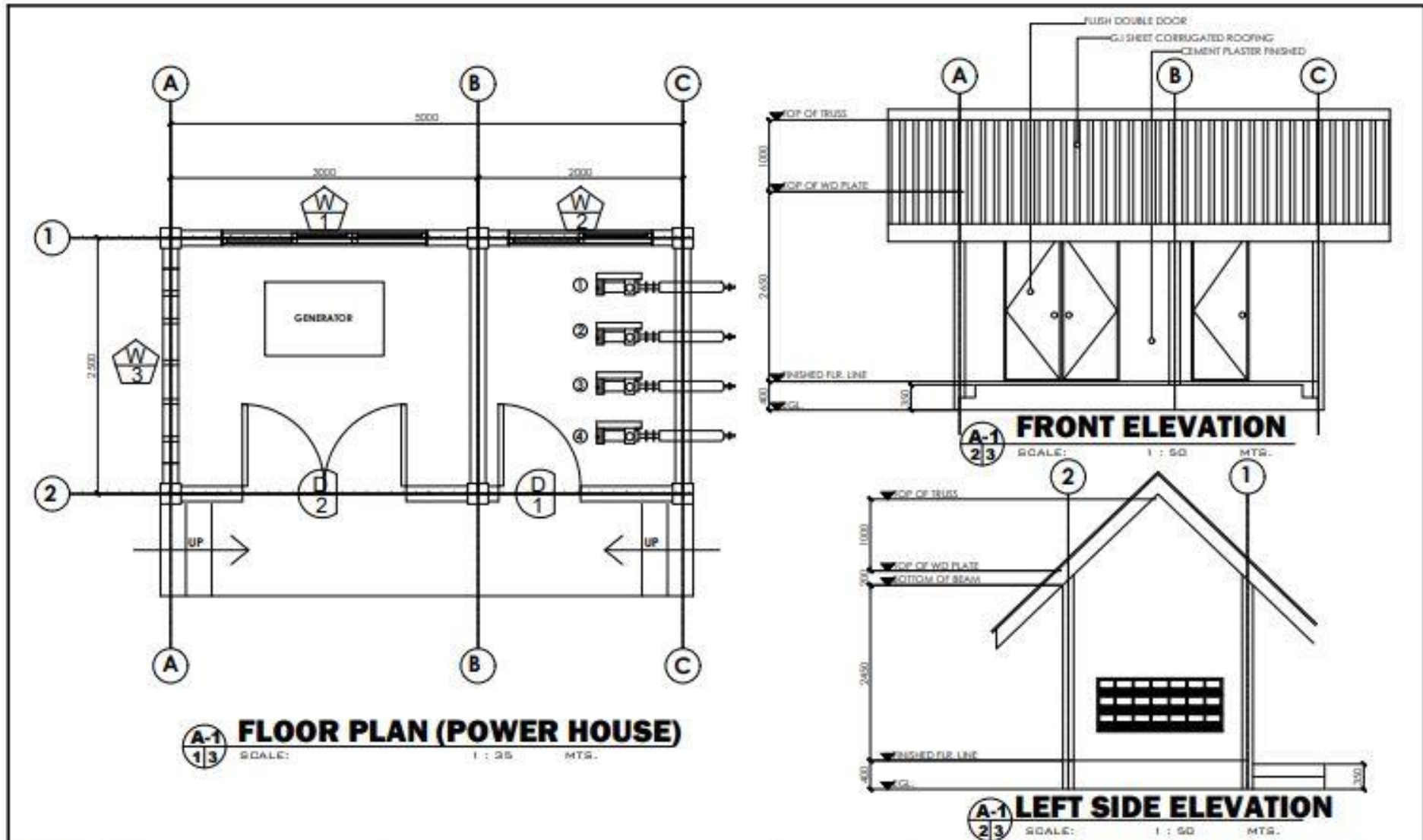



**RISER DIAGRAM**

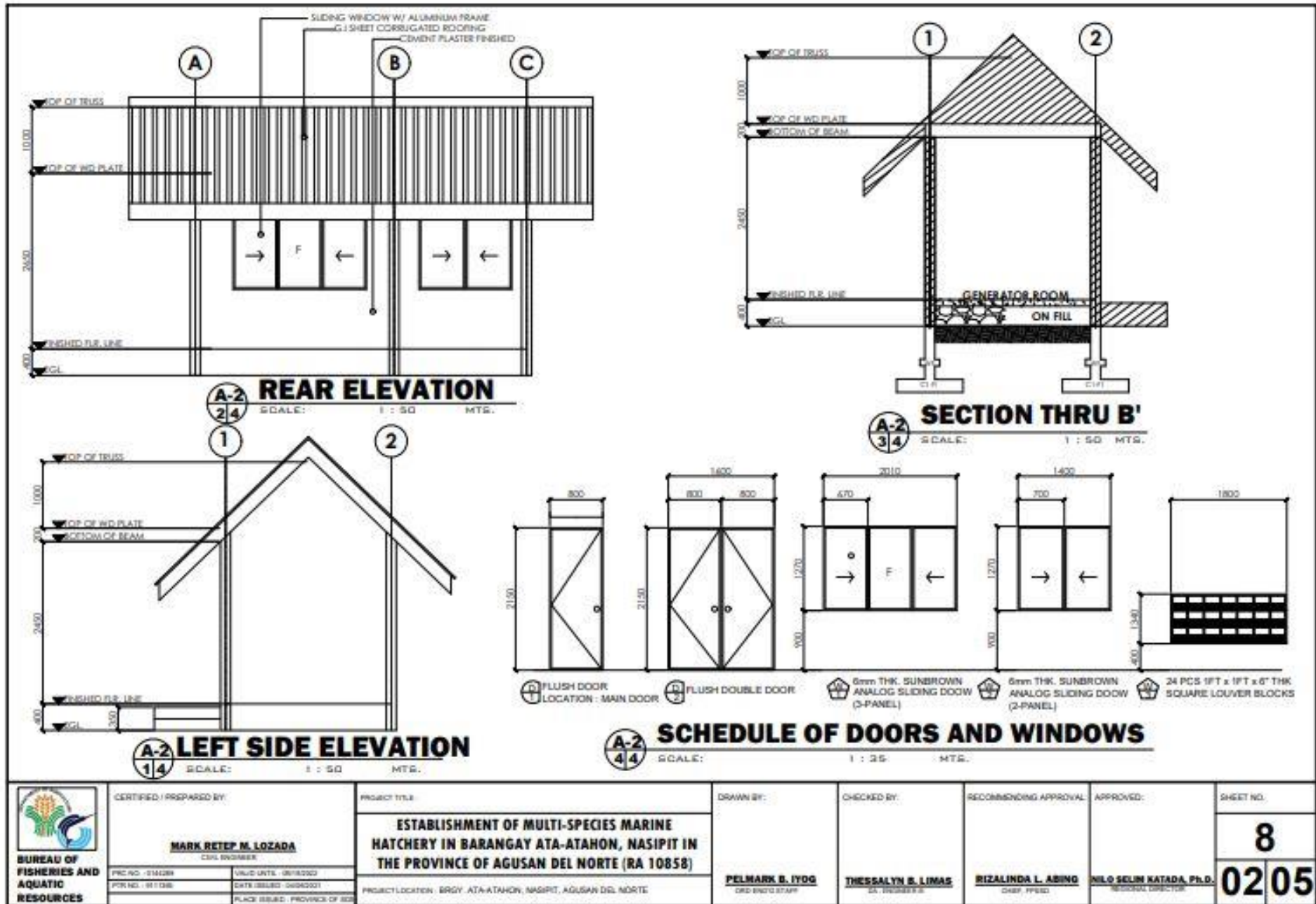
### TECHNICAL SPECIFICATIONS:

- THE TYPE OF SERVICE SHALL BE 220V, 60Hz, 3 PHASE
- ALL ELECTRICAL WORKS HEREIN SHALL COMPLY TO THE PROVISION OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, LOCAL ORDINANCE OF MUNICIPALITY OR CITY, AND THE RULES AND REGULATION OF LOCAL ELECTRIC COOPERATIVE.
- WIRING METHOD SHALL BE IN EMT, IMC OR RSC IF EMBEDDED OR EXPOSE WORK.
- ALL MATERIALS TO BE USED SHALL BE NEW AND APPROVED TYPE FOR THE PURPOSE AND LOCATION.
- ALL ELECTRICAL WORKS SHALL BE UNDER THE DIRECT SUPERVISION OF A DULY LICENSE ELECTRICAL ENGINEER OR MASTER ELECTRICAL.
- ALL WIRING WORKS SHALL BE PLACE IN RACEWAY, IN NEON LIGHT, THE HIGH TENSION CABLE SHOULD BE PROVIDED WITH HV INSULATION SUPPORT. OPEN WIRING ARE NOT ALLOWED.
- ALL NEON TRANSFORMERS, BALLAST AND TRANSFORMERS SHALL ENCLOSED IN METAL AND INSTALLED IN APPROVED LOCATION. A GROUND WIRE IN THE RACEWAY SHOULD BE INSTALLED.
- THE CONTRACTOR SHALL PROVIDE SUFFICIENT GROUND ROD AND NECESSARY MATERIALS TO BE ABLE TO OBTAIN ACCEPTABLE EARTH RESISTANCE ON SITE. CONTINUITY OF GROUNDING SYSTEM SHOULD BE MAINTAIN.
- ALL LIGHTING FIXTURES, CONDUITS/PIPES, NEON TRANSFORMERS, PINLIGHTS SHALL BE PROVIDED WITH RIGID STEEL HANGERS WITH MINIMUM SIZE OF 4mmØ
- CONDUITS/PIPES LAYOUT ON WALLS AND CEILING SHALL SUPPORTED EVERY 1500mm (SPACING) BY MEANS OF STEEL MALLEABLE CLAMP OR EQUIVALENT.

<p><b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b></p>	CERTIFIED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.:
	<p>PROFESSIONAL ELECTRICAL ENGINEER</p> <p>PRC NO. : _____</p> <p>PTR NO. : _____</p> <p>TN NO. : _____</p> <p>VALID UNTIL: _____</p> <p>DATE ISSUED: _____</p> <p>PLACE ISSUED: _____</p>	<p><b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b></p> <p>PROJECT LOCATION - BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE</p>	<p><b>PELMARK B. IYOG</b> DRAWING STAFF</p> <p>PREPARED BY:</p> <p><b>MARK RETEP H. LOZADA, CE</b> PROJECT ENGINEER, I/I</p>	<p><b>THESSALYN B. LIMAS</b> DR. ENGINEER II</p>	<p><b>RIZALINDA L. ABING</b> CHIEF, P&amp;E</p>	<p><b>NILO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR</p>	<p><b>7</b></p> <p><b>0707</b></p>



 <b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b>	CERTIFIED / PREPARED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.
	<b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>FELMARK B. IYOG</b> CRD ENGR STAFF	<b>THESSALYN B. LIMAS</b> SA - ENGINEER II	<b>RIZALINDA L. ABING</b> CHIEF, FPESD	<b>NILO SELIN KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>8</b>
	PRC NO. - 1344289 PTR NO. - 911336	VALID UNTIL - 09/16/2023 DATE ISSUED - 06/02/2021 PLACE ISSUED - PROVINCE OF SCR	PROJECT LOCATION - BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE.				



CERTIFIED / PREPARED BY:	
<b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER	
PRC NO. - 51428	VALID UNTIL - 08/18/2023
PR. NO. - 81138	DATE ISSUED - 04/02/2021
PLACE ISSUED - PROVINCE OF CEBU	

PROJECT TITLE:	ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)
PROJECT LOCATION:	BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE

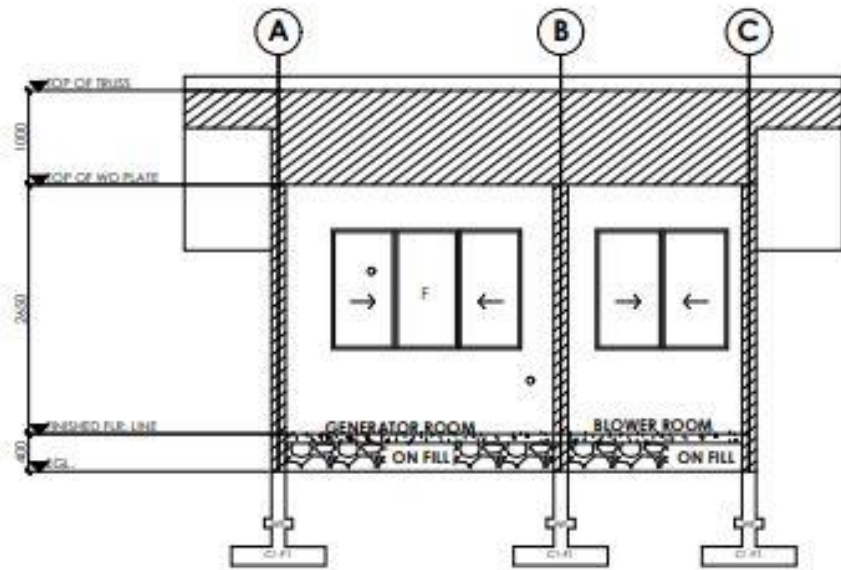
DRAWN BY:	<b>PELMARK B. IYOG</b> CRD ENGR STAFF
-----------	--

CHECKED BY:	<b>THESSALYN B. LIMAS</b> SA, REGISTERED
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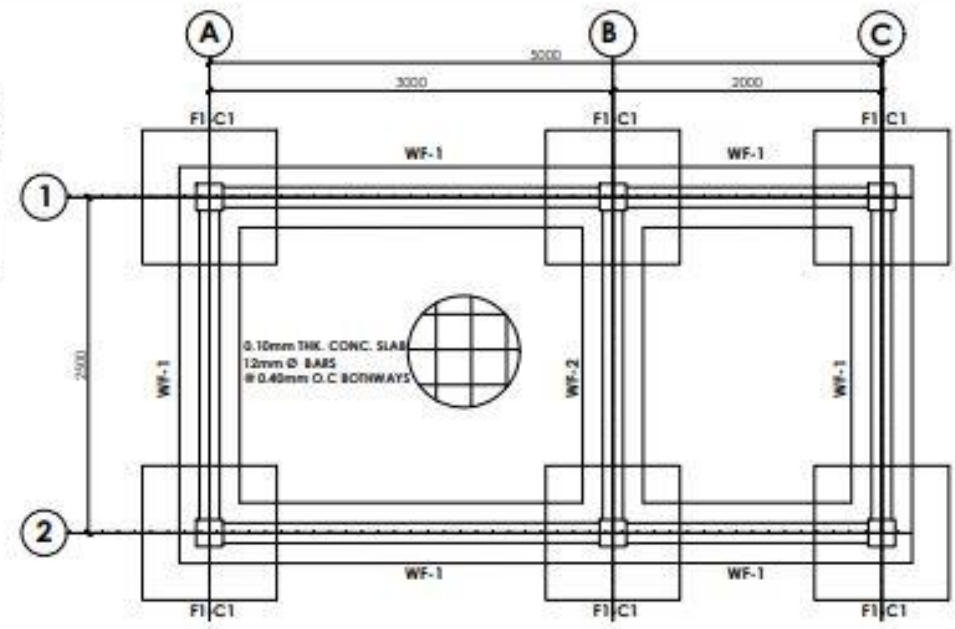
RECOMMENDING APPROVAL:	<b>RIZALINDA L. ABING</b> CHIEF, PPEED
------------------------	---

APPROVED:	<b>NILO SELIN KATADA, P.L.D.</b> REGISTERED ARCHITECT
-----------	--

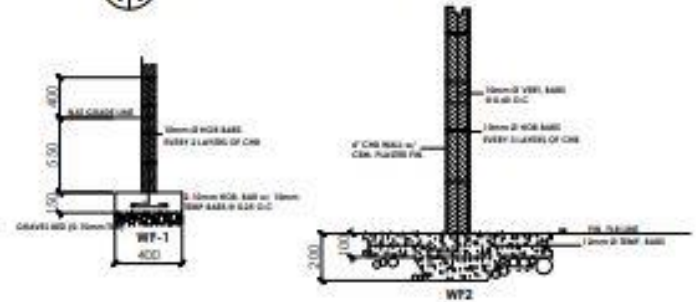
SHEET NO.	<b>8</b>
	<b>0205</b>



**A-3**  
1/1  
**SECTION THRU B'**  
SCALE: 1 : 50 MTS.



**S-1**  
1/3  
**FOUNDATION PLAN**  
SCALE: 1 : 25 MTS.

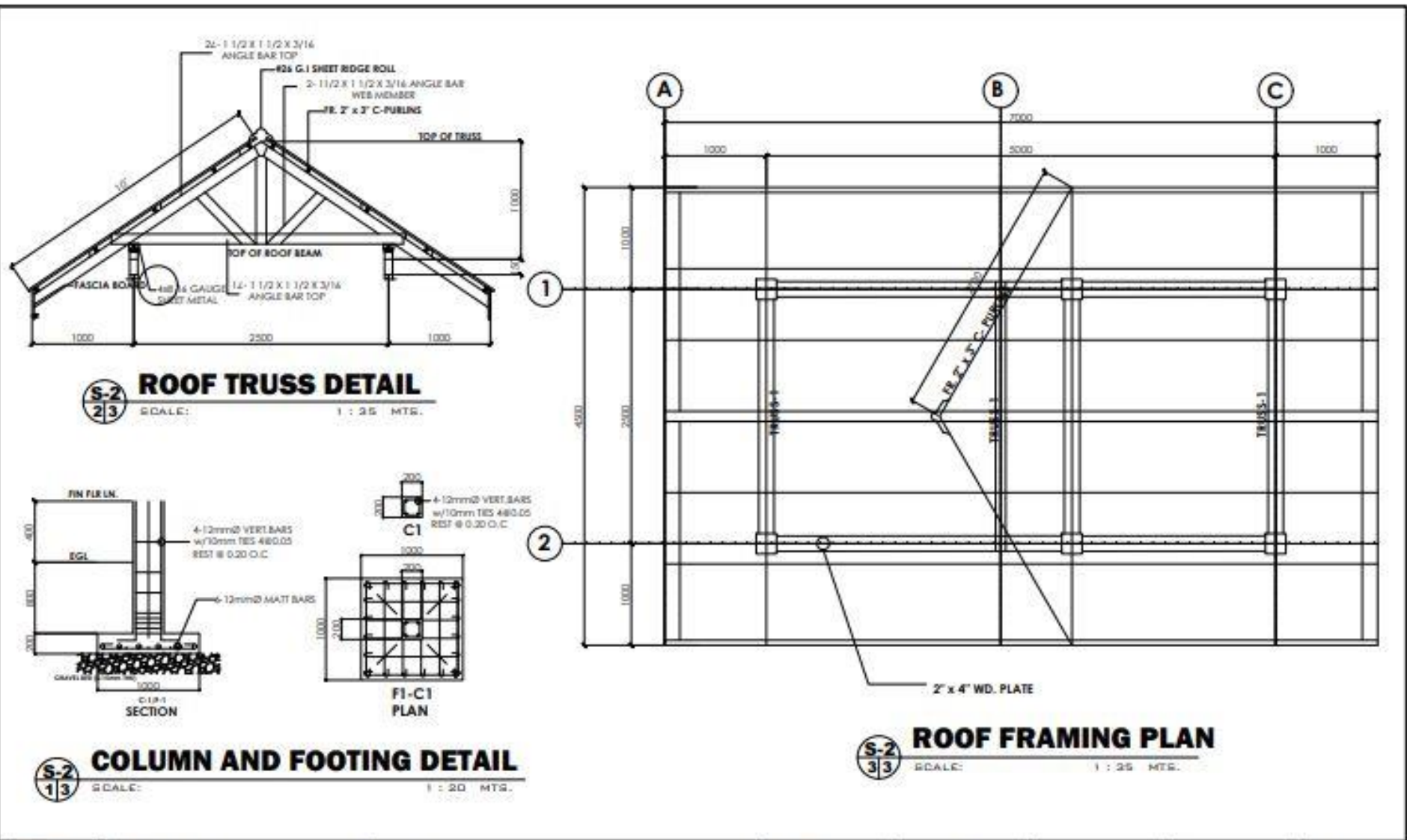


**S-1**  
2/3  
**WALL FOOTING DETAIL**  
SCALE: 1 : 20 MTS.

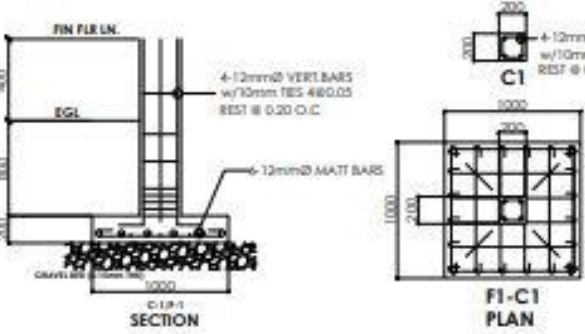


**S-1**  
3/3  
**ROOF BEAM DETAIL**  
SCALE: 1 : 20 MTS.

<p><b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b></p>	CERTIFIED / PREPARED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.
	<b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>PELMARK B. IVOG</b> CIVIL ENGINEER	<b>THESSALYN B. LIMAS</b> CIVIL ENGINEER	<b>RIZALINDA L. ABING</b> CHIEF, PPSO	<b>NILO SELIN KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>8</b>
	PRC NO. - 014289 PTR NO. - 411296	VALID UNTIL - 08/10/2023 DATE ISSUED - 04/04/2021 PLACE ISSUED - PROVINCE OF AGUSAN DEL NORTE					<b>0305</b>



**S-2**  
**2/3** **ROOF TRUSS DETAIL**  
SCALE: 1 : 25 MTR.



**S-2**  
**1/3** **COLUMN AND FOOTING DETAIL**  
SCALE: 1 : 20 MTR.

**S-2**  
**3/3** **ROOF FRAMING PLAN**  
SCALE: 1 : 25 MTR.

<p><b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b></p>	CERTIFIED / PREPARED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.
	<b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>PELMARK B. IYOG</b> DIBO ENGR STAFF	<b>THESSALYN S. LIMAS</b> CIVIL ENGINEER II	<b>RIZALINDA L. ABING</b> CHIEF, PFISSO	<b>NILO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>8</b>
	PRC NO. 014289      VALID UNTIL: 08/15/2022 PTR NO. 017086      DATE ISSUED: 04/05/2021 PLACE ISSUED: PROVINCE OF AGUSAN DEL NORTE	PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE					



# SCHEDULE OF LOADS AND COMPUTATIONS:

SUB - PANEL BOARD 01													
CKT. NO.	LOAD DESCRIPTION	L.D.	C.D.	SWITCHER			SERVICE VOLTAGE	LOAD VA	LOAD			WIRE & CONDUIT TYPE & SIZE	
				1	2	3			AMPERES	AT	AF		NAIC
1	BHP BLOWER	1					230	3729	16.2130	30	100	10	2.8mm <sup>2</sup> (30 AWG) THW WIRE IN 25mm Ø PVC CONDUIT PIPE
2	BHP BLOWER	1					230	3729	16.2130	30	100	10	2.8mm <sup>2</sup> (30 AWG) THW WIRE IN 25mm Ø PVC CONDUIT PIPE
3	BHP BLOWER	1					230	3729	16.2130	30	100	10	2.8mm <sup>2</sup> (30 AWG) THW WIRE IN 25mm Ø PVC CONDUIT PIPE
4	BHP BLOWER	1					230	3729	16.2130	30	100	10	2.8mm <sup>2</sup> (30 AWG) THW WIRE IN 25mm Ø PVC CONDUIT PIPE
5	LIGHTING FIXTURES	8		1			230	180	2.0739	30	100	10	2.3.3mm <sup>2</sup> (18 AWG) THW WIRE IN 25mm Ø PVC CONDUIT PIPE
6	CONVENIENCE OUTLET		2				230	240	1.0425	30	100	10	2.3.3mm <sup>2</sup> (18 AWG) THW WIRE IN 25mm Ø PVC CONDUIT PIPE
7	SPARE						230	600	2.1739	30	100	10	2.3.3mm <sup>2</sup> (18 AWG) THW WIRE IN 25mm Ø PVC CONDUIT PIPE
8	SPARE						230	600	2.1739	30	100	10	2.3.3mm <sup>2</sup> (18 AWG) THW WIRE IN 25mm Ø PVC CONDUIT PIPE
	TOTAL	8	8	1			230	5889	72.691	100	100	10	2.8 (AWG) THW WIRE IN 25mm Ø PVC CONDUIT PIPE

### COMPUTATION:

MAIN CKT BREAKER:  
 $IS = [ \text{TOTAL AMPERES} \times (1.5) ] \text{ IN 2100}$   
 $= [ 72.691 \times 1.5 ]$   
 $= 109.0365 \text{ AMPERES}$

THEREFORE, USE 100 AMPERES MAIN CIRCUIT BREAKER

### MAIN FEEDER:

$IC = [ 72.691 \times (1.25) ] \text{ IN 3170}$   
 $= [ 72.691 \times 1.25 ]$   
 $= 90.86375 \text{ AMPERES}$

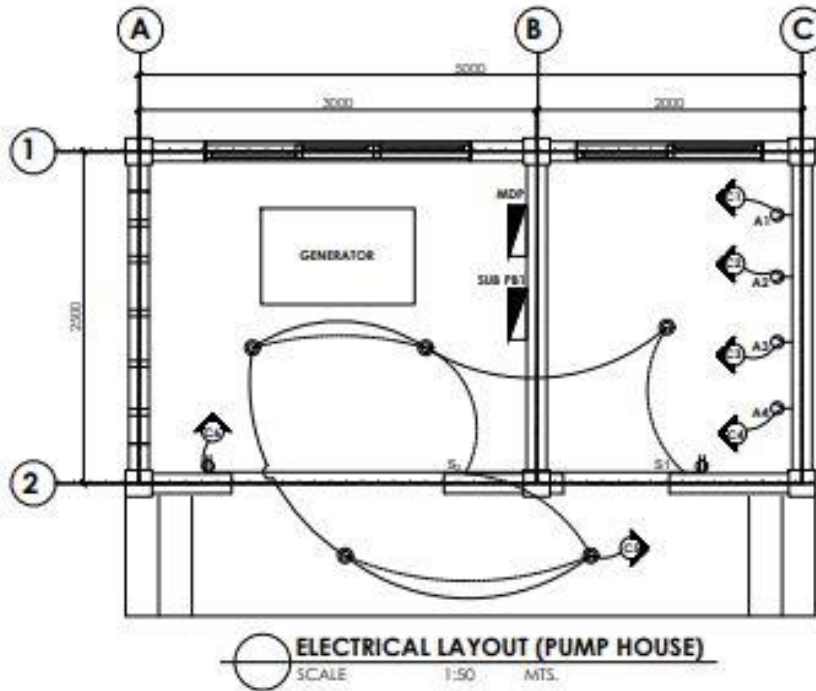
USE 2 - # 6 AWG (NAGA00050 C) IN A 50MM Ø PVC & 1 - 100 AT CB  
 ALL CCB SHALL BE 100AF & 10 KAC

### MOUNTING HEIGHT:

LIGHT SWITCH 100 mm A.F.F.  
 PANELBOARD 180 mm A.F.F.  
 TEL. DATA C.D. 30 mm A.F.F.  
 COUNTER TOP OUTLET REFER TO ARCHT. OR P.E.  
 OTHERS REFER TO ARCHT. OR P.E.

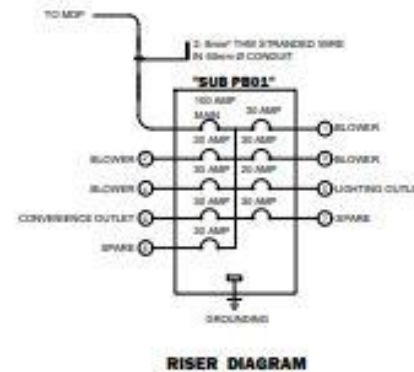
### TECHNICAL SPECIFICATIONS:

- THE TYPE OF SERVICE SHALL BE 230V, 60Hz, 3 PHASE
- ALL ELECTRICAL WORKS HEREIN SHALL COMPLY TO THE PROVISION OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, LOCAL ORDINANCE OF MUNICIPALITY OR CITY, AND THE RULES AND REGULATION OF LOCAL ELECTRIC COOPERATIVE.
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- ALL ELECTRICAL WORKS SHALL BE UNDER THE DIRECT SUPERVISION OF A DULY LICENSE ELECTRICAL ENGINEER OR MASTER ELECTRICIAN.
- ALL WIRING WORKS SHALL BE PLACED IN RACEWAY, IN NEON LIGHT, THE HIGH TENSION CABLE SHOULD BE PROVIDED WITH HV INSULATION SUPPORT. OPEN WIRING ARE NOT ALLOWED.
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- THE CONTRACTOR SHALL PROVIDE SUFFICIENT GROUND ROD AND NECESSARY MATERIALS TO BE ABLE TO OBTAIN ACCEPTABLE EARTH RESISTANCE ON SITE. CONTINUITY OF GROUNDING SYSTEM SHOULD BE MAINTAIN.
- ALL LIGHTING FIXTURES, CONDUITS/PIPES, NEON TRANSFORMERS, PINLIGHTS SHALL BE PROVIDED WITH RIGID STEEL HANGERS WITH MINIMUM SIZE OF 4mmØ.
- CONDUITS/ PIPES LAYOUT ON WALLS AND CEILING SHALL SUPPORTED EVERY 1500mm (SPACING) BY MEANS OF STEEL MALLEABLE CLAMP OR EQUIVALENT.



### LEGEND:

- 9 WATTS LED PIN LIGHT
- S1 SINGLE GANG SWITCH
- CONVENIENCE OUTLET
- LIGHTING CKT LINE
- SWITCH CKT LINE
- CKT NO. CIRCUIT HOMERUN



CERTIFIED BY:  
 PROFESSIONAL ELECTRICAL ENGINEER  
 PRC NO. \_\_\_\_\_  
 UPLD NO. \_\_\_\_\_  
 PTR NO. \_\_\_\_\_  
 TR NO. \_\_\_\_\_

PROJECT TITLE:  
**ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)**  
 PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE

DRAWN BY:  
**PELMARK S. LYOG**  
 DRAINAGE STAFF  
 PREPARED BY:  
**MARK RESEP N. LOZADA, CE**  
 PROJECT ENGINEER, I/II

CHECKED BY:  
**THESSALYN B. LIMAS**  
 CE - SUPERVISOR II

RECOMMENDING APPROVAL:  
**RIZALINDA L. ABING**  
 CHIEF PFSO

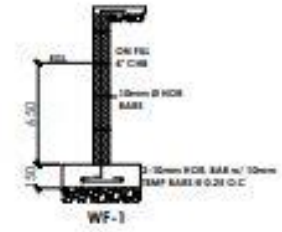
APPROVED:  
**NILO SELIM KATADA, Ph.D.**  
 REGIONAL DIRECTOR

SHEET NO.  
**8**  
**0505**

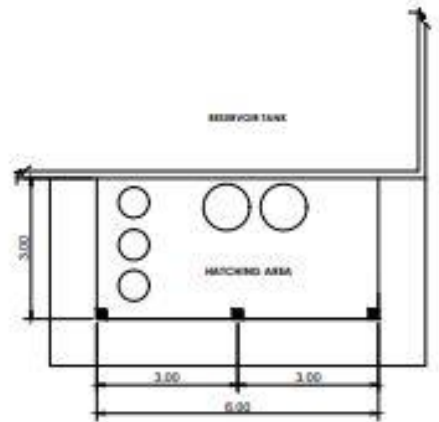


**A-1**  
**FRONT ELEVATION**  
SCALE: 1 : 100 MTR.

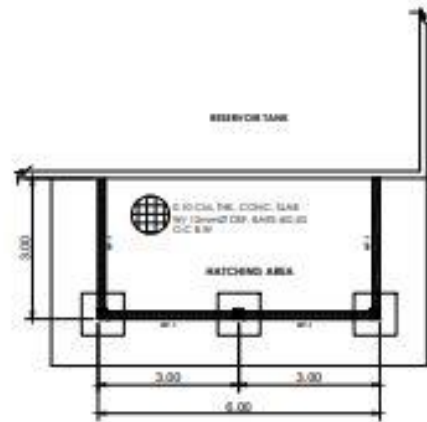
**A-2**  
**RIGHT SIDE ELEVATION**  
SCALE: 1 : 100 MTR.



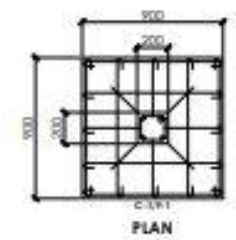
**WF-1**  
**WALL FOOTING DETAIL**  
SCALE: 1 : 30 MTR.



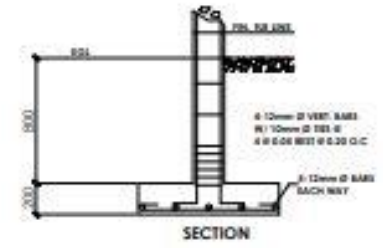
**A-3**  
**FLOOR PLAN (HATCHING AREA)**  
SCALE: 1 : 100 MTR.



**S-1**  
**FOUNDATION PLAN**  
SCALE: 1 : 100 MTR.




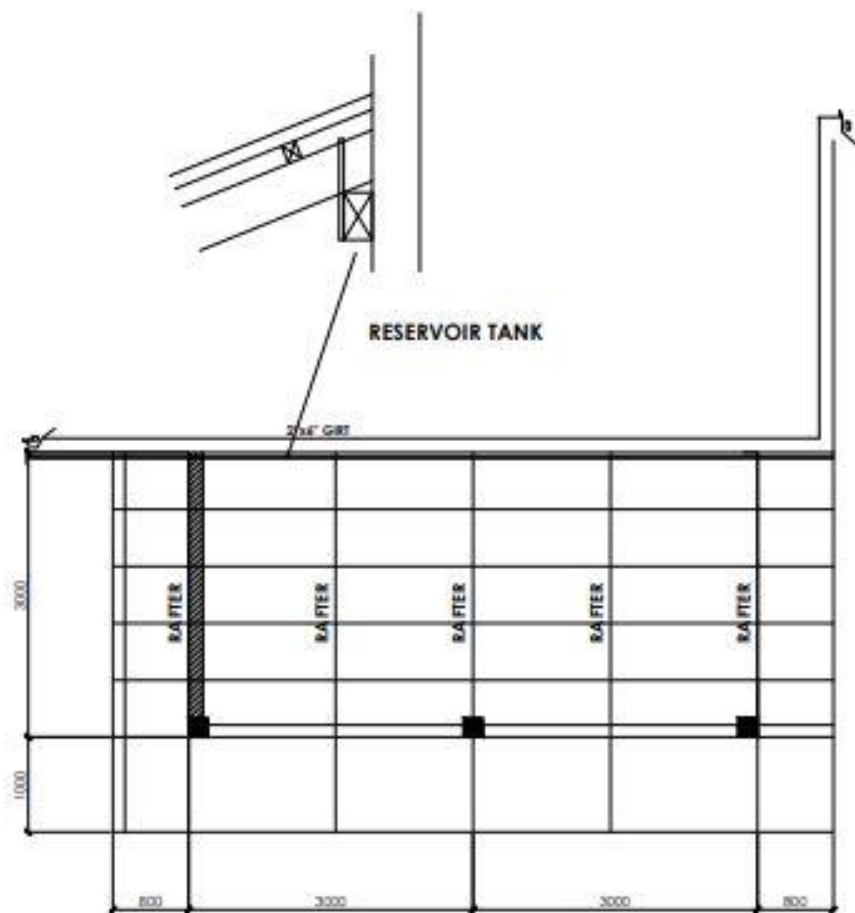
**PLAN**



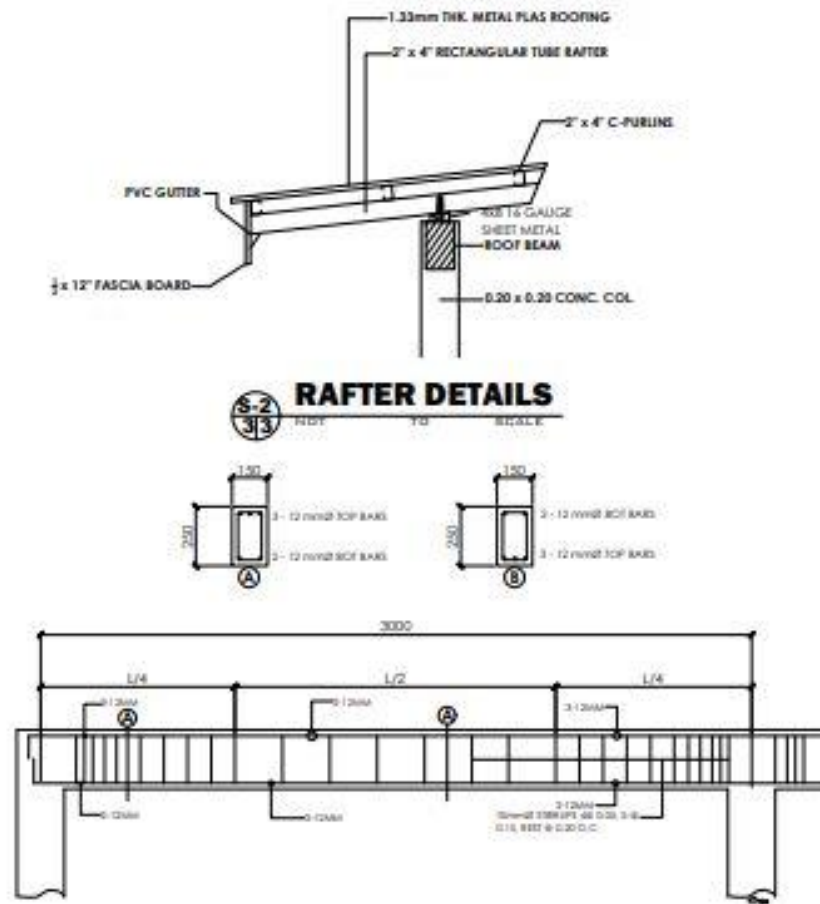
**SECTION**

**S-2**  
**COLUMN AND FOOTING DETAIL**  
SCALE: 1 : 30 MTR.

 <b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b>	CERTIFIED / PREPARED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.	
	<b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>PELMARK B. IYOG</b> CIVIL ENGINEER	<b>THESSALYN B. LIMAS</b> CIVIL ENGINEER	<b>RIZALINDA L. ABING</b> CHIEF, PPSO	<b>NILO SELIN KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>9</b>	<b>0103</b>
	PRJ. NO.: 214228 DATE ISSUED: 04/04/2021 PLACE ISSUED: PROVINCE OF AGUSAN DEL NORTE	VALID UNTIL: 05/15/2023 DATE ISSUED: 04/04/2021 PLACE ISSUED: PROVINCE OF AGUSAN DEL NORTE	PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE					



**ROOF FRAMING PLAN (HATCHING AREA)**  
SCALE: 1 : 50 HTS.



**RAFTER DETAILS**  
SCALE: 1 : 10 HTS.

**BEAM DETAILS**  
SCALE: 1 : 20 HTS.



**BUREAU OF FISHERIES AND AQUATIC RESOURCES**

CERTIFIED / PREPARED BY:

**MARK RETEP M. LOZADA**  
CIVIL ENGINEER

PRC NO. 1244289      VALID UNTIL: 08/16/2022  
PDR NO. 1911386      DATE ISSUED: 04/04/2021  
PLACE ISSUED: PROVINCE OF ACO

PROJECT TITLE:

**ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)**

PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE

DRAWN BY:

**FELMARK B. IYOG**  
DRG. ENG'D STAFF

CHECKED BY:

**THESSALYN B. LIMAS**  
DR. ENGINEER

RECOMMENDING APPROVAL:

**RIZALINDA L. ASING**  
DRP. PPSO






APPROVED:

**NILO SELIN KATADA, Ph.D.**  
REGIONAL DIRECTOR

SHEET NO.

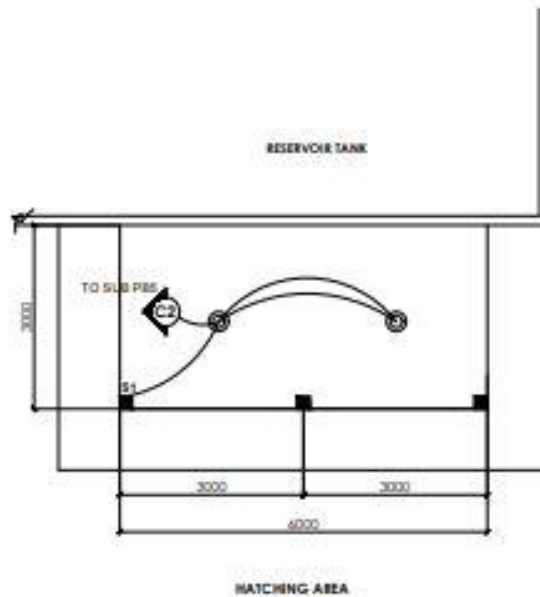
**9**  
**0203**

**LEGEND:**

-  16 WATTS LED TUBE LIGHT W/ HOUSING
-  DOUBLE GANG SWITCH
-  LIGHTING CKT LINE
-  SWITCH CKT LINE
-  CIRCUIT HOMERUN

**MOUNTING HEIGHT:**


- LIGHT SWITCH 108 mm A.F.F.
- PANELBOARD 183 mm A.F.F.
- TEL. DATA C.O. 228 mm A.F.F.
- COUNTER TOP OUTLET REFER TO ARCHT. OR P.E.E.
- OTHER REFER TO ARCHT. OR P.E.E.

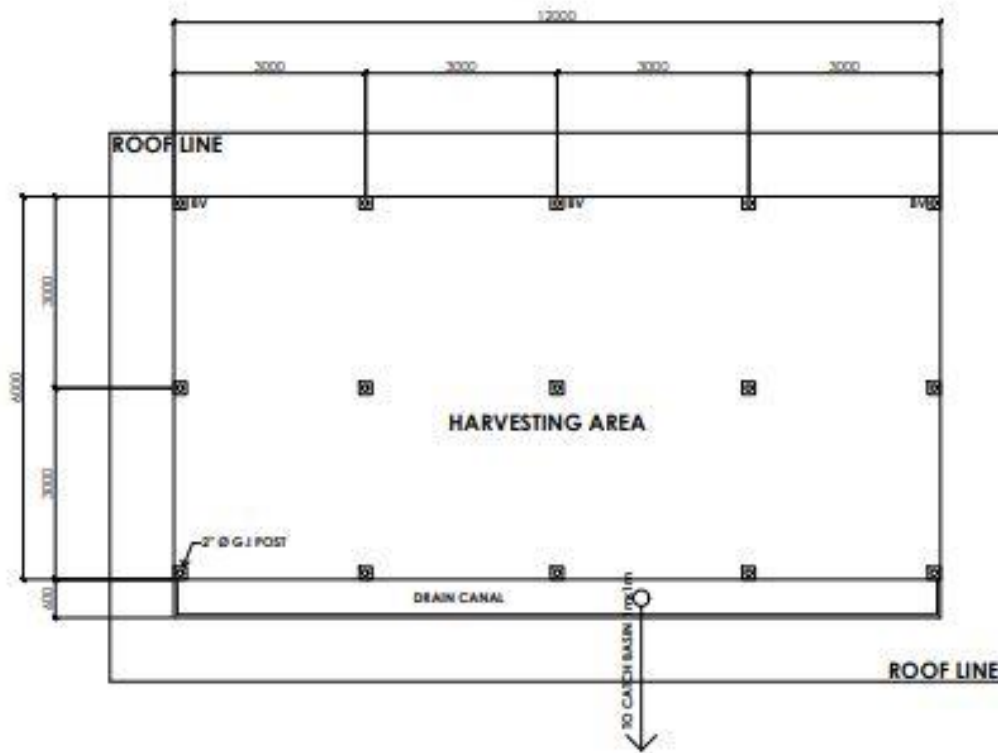


**LIGHTING LAY-OUT PLAN**  
SCALE: 1 : 75 MTS.

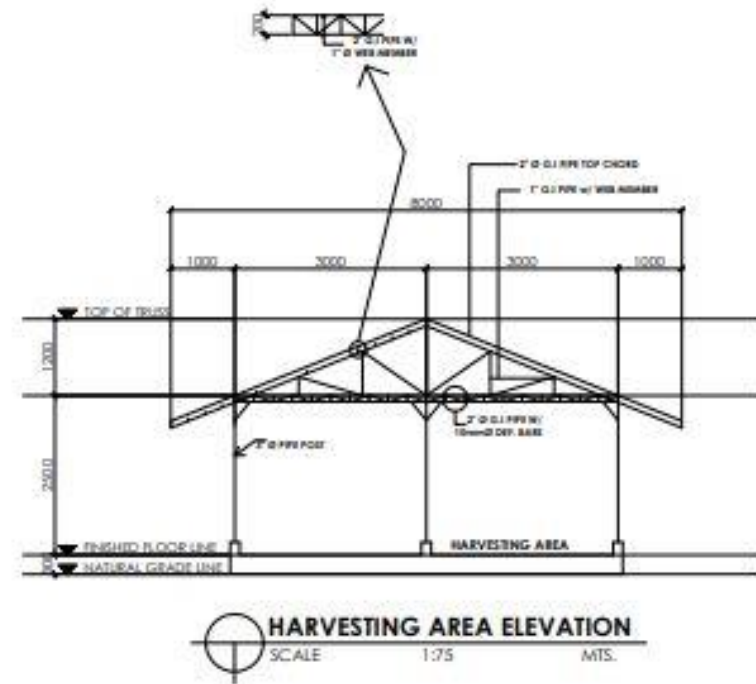
**TECHNICAL SPECIFICATIONS:**

- THE TYPE OF SERVICE SHALL BE 230V, 60Hz, 3 PHASE
- ALL ELECTRICAL WORKS HEREIN SHALL COMPLY TO THE PROVISION OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, LOCAL ORDINANCE OF MUNICIPALITY OR CITY, AND THE RULES AND REGULATION OF LOCAL ELECTRIC COOPERATIVE.
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- ALL ELECTRICAL WORKS SHALL BE UNDER THE DIRECT SUPERVISION OF A DULY LICENSE ELECTRICAL ENGINEER OR MASTER ELECTRICIAN.
- ALL WIRING WORKS SHALL BE PLACE IN RACEWAY, IN NEON LIGHT, THE HIGH TENSION CABLE SHOULD BE PROVIDED WITH HV INSULATION SUPPORT, OPEN WIRING ARE NOT ALLOWED.
- ALL NEON TRANSFORMERS, BALLAST AND TRANSFORMERS SHALL ENCLOSED IN METAL AND INSTALLED IN APPROVED LOCATION. A GROUND WIRE IN THE RACEWAY SHOULD BE INSTALLED.
- THE CONTRACTOR SHALL PROVIDE SUFFICIENT GROUND ROD AND NECESSARY MATERIALS TO BE ABLE TO OBTAIN ACCEPTABLE EARTH RESISTANCE ON SITE. CONTINUITY OF GROUNDING SYSTEM SHOULD BE MAINTAIN.
- ALL LIGHTING FIXTURES, CONDUITS/PIPES, NEON TRANSFORMERS, PINLIGHTS SHALL BE PROVIDED WITH RIGID STEEL HANGERS WITH MINIMUM SIZE OF 4mmØ.
- CONDUITS/PIPES LAYOUT ON WALLS AND CEILING SHALL SUPPORTED EVERY 1500mm (SPACING) BY MEANS OF STEEL MALLEABLE CLAMP OR EQUIVALENT.


 <b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b>	CERTIFIED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.
	PROFESSIONAL ELECTRICAL ENGINEER	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>PELMARK S. IYOG</b> ORDINERY STAFF				<b>9</b>
	PRC NO. _____ VALID UNTIL _____ PTR NO. _____ DATE ISSUED _____ TR NO. _____ PLACE ISSUED _____	PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE	PREPARED BY: <b>MARK RETEP M. LOZADA, CE</b> PROJECT ENGINEER, LH	<b>THESSALYN B. LIMAS</b> CH. ENGINEER	<b>RIZALINDA L. ABING</b> CHIEF, P.E.E.	<b>NLO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>0303</b>

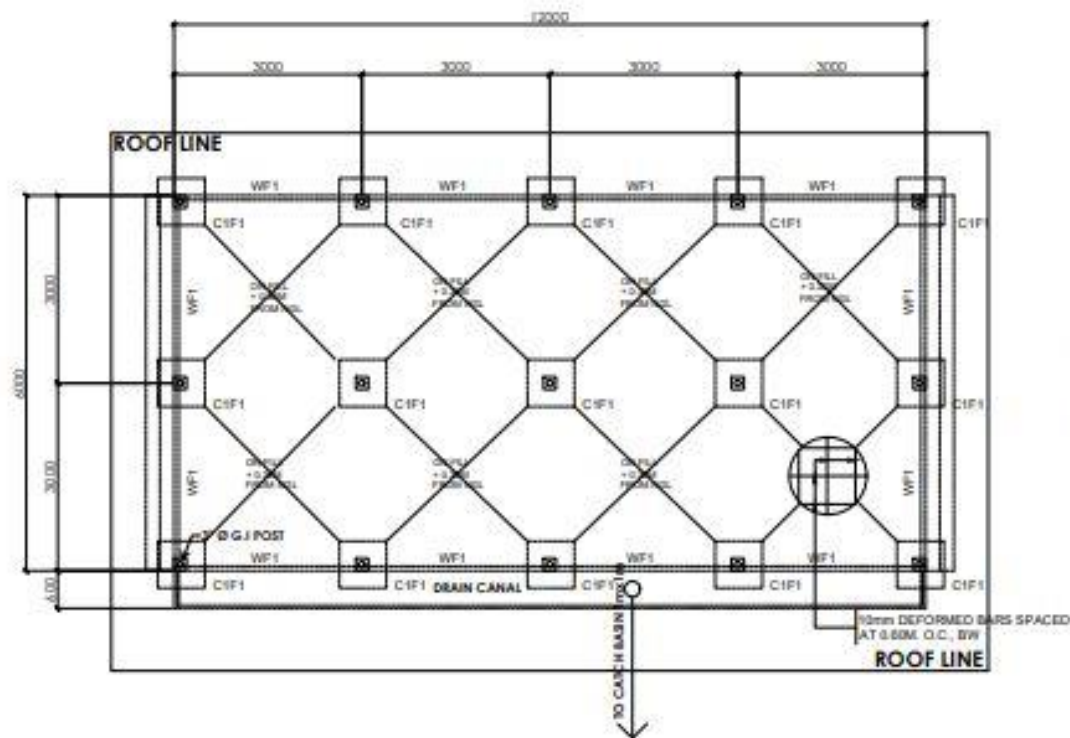


**FLOOR PLAN ( HARVESTING AREA )**  
SCALE: 1 : 75 MTS.

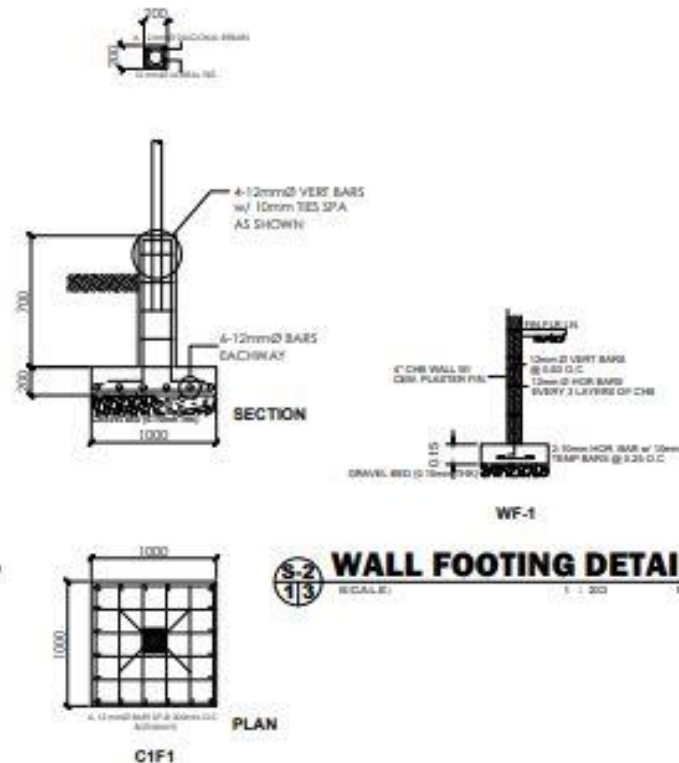


**HARVESTING AREA ELEVATION**  
SCALE: 1 : 75 MTS.

 <b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b>	CERTIFIED / PREPARED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.
	<b>MARK RETEP M. LOZADA</b> <small>CIVIL ENGINEER</small>	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>PELMARK B. IYOG</b> <small>DRG. ENGR. STAFF</small>	<b>THESSALYN B. LIMAS</b> <small>SA, ENGINEER'S</small>	<b>RIZALINDA L. ABING</b> <small>CHIEF, PPSO</small>	<b>NILO SELIN KATADA, Ph.D.</b> <small>REGIONAL DIRECTOR</small>	<b>10</b> <b>0104</b>
<small>PRC NO. - 214288</small> <small>PHR NO. - 911286</small>	<small>VALID UNTIL - 09/18/2023</small> <small>DATE ISSUED - 04/26/2021</small> <small>PLACE ISSUED - PROVINCE OF SCS</small>	<small>PROJECT LOCATION - BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE</small>					



**S-1**  
**FOUNDATION PLAN**  
SCALE: 1 : 75 MTR.



**S-1**  
**COLUMN - FOOTING & PEDESTAL DETAILS**  
SCALE: 1 : 25 MTR.



CERTIFIED / PREPARED BY:  
**MARK RETEP M. LOZADA**  
CIVIL ENGINEER  
PRC NO. 914289 VALID UNTIL 08/16/2023  
PDR NO. 911336 DATE ISSUED 04/04/2021  
PLACE ISSUED PROVINCE OF BICOL

PROJECT TITLE:  
**ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)**  
PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE

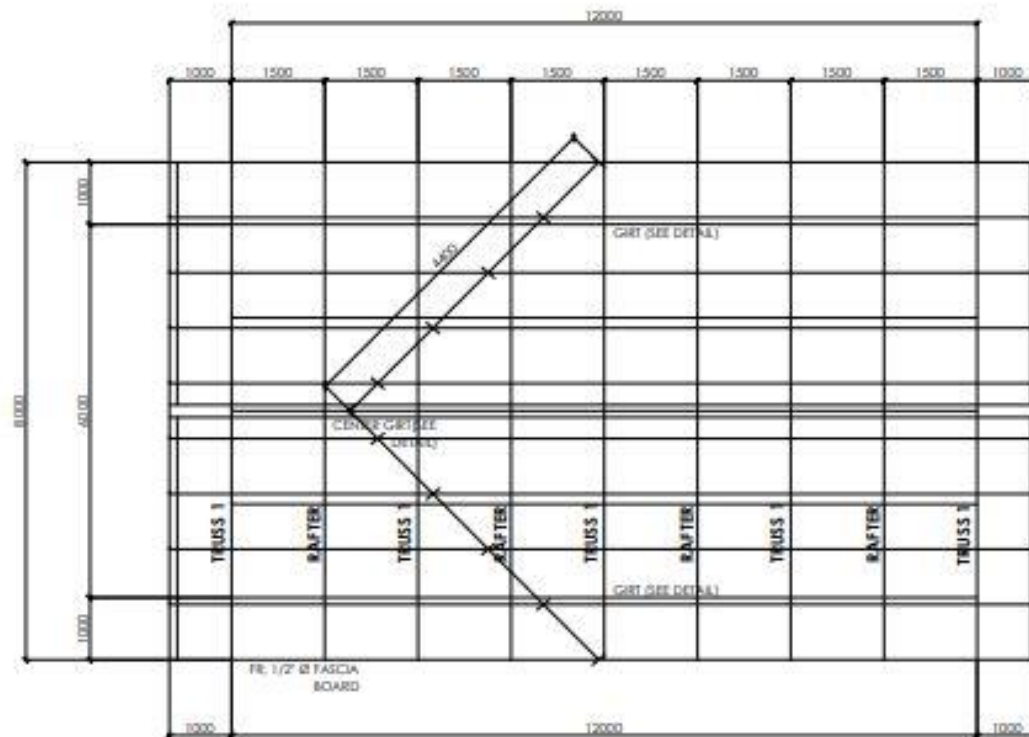
DRAWN BY:  
**PELMARK B. IYOG**  
CRD. ENG'D STAFF

CHECKED BY:  
**THESSALYN B. LIMAS**  
SR. ENGINEER

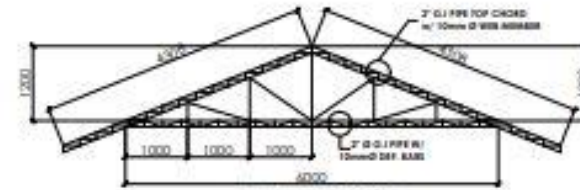
RECOMMENDING APPROVAL:  
**RIZALINDA L. ABING**  
CHIEF, PP&D

APPROVED:  
**NILO SELIN KATADA, Ph.D.**  
REGIONAL DIRECTOR

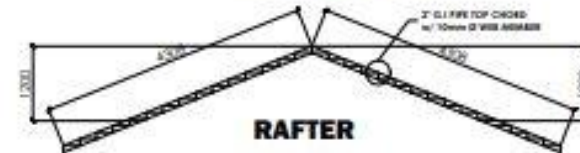
SHEET NO.  
**10**  
**0204**



**HARVESTING AREA ROOF FRAMING PLAN**  
SCALE: 1:75 MTS.



**FULL TRUSS**

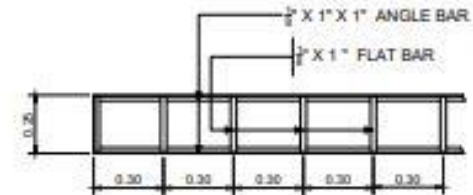


**RAFTER**

S-2  
4/5

**TRUSS & RAFTER DETAILS**

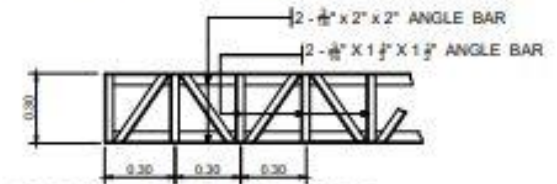
SCALE: 1:75 MTS.



S-2  
4/5

**FASCIA FRAME DETAILS**

SCALE: 1:30 MTS.



S-2  
5/5

**STEEL GIRTS DETAILS**

SCALE: 1:30 MTS.



CERTIFIED / PREPARED BY:

**MARK RETEP N. LOZADA**  
CIVIL ENGINEER

PRC NO. 216289

VALID UNTIL: 08/19/2022

FOR NO. 187038

DATE ISSUED: 04/06/2021

PLACE ISSUED: PROVINCE OF AGUSAN DEL NORTE

PROJECT TITLE:

**ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)**

PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE

DRAWN BY:

**PELMARK B. IYOG**  
CIVIL ENGINEER

CHECKED BY:

**THESSALYN B. LIMAS**  
CIVIL ENGINEER

RECOMMENDING APPROVAL:

**RIZALINDA L. ASING**  
CHIEF, PPSO

APPROVED:

**NILO SELINI KATADA, Ph.D.**  
REGIONAL DIRECTOR

SHEET NO.

**10**

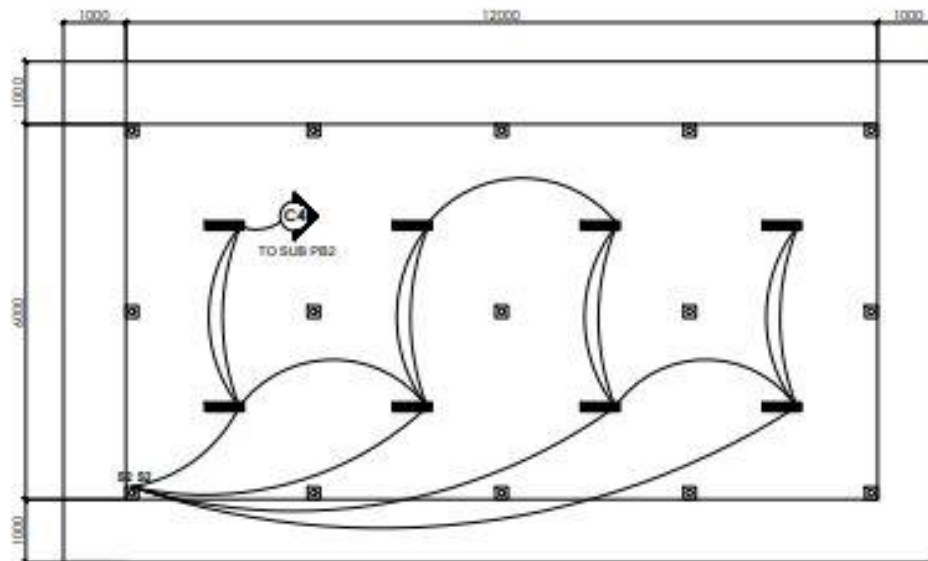
**0304**

**LEGEND:**



**MOUNTING HEIGHT:**

LIGHT SWITCH	1200 mm A.F.F.
PANELBOARD	1800 mm A.F.F.
TEL. DATA C.O.	300 mm A.F.F.
CONCRETE TOP OUTLET	REFER TO ARCHT. OR P.E.
OTHERS	REFER TO ARCHT. OR P.E.



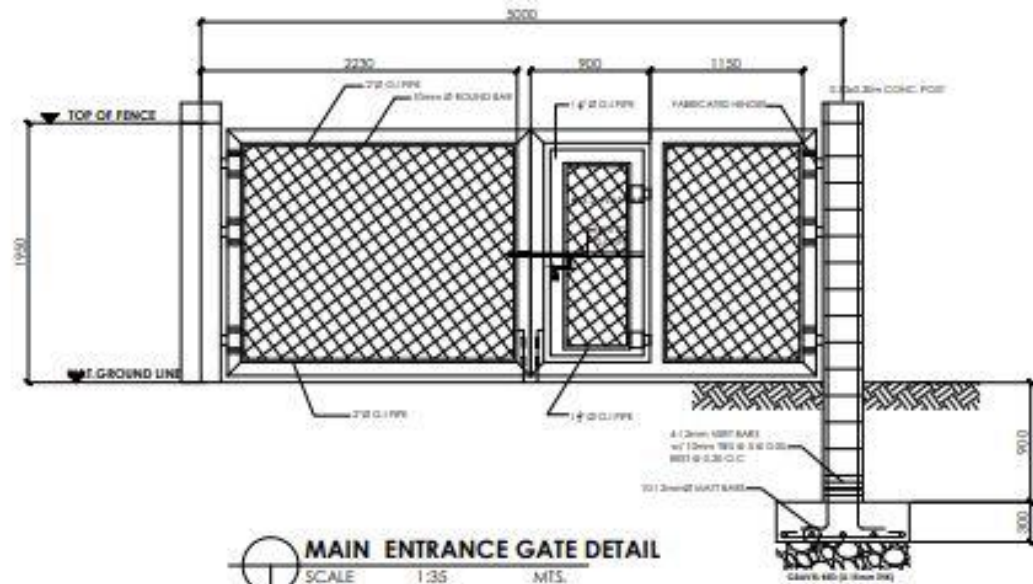
**LIGHTING LAY-OUT PLAN**  
 SCALE 1:75 MTS.

**TECHNICAL SPECIFICATIONS:**

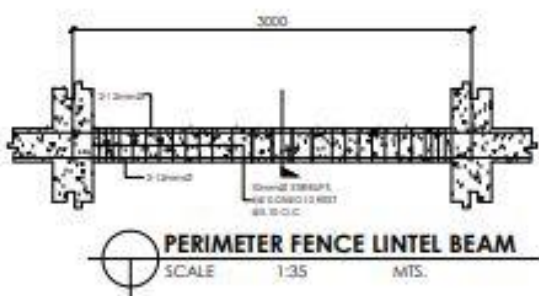
- THE TYPE OF SERVICE SHALL BE 230V, 60Hz, 3 PHASE
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- CONDUITS/PIPES LAYOUT ON WALLS AND CEILING SHALL SUPPORTED EVERY 1500mm (SPACING) BY MEANS OF STEEL MALLEABLE CLAMP OR EQUIVALENT.

<p><b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b></p>	CERTIFIED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.
	PROFESSIONAL ELECTRICAL ENGINEER	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>DELMARK B. LYOG</b> ORG. STAFF				<b>10</b>
	PRG. NO.: PTR. NO.: TR. NO.:	VALID UNTIL: DATE ISSUED: PLACE ISSUED:	PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE	PREPARED BY: <b>MARK RETEP M. LOZADA, CE</b> PROJECT ENGINEER, I/II	<b>THESSALYN B. LIMAS</b> DR. ENGINEER	<b>RIZALINDA L. ADING</b> CHIEF, F/PSO	<b>NLO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR

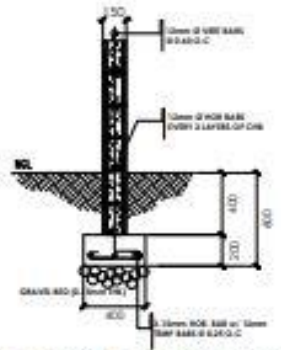




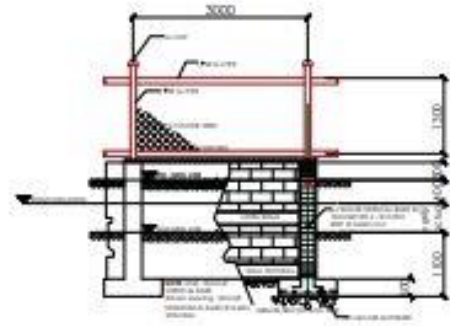
**MAIN ENTRANCE GATE DETAIL**  
SCALE 1:35 MTS.




**PERIMETER FENCE LINTEL BEAM**  
SCALE 1:35 MTS.



**FENCE WALL FOOTING DETAIL**  
SCALE 1:20 MTS.



**HATCHERY FENCING DETAIL**  
SCALE 1:100 MTS.

 <b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b>	CERTIFIED / PREPARED BY:		PROJECT TITLE:		DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO:
	<b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER		<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>		<b>PELMARK B. IYOG</b> DRO ENCO STAFF	<b>THESSALYN B. LIMAS</b> SA, ENGINEER II	<b>RIZALINDA L. ABING</b> CHP, PP/SD	<b>NILO SOLIM KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>11</b>
	PRC NO. 2744289	VALID UNTIL: 08/16/2022	PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE.						<b>0101</b>
	PTN NO. 9711389	DATE ISSUED: 04/04/2021	PLACE ISSUED: PROVINCE OF AGUSAN DEL NORTE						



## SCHEDULE OF LOADS WITH DESIGN ANALYSIS

The Philippine Electrical Code 2017, Article 1.3.2.1 (f). Design Analysis States that

Design analysis shall be included on the drawing or shall be submitted on the separate sheets of standard size and shall show

1. Branch circuits, sub-feeders, busways and service entrance;
2. Types, ratings and trip settings of overload protective devices;
3. Calculations of voltage drops;
4. Calculations of short circuit current for determining the interrupting capacity of over current protective device for residential, commercial and industrial establishment;
5. Protective coordination of over current protective device;
6. Arc-Flash Hazard Analysis to determine the required personal protective equipment (PPE) in other than dwelling places.

Notes:

1. VA calculated @ 1.0 p.f if not specified
2. 180 VA per convenience outlet and 50 VA per lighting outlet ( unless specified in the legend of lighting layout) at p.f=1
3. Ampacity of conductors used is 125% of full-load current (minimum)
4. Protection for motor load is 2.5% of full-load current
5. ACU's load current is calculated with a starting current of 225%, with each ACU @ 3.517 watts per ton of cooling power.
6. Ground wire shall be colored green.

### VOLTAGE DROP CALCULATION

A. The Philippine Electrical Code 2017, Art 2.10 sec 2.10 (a) IPN No.4 said that

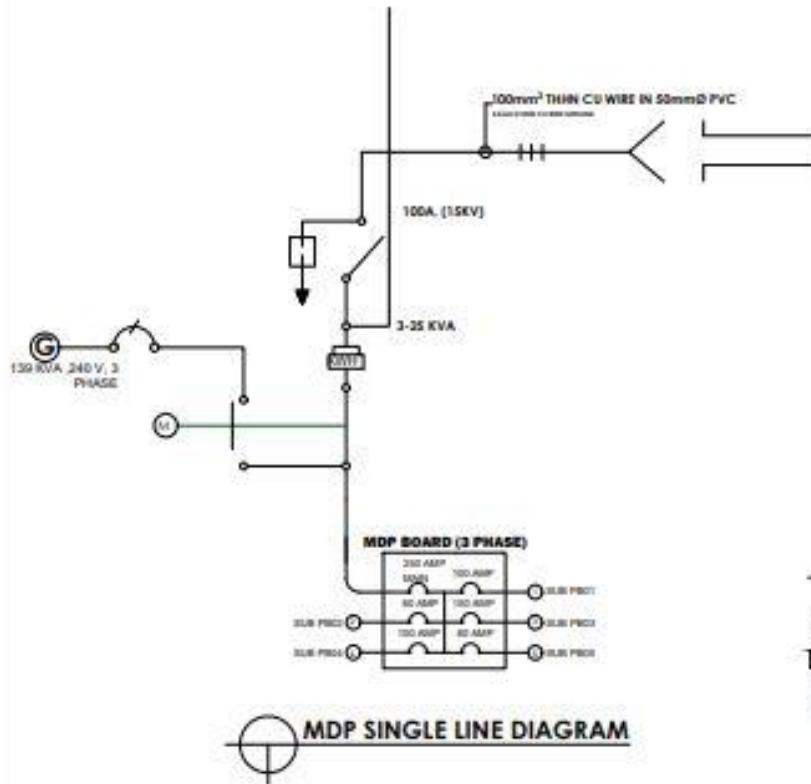
Conductors for branch circuits are defined in Article 1.2, sized to prevent a voltage drop exceeding 3% at the farthest outlet, of power, heating and lighting loads, or combinations of such loads and where the maximum total voltage drop on both feeder and branch circuits to the farthest outlets **does not exceed 5%**, will provide reasonable efficiency of operations.

B. The Philippine Electrical Code 2017, Art 2.15 sec 1.15 1.2 (a) IPN said that

Conductors for **feeders** are defined in Article 1.2 sized to prevent a voltage drop exceeding 3% of the farthest outlet, of power, heating and lighting loads, or combinations of such loads and where the maximum total voltage drop on both feeder and branch circuits to the farthest outlets **does not exceed 5%**, will provide reasonable efficiency of operations.

#### TECHNICAL SPECIFICATIONS:

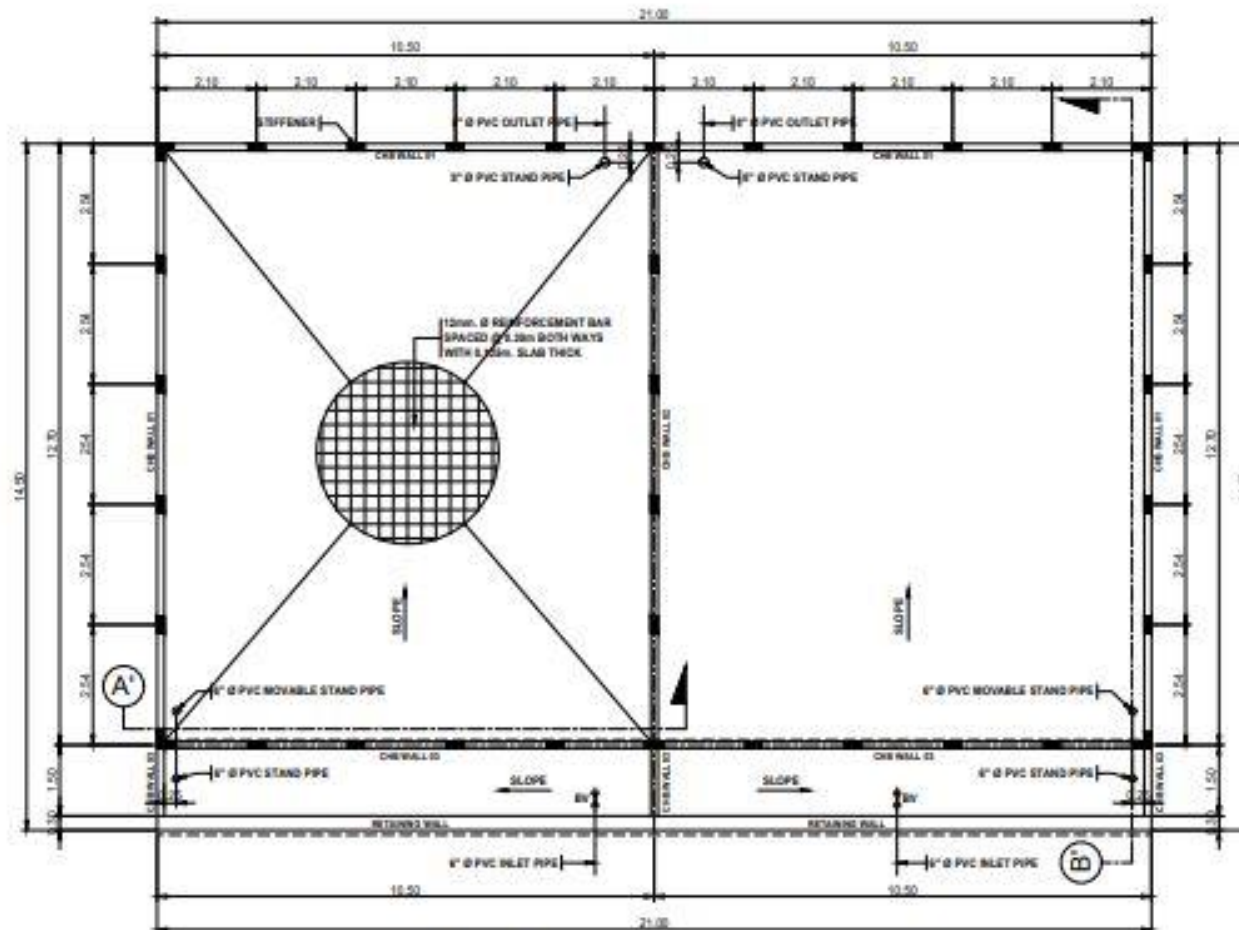
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#### LEGEND

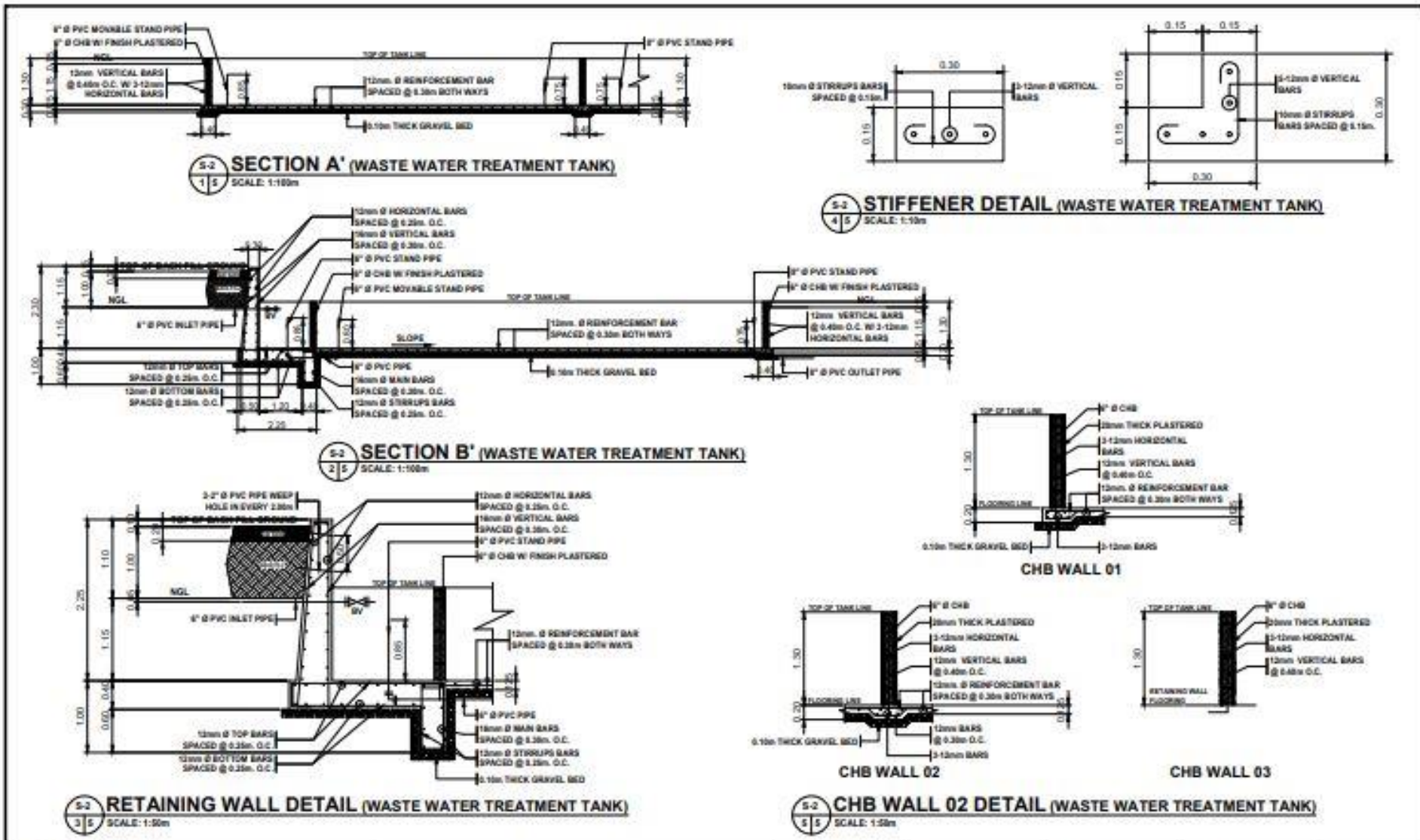
- PRIMARY LINE
- ▢ DISTRIBUTION TRANSFORMER
- ▭ PANEL BOARD
- (M) KILOWATT HOUR METER

<p><b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b></p>	CERTIFIED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.
	PROFESSIONAL ELECTRICAL ENGINEER	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>PELMARK B. IYOG</b> DRAWING STAFF				<b>12</b>
	PRG NO: _____ VALID UNTIL: _____ PTR NO: _____ DATE ISSUED: _____ TR NO: _____ PLACE ISSUED: _____	PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE	PREPARED BY: <b>MARK REYEP M. LOZADA, CE</b> PROJECT ENGINEER, I/II	<b>THESSALYN B. LIMAS</b> Sr. ENGINEER	<b>RIZALINDA L. ABING</b> CHIEF, PPEE	<b>NILO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>0202</b>

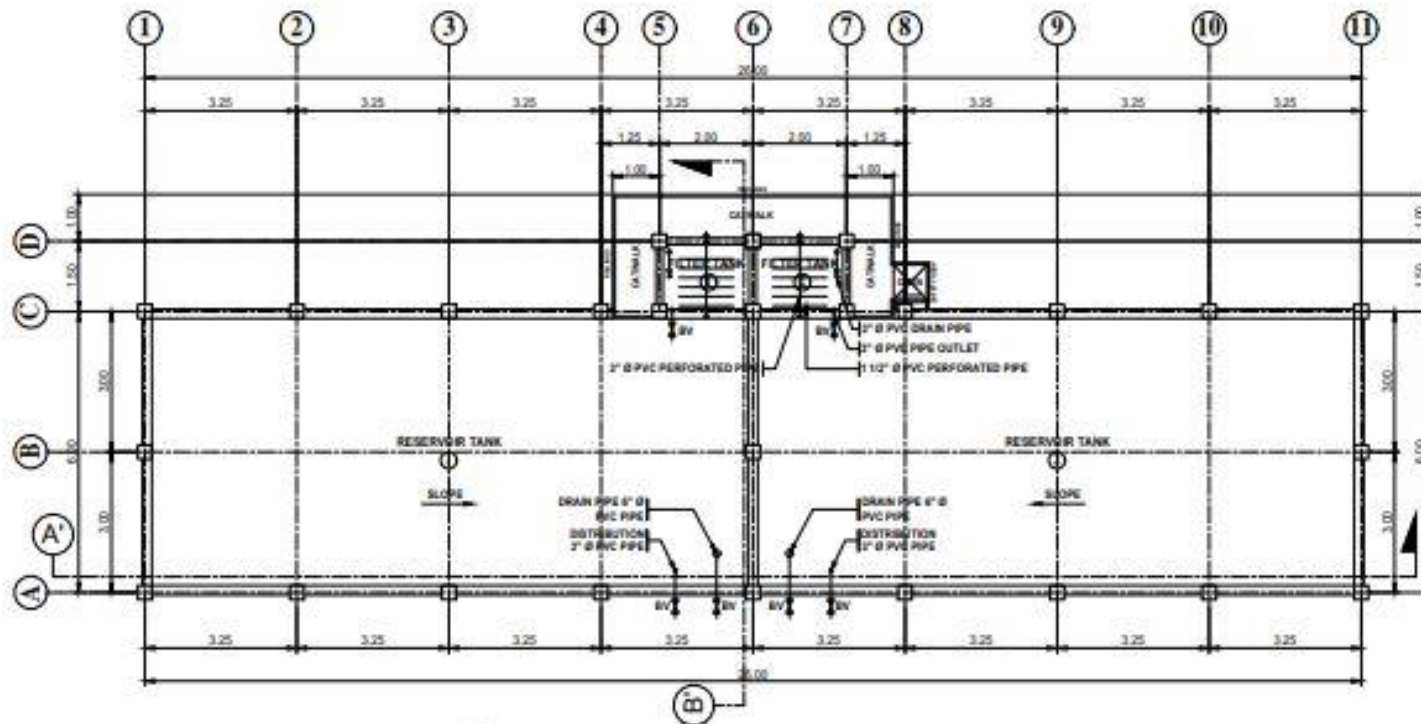


**FLOOR PLAN (WASTE WATER TREATMENT TANK)**  
 SCALE: 1:100m


 <b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b>	CERTIFIED/PREPARED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.
	<b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>RANGIE P. ONTO</b> CIVIL ENGRG STAMP	<b>THESSALYN B. LIMAS</b> SA, REGISTERED	<b>RIZALINDA L. ABING</b> CHIEF, PPSGD	<b>NILO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>13</b>
	PRC NO. 274/09      VALID UNTIL: 09/19/2020 PTR NO. 223607      DATE ISSUED: 04/09/2022 PLACE ISSUED: CITY OF BUTUAN	PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE					

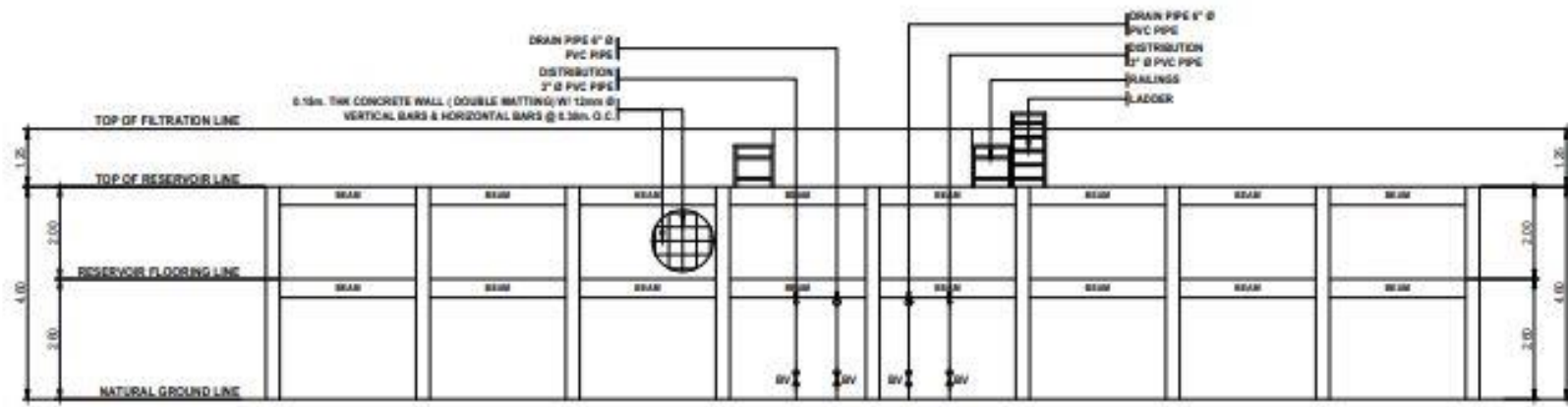


<p><b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b></p>	CERTIFIED/PREPARED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.
	<b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>RANGIE P. ONTO</b> CIVIL ENGINEER	<b>THESSALYN B. LIMAS</b> CIVIL ENGINEER	<b>RIZALINDA L. ABING</b> CHIEF, PROJECT	<b>NELO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>13</b>
	PRC NO. 014208 PPR NO. 228647 VALID UNTIL: 08/19/2022 DATE ISSUED: 04/02/22 PLACE ISSUED: CITY OF BUTUAN	PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE					

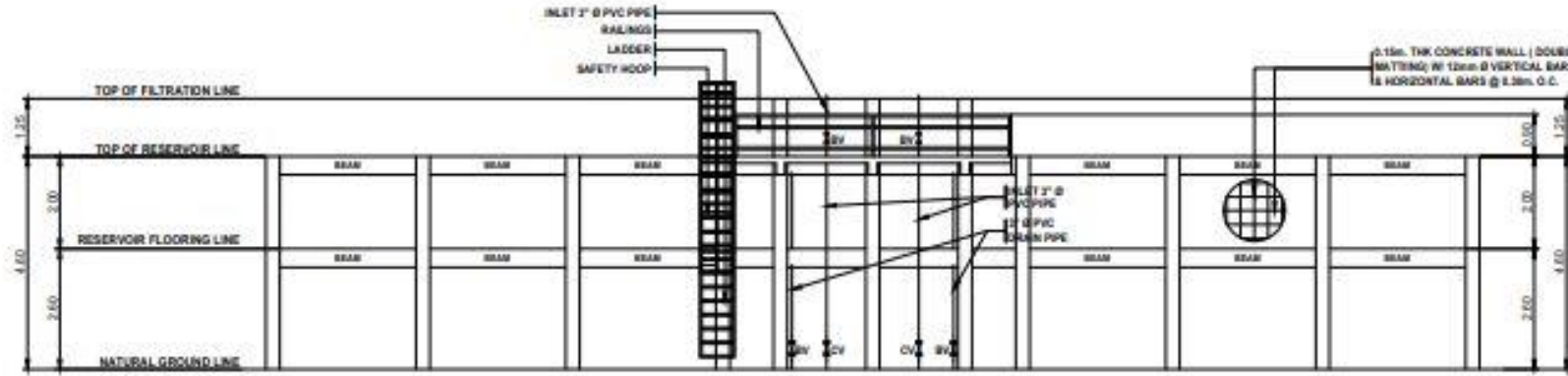


**FLOOR PLAN (RESERVOIR AND FILTRATION TANK)**  
SCALE: 1:100m


 <b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b>	CERTIFIED/PREPARED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.
	<b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>RANGIE P. ONTO</b> CIVIL ENGINEER	<b>THESSALYN E. LIMAS</b> CIVIL ENGINEER	<b>RIZALINDA L. ABING</b> CHIEF, PPS&D	<b>NELO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>14</b>
	PRC NO. 151428 PTA NO. 228627 VALID UNTIL: 09/16/2022 DATE ISSUED: 04/06/2022 PLACE ISSUED: CITY OF BUTUAN	PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE					

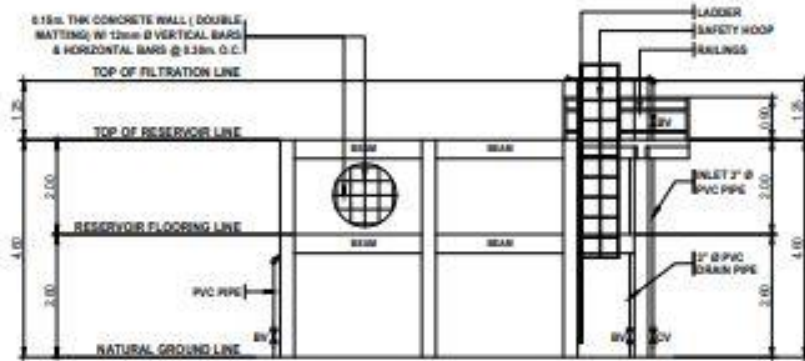


**FRONT ELEVATION (RESERVOIR AND FILTRATION TANK)**  
SCALE: 1:100m

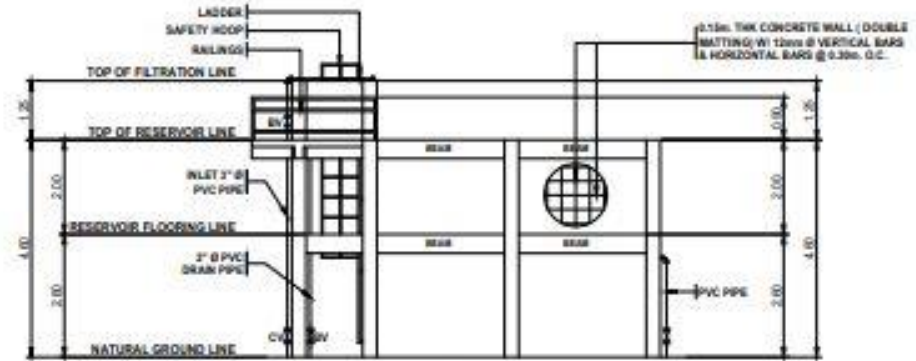


**REAR ELEVATION (RESERVOIR AND FILTRATION TANK)**  
SCALE: 1:100m

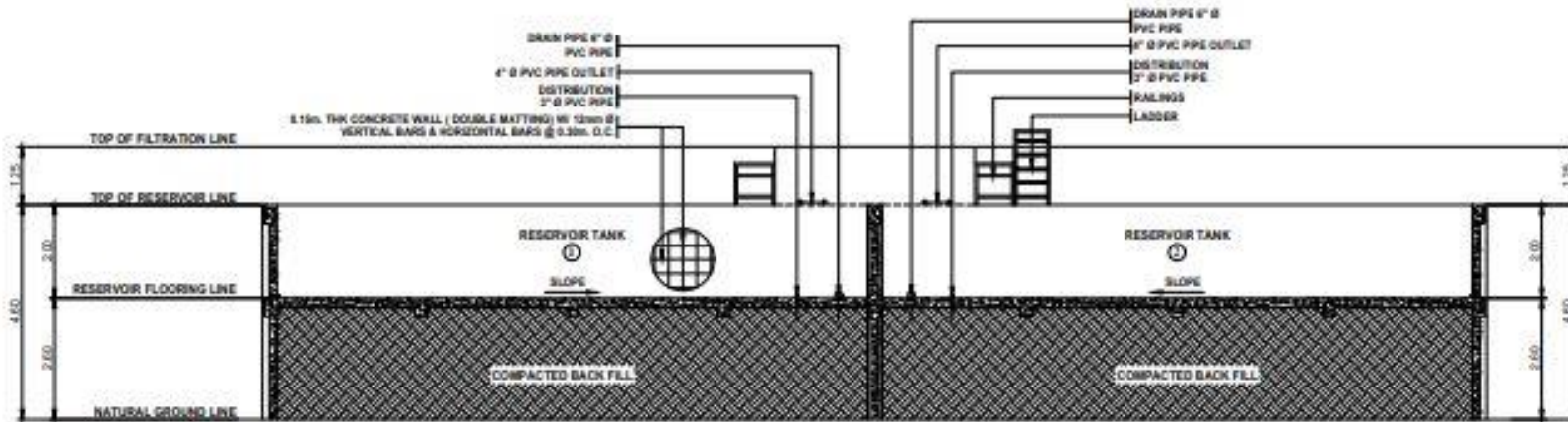
 <b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b>	CERTIFIED/PREPARED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.
	<b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>RANGIE P. ONTO</b> CIVIL ENGINEER	<b>THESSALYN B. LIMAS</b> CIVIL ENGINEER	<b>RIZALINDA L. ABING</b> CHIEF, PPLAD	<b>NILO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>14</b>
	PRC NO. 014299 PTA NO. 223607	VALID DATE: 08/19/2023 DATE ISSUED: 04/06/2023 PLACE ISSUED: CITY OF BUTUAN	PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE				




**RIGHT SIDE ELEVATION (RESERVOIR AND FILTRATION TANK)**  
SCALE: 1:100m



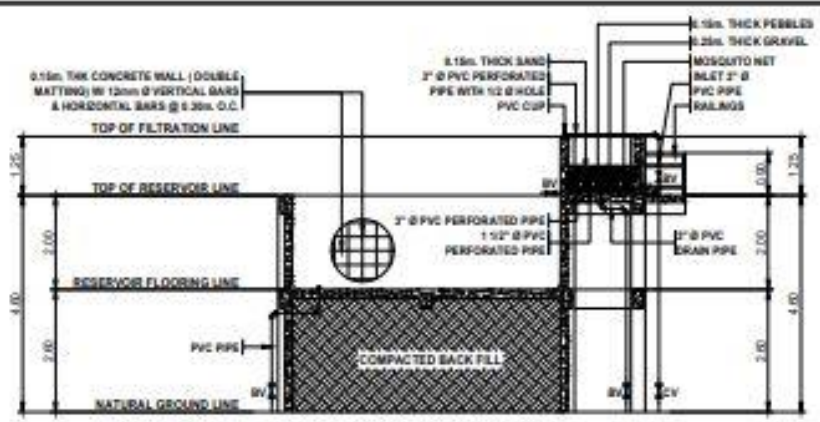
**LEFT SIDE ELEVATION (RESERVOIR AND FILTRATION TANK)**  
SCALE: 1:100m



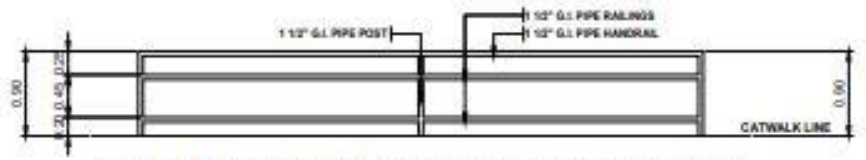
**SECTION A-A (RESERVOIR AND FILTRATION TANK)**  
SCALE: 1:100m

 <b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b>	CERTIFIED/PREPARED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.:
	<b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>RANGIE P. ONTO</b> CPE-ENR01-2147P	<b>THESSALYN B. LIMAS</b> DA - REGISTERED	<b>RIZALINDA L. ABING</b> CHIEF, PPSO	<b>NELO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>14</b>
	PRC NO. - 214289 PRR NO. - 228847 VALID UNTIL - 28/12/2023 DATE ISSUED - 04/02/23 PLACE ISSUED - CITY OF BUTUAN	PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE					

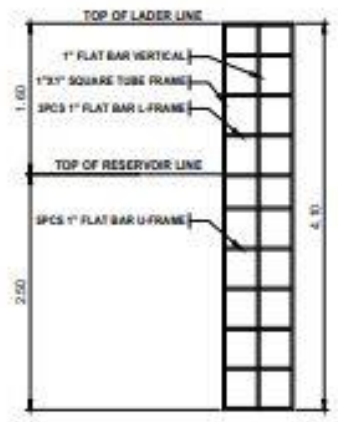




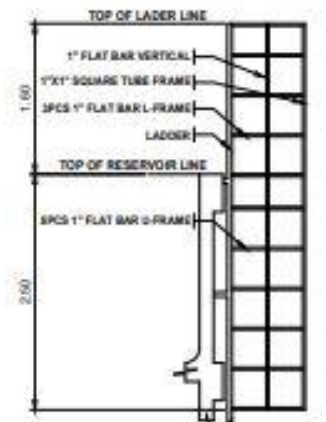
**SECTION B' (RESERVOIR AND FILTRATION TANK)**  
SCALE: 1:100m



**RAILINGS DETAIL (RESERVOIR AND FILTRATION TANK)**  
SCALE: 1:50m

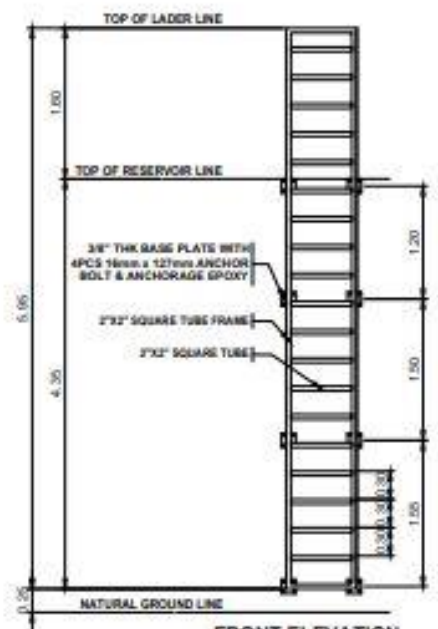


**FRONT ELEVATION**

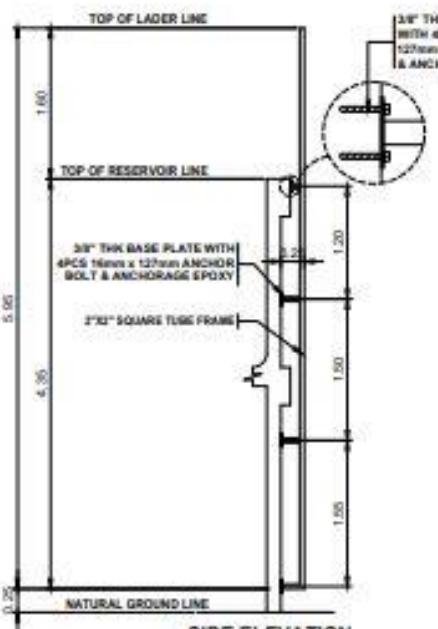


**SIDE ELEVATION**

**SAFETY HOOP DETAIL (RESERVOIR AND FILTRATION TANK)**  
SCALE: 1:50m



**FRONT ELEVATION**



**SIDE ELEVATION**

**LADDER DETAIL (RESERVOIR AND FILTRATION TANK)**  
SCALE: 1:50m



CERTIFIED/PREPARED BY:  
**MARK RETEP M. LOZADA**  
CIVIL ENGINEER  
PRC NO. 214208  
VALID UNTIL: 08/19/2023  
PTR NO. 228847  
DATE ISSUED: 04/06/2022  
PLACE ISSUED: CITY OF BUTUAN

PROJECT TITLE:  
**ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)**  
PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE

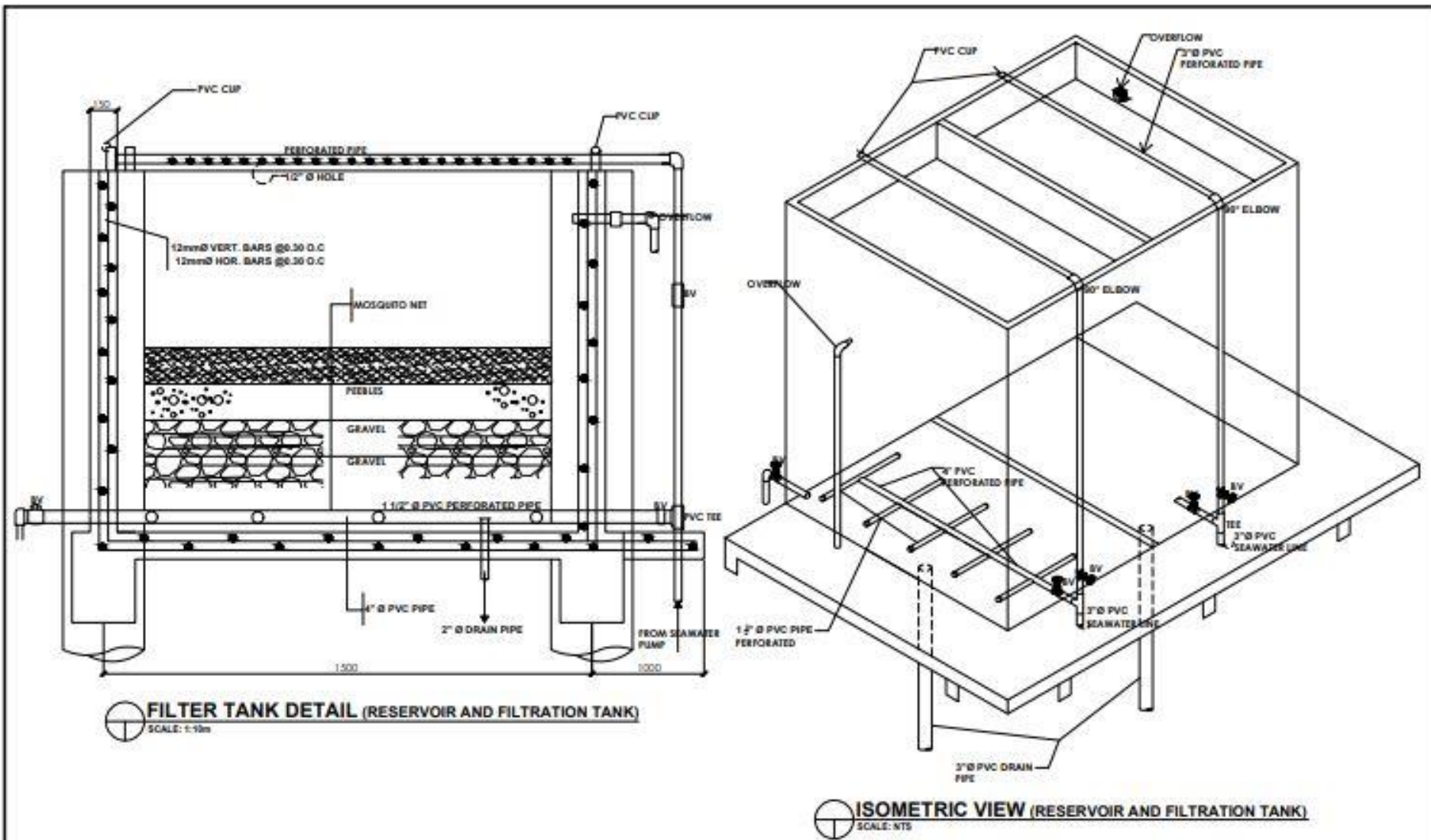
DRAWN BY:  
**RANGIE P. ONTO**  
CDD-INTD STAFF

CHECKED BY:  
**THESSALYN B. LIMAS**  
SA - STRUCTURE

RECOMMENDING APPROVAL:  
**RIZALINDA L. ABING**  
CHIEF, PPS&D


APPROVED:  
**NILO SELIM KATADA, Ph.D.**  
REGIONAL DIRECTOR

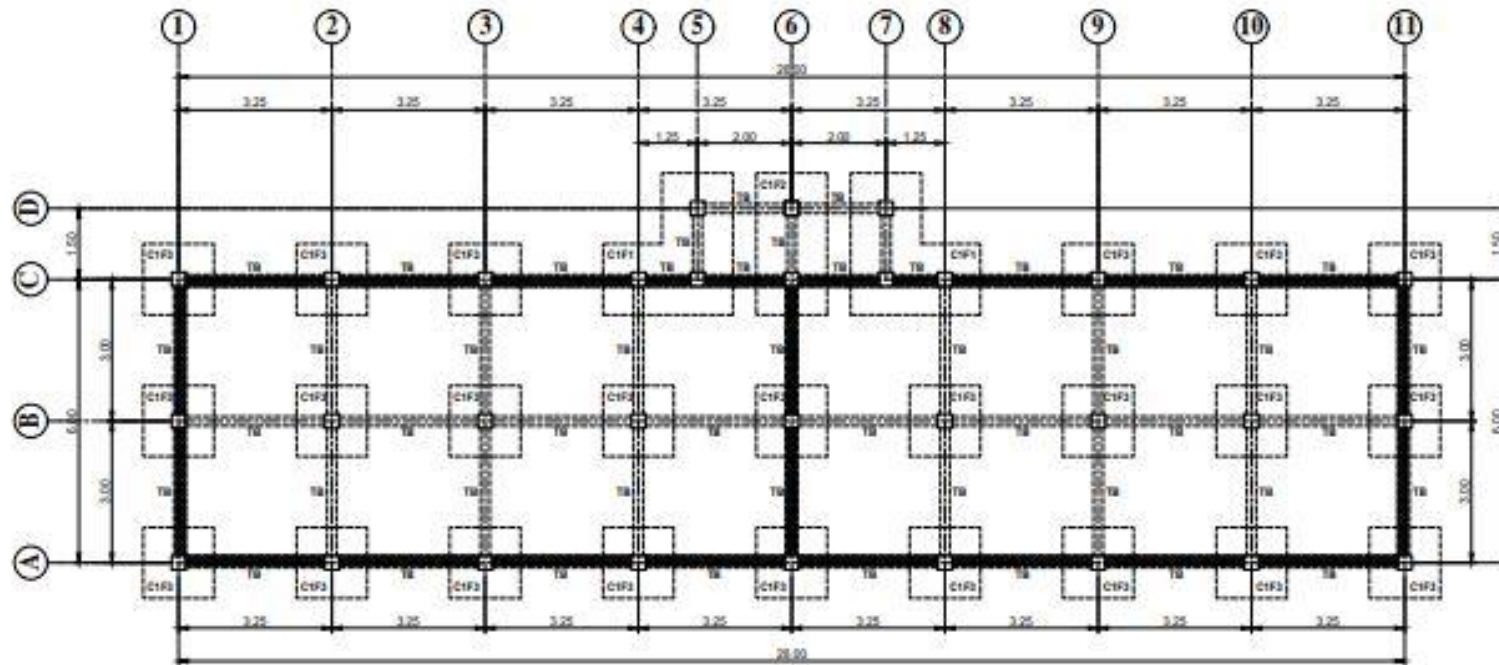
SHEET NO.  
**14**  
**0411**



**FILTER TANK DETAIL (RESERVOIR AND FILTRATION TANK)**  
SCALE: 1:10m

**ISOMETRIC VIEW (RESERVOIR AND FILTRATION TANK)**  
SCALE: NTS

 <p><b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b></p>	CERTIFIED/PREPARED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.
	<b>MARK REPEP M. LOZADA</b> CIVIL ENGINEER	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARAGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>RANDIE P. ONTO</b> DIPLOMA IN ARCHITECTURE	<b>THESSALYN B. LIMAS</b> DIPLOMA IN ARCHITECTURE	<b>RIZALINDA L. ABING</b> CHIEF, PPSGD	<b>MILO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>14</b>
	PRC NO. 114439 PIR NO. 223647 VALID UNTIL: 08/18/2022 DATE ISSUED: 04/08/2022 PLACE ISSUED: CITY OF BUTUAN	PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE.					



**FOUNDATION PLAN (RESERVOIR AND FILTRATION TANK)**  
SCALE: 1:100m



CERTIFIED PREPARED BY:  
**MARK RETEP M. LOZADA**  
CIVIL ENGINEER  
PRC NO. 214208      VALID UNTIL: 05/19/2022  
PDR NO. 223607      DATE ISSUED: 04/03/2022  
PLACE ISSUED: CITY OF BUTUAN

PROJECT TITLE:  
**ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)**  
PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE

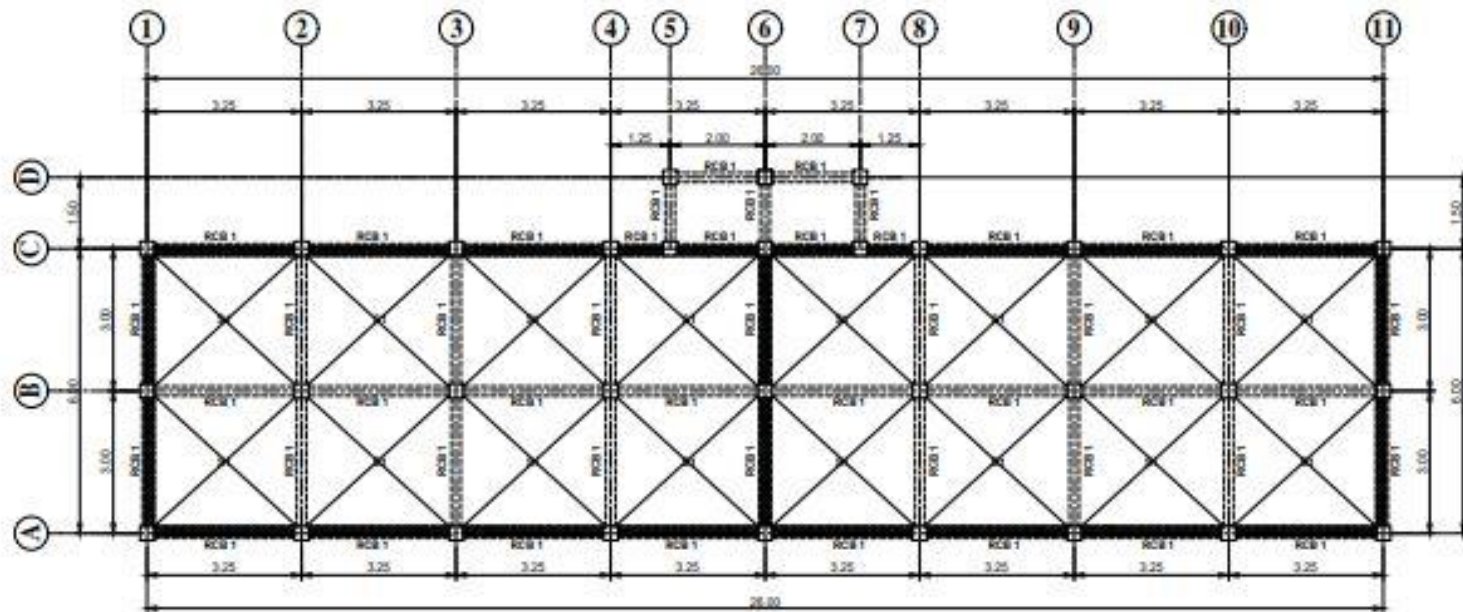
DRAWN BY:  
**RANGIE P. ONTO**  
CIVIL ENGINEER STAFF

CHECKED BY:  
**THESSALYN B. LIMAS**  
CIVIL ENGINEER


RECOMMENDING APPROVAL:  
**RIZALINDA L. ABING**  
CHIEF, PPS&D

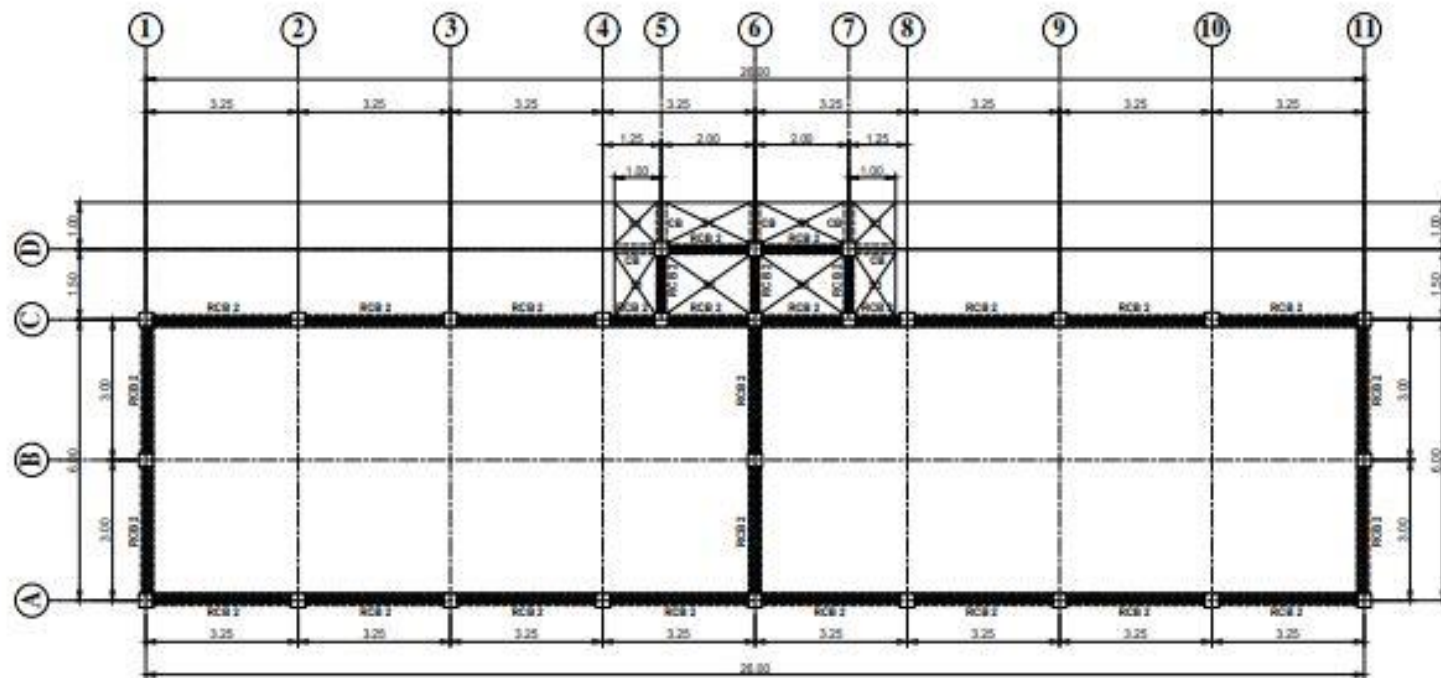
APPROVED:  
**NILO SELIM KATADA, Ph.D.**  
REGIONAL DIRECTOR

SHEET NO.  
**14**  
**06 11**




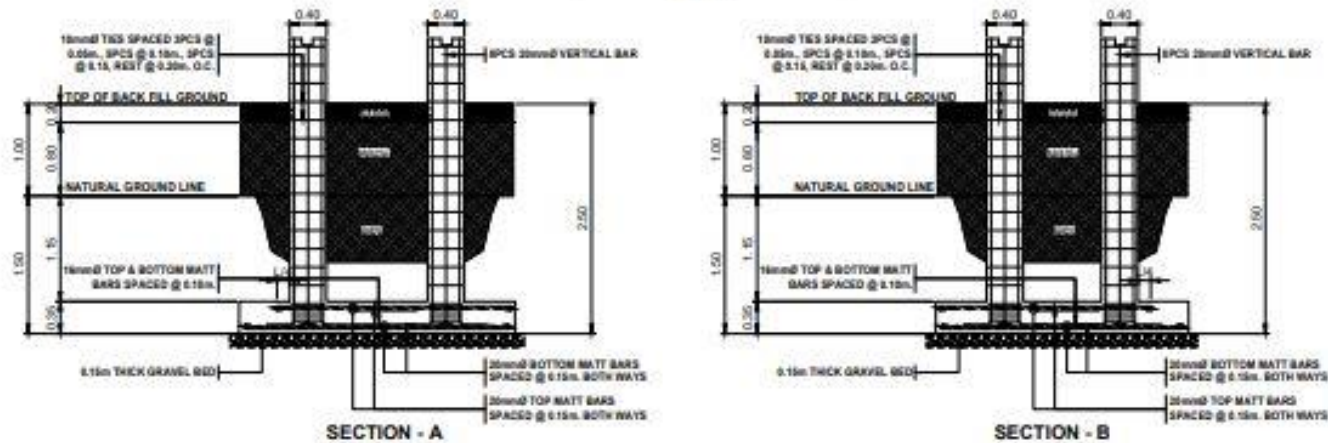
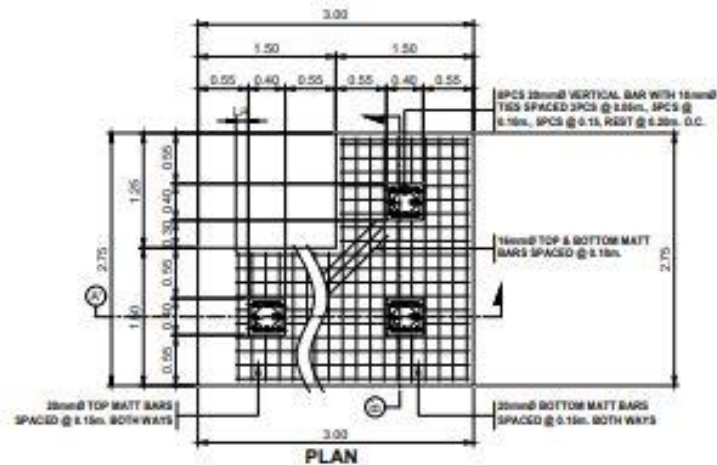
**FLOOR TIE BEAM FRAMING PLAN (RESERVOIR AND FILTRATION TANK)**  
SCALE: 1:100m

 <b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b>	CERTIFIED/PREPARED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.
	<b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>RANGIE P. ONTO</b> DIP. ENGR. STAFF	<b>THESSALYN S. LIMAS</b> SA - SUPERVISOR II	<b>RIZALINDA L. ABING</b> CHIEF, PPERSO	<b>NILO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>14</b>
	PRC NO. : 014208 PFR NO. : 223607 VALID UNTIL : 09/19/2022 DATE ISSUED : 04/09/2022 PLACE ISSUED : CITY OF BILIRAN	PROJECT LOCATION : BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE.					




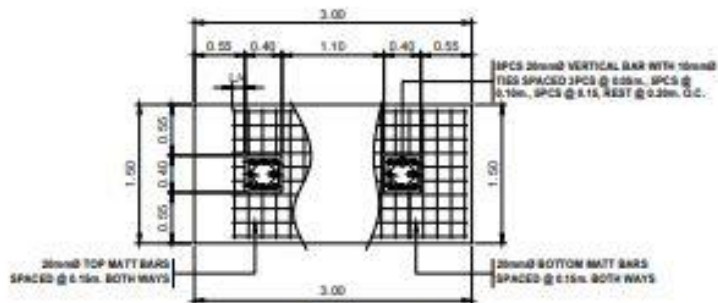
**BEAM FRAMING PLAN (RESERVOIR AND FILTRATION TANK)**  
SCALE: 1:100m

 <b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b>	CERTIFIED/PREPARED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.	
	<b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>RANGIE P. ONTO</b> CIVIL ENGINEER STAFF	<b>THESSALYN B. LINAS</b> CIVIL ENGINEER	<b>RIZALINDA L. ABING</b> CHIEF, PRRSO	<b>NELO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>14</b>	
	PRC NO. 01408 PTR NO. 223807	VALID UNTIL: 08/16/2023 DATE ISSUED: 04/06/2023 PLACE ISSUED: CITY OF BUTUAN	PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE					<b>08</b>

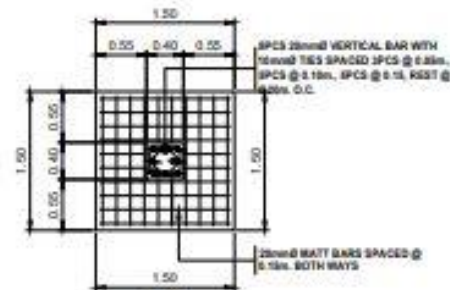


**C1F1 DETAIL (RESERVOIR AND FILTRATION TANK)**  
SCALE: 1:50m

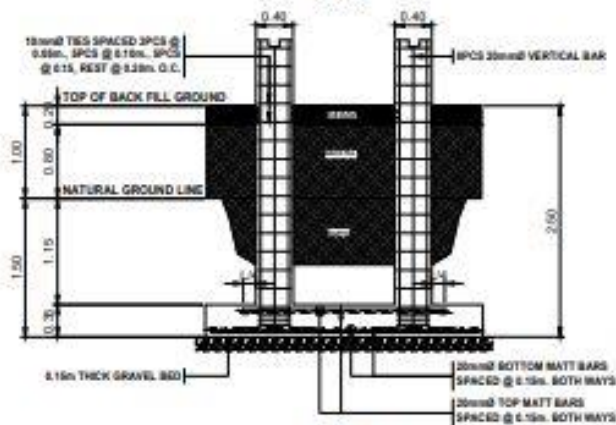
 <b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b>	CERTIFIED/PREPARED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.
	<b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>RANGIE P. ONTO</b> CIVIL ENGINEER	<b>THESSALYN S. LIMAS</b> CIVIL ENGINEER	<b>RIZALINDA L. ABING</b> CHIEF, PPS&D	<b>NILO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>14</b>
	PRC NO. 014288 DATE ISSUED: 04/19/2022 PLACE ISSUED: CITY OF BUTUAN	VALID UNTIL: 04/19/2022 DATE RELEAS: 04/19/2022 PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE					



PLAN

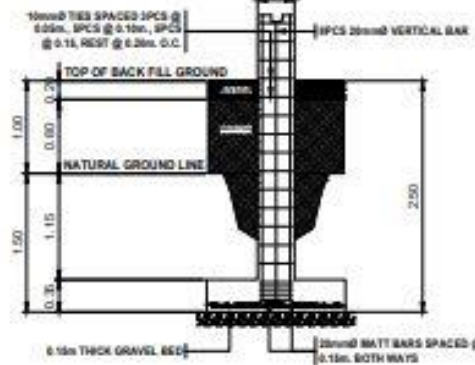


PLAN



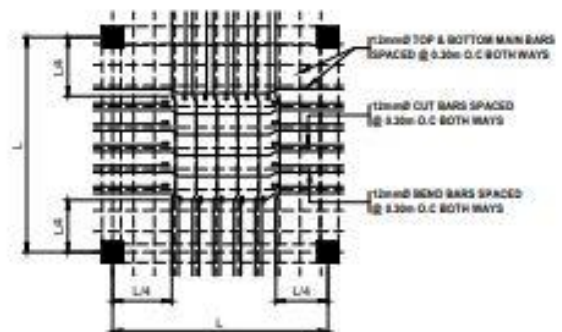
ELEVATION

C1F2



ELEVATION

C1F3

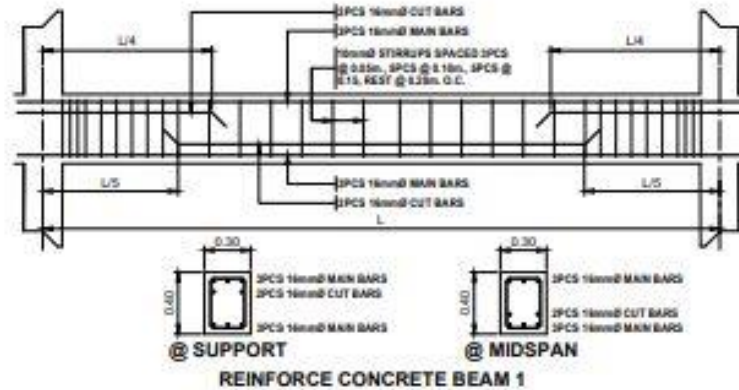
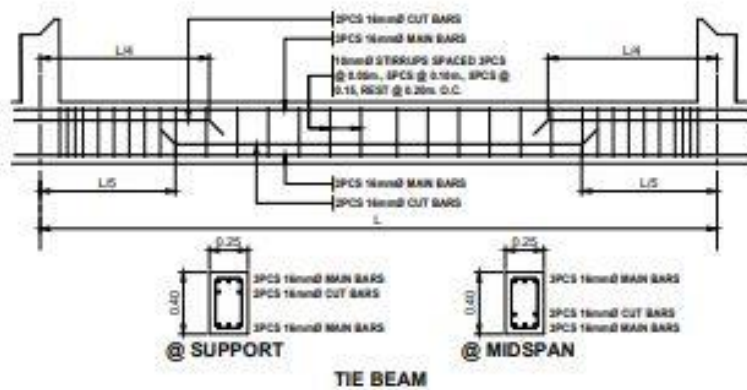
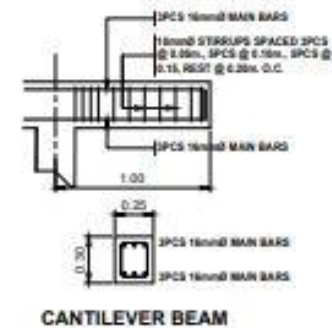
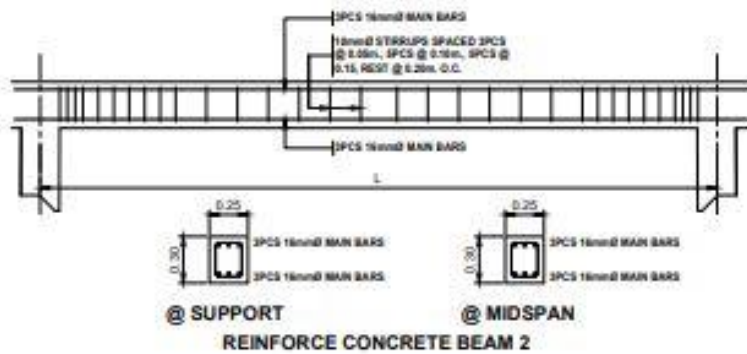


COLUMN AND FOOTING DETAIL (RESERVOIR AND FILTRATION TANK)  
SCALE: 1:50m


SLAB DETAIL (RESERVOIR AND FILTRATION TANK)  
SCALE: 1:50m



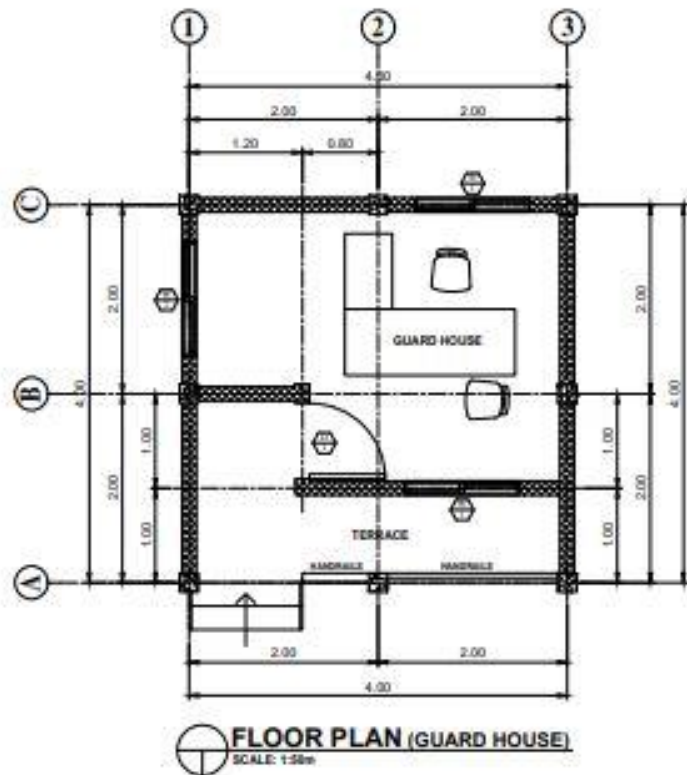
CERTIFIED/PREPARED BY:  <b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER PRC NO. 214288      VALID UNTIL: 09/19/2023 PPR NO. 223847      DATE ISSUED: 04/06/2023 PLACE ISSUED: CITY OF BUTUAN	PROJECT TITLE:  <b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	DRAWN BY:  <b>RANGIE P. ONTO</b> CRD-INTS STAFF	CHECKED BY:  <b>THESSALYN B. LIMAS</b> SA, REGISTERED	RECOMMENDING APPROVAL:  <b>RIZALINDA L. ABING</b> CHIEF, PPSAD	APPROVED:  <b>NILO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR	SHEET NO.:  <b>14</b>  <b>10 11</b>
	PROJECT LOCATION: BRDY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE					



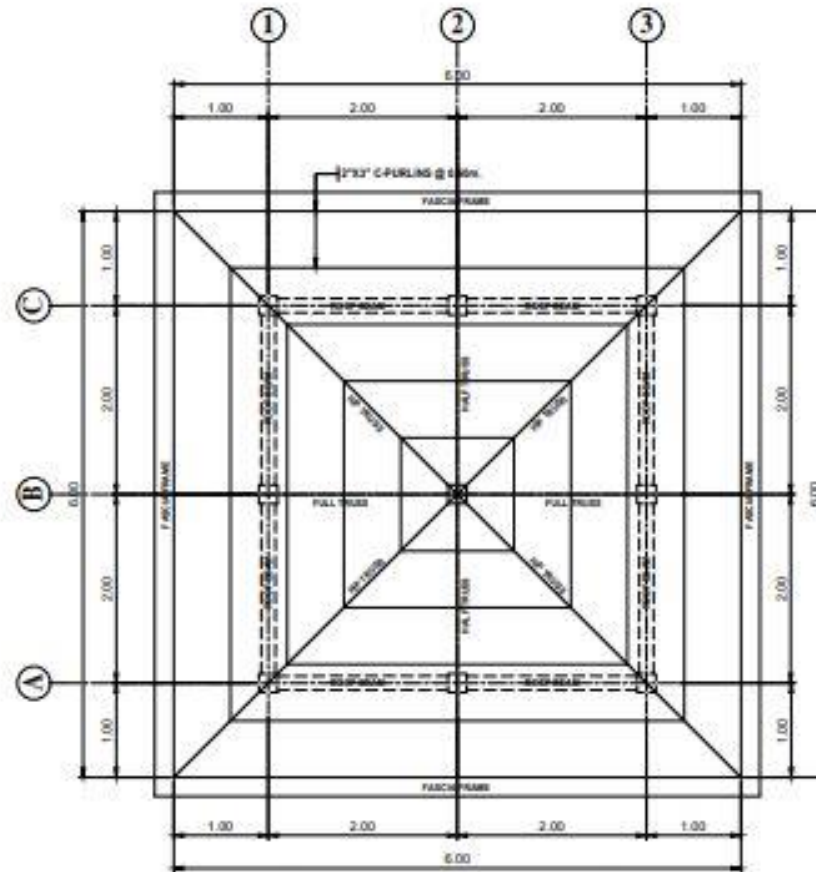
 **BEAM DETAIL (RESERVOIR AND FILTRATION TANK)**  
SCALE: 1:30m

 <b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b>	CERTIFIED/PREPARED BY:  <b>MARK RETEP M. LOZADA</b> CIVIL ENGINEER		PROJECT TITLE:  <b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>		DRAWN BY:  <b>RANGIE P. ONTO</b> <small>CPE ENGR. 17497</small>	CHECKED BY:  <b>THESSALYN B. LIMAS</b> <small>SA, ENGINEER II</small>	RECOMMENDING APPROVAL:  <b>RIZALINDA L. ABING</b> <small>CHIEF, PPSC</small>	APPROVED:  <b>NILO SELIM KATADA, Ph.D.</b> <small>REGIONAL DIRECTOR</small>	SHEET NO.  <b>14</b>	
	PREC. NO.: 21428 PER. NO.: 223647	VALID UNTIL: 2019/2020 DATE ISSUED: 04/06/2022 PLACE ISSUED: CITY OF BUTUAN	PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE		<b>11</b>	<b>11</b>				





**FLOOR PLAN (GUARD HOUSE)**  
SCALE: 1:50m



**ROOF FRAMING PLAN (GUARD HOUSE)**  
SCALE: 1:50m



**BUREAU OF FISHERIES AND AQUATIC RESOURCES**

CERTIFIED/PREPARED BY:

**MARK RETEP M. LOZADA**  
CIVIL ENGINEER

PRC NO. 214298

PRR NO. 228647

VALID UNTIL: 09/19/2022

DATE ISSUED: 04/06/2022

PLACE ISSUED: CITY OF BUTUAN

PROJECT TITLE:

**ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)**

PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE

DRAWN BY:

**RANGIE P. ONTO**  
GRP ENVO STAFF

CHECKED BY:

**THESSALYN S. UMAS**  
SA - INSPECTOR II

RECOMMENDING APPROVAL:

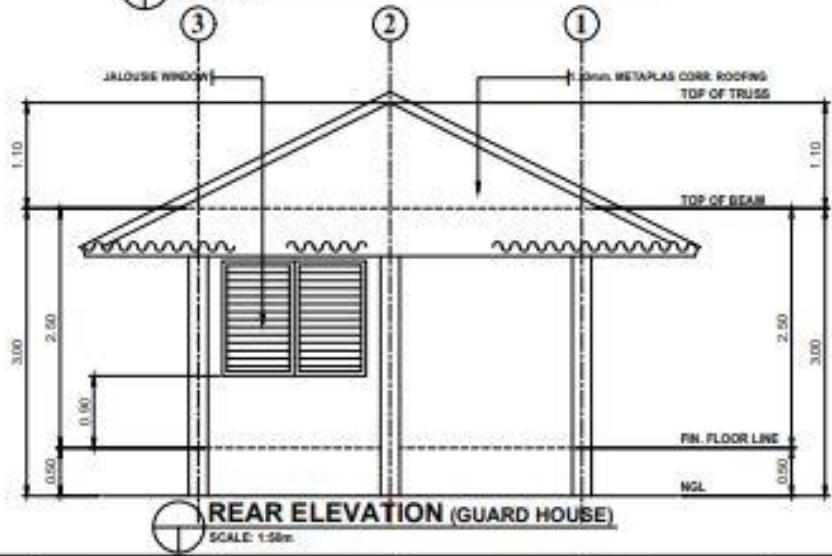
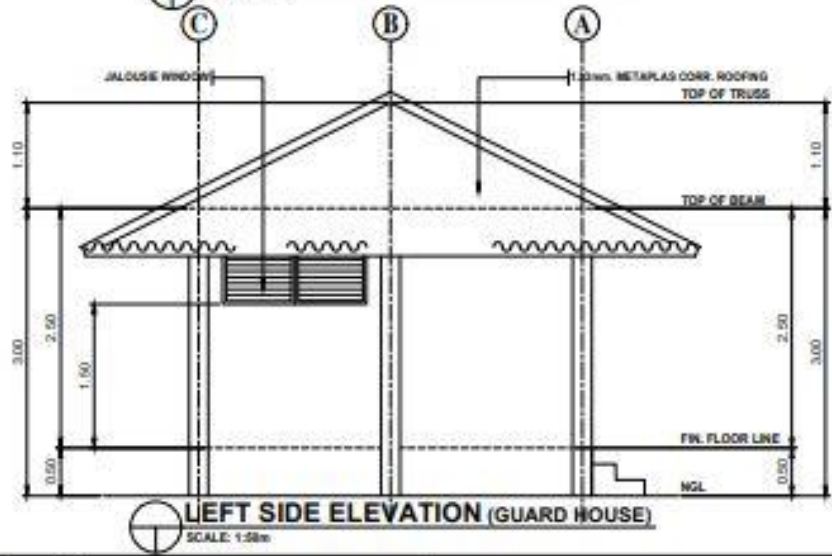
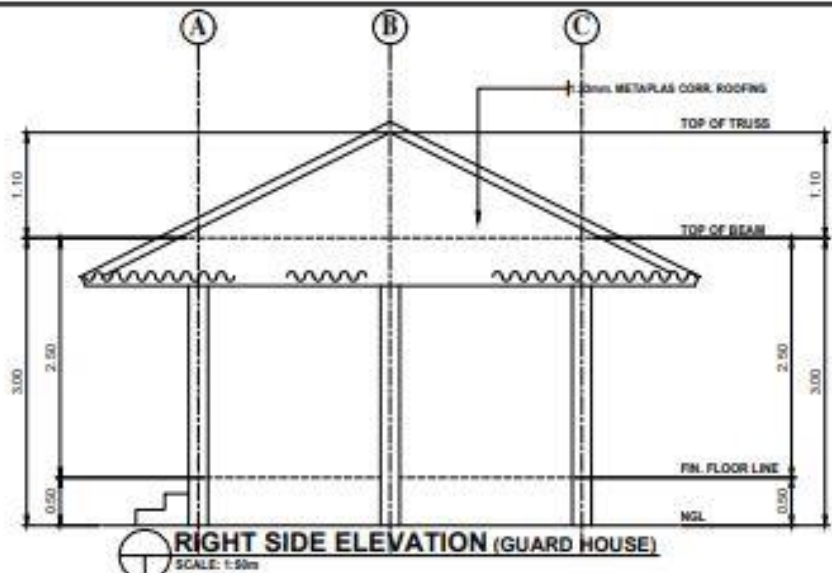
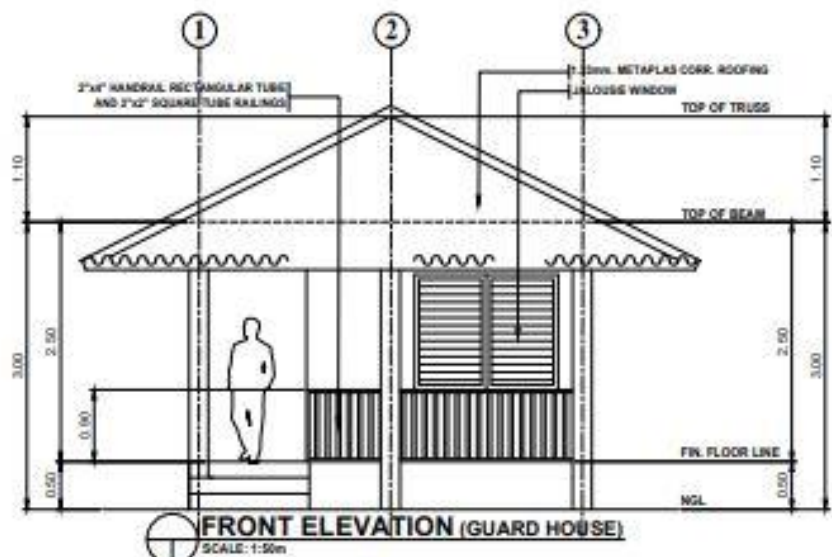
**RIZALINDA L. ABING**  
CHIEF, PPS&C

APPROVED:

**NELO SELIM KATADA, Ph.D.**  
REGIONAL DIRECTOR

SHEET NO.

**15**  
**0106**



CERTIFIED PREPARED BY:

**MARK RETOP M. LOZADA**  
CIVIL ENGINEER

PRC NO. 814206      VALID UNTIL: 08/19/2023  
PTR NO. 223647      DATE ISSUED: 04/02/2022

PLACE ISSUED: CITY OF BUTUAN

PROJECT TITLE:

**ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)**

PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE

DRAWN BY:

**RANGIE P. ONTO**  
CIVIL ENGINEER STAFF

CHECKED BY:

**THESSALYN S. LIMAS**  
SA, ARCHITECTURE

RECOMMENDING APPROVAL:

**RIZALINDA L. ABING**  
CHIEF, PPS&D

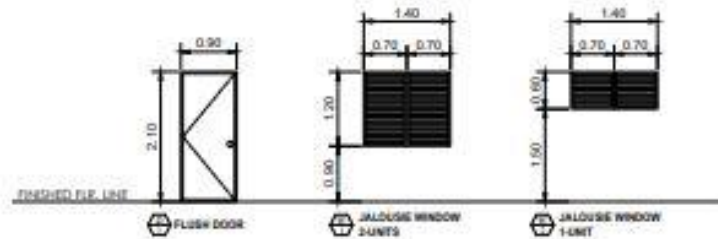
APPROVED:

**NLO SELIM KATADA, Ph.D.**  
REGIONAL DIRECTOR

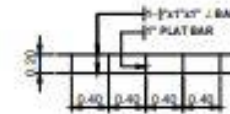
SHEET NO.

**15**

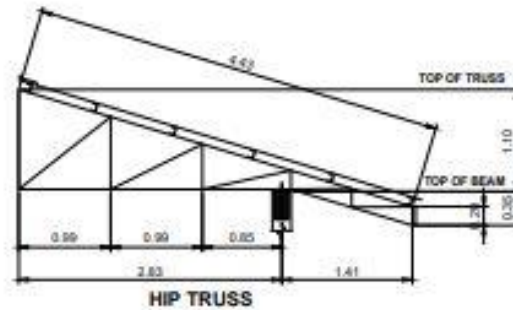
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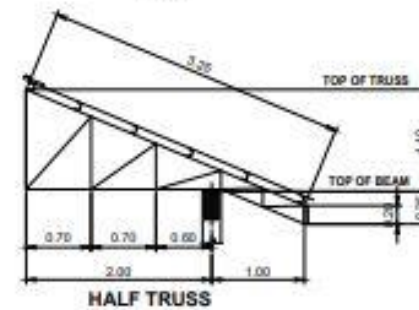
**SCHEDULE OF DOORS AND WINDOWS (GUARD HOUSE)**  
SCALE: 1:75m



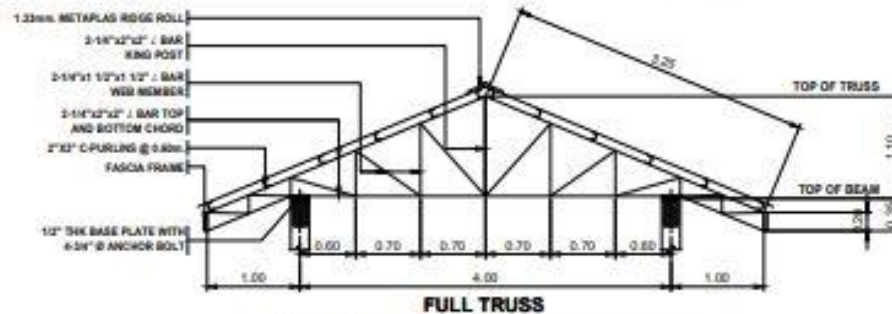
**FASCIA FRAME DETAIL (GUARD HOUSE)**  
SCALE: 1:50m



**HIP TRUSS**



**HALF TRUSS**



**FULL TRUSS**

**TRUSS DETAIL (GUARD HOUSE)**  
SCALE: 1:50m



**BUREAU OF FISHERIES AND AQUATIC RESOURCES**

CERTIFIED/PREPARED BY:

**MARK RETEP M. LOZADA**  
CIVIL ENGINEER

PRC NO. 014289  
PDR NO. 2236507  
VLS ID NO. 09192023  
DATE ISSUED: 04/03/2023  
PLACE ISSUED: CITY OF BUTUAN

PROJECT TITLE:

**ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)**

PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE

DRAWN BY:

**RANGIE P. ONTO**  
DRP ENR215 STMP

CHECKED BY:

**THESSALYN B. LIMAS**  
DR - ENR2022 B

RECOMMENDING APPROVAL:

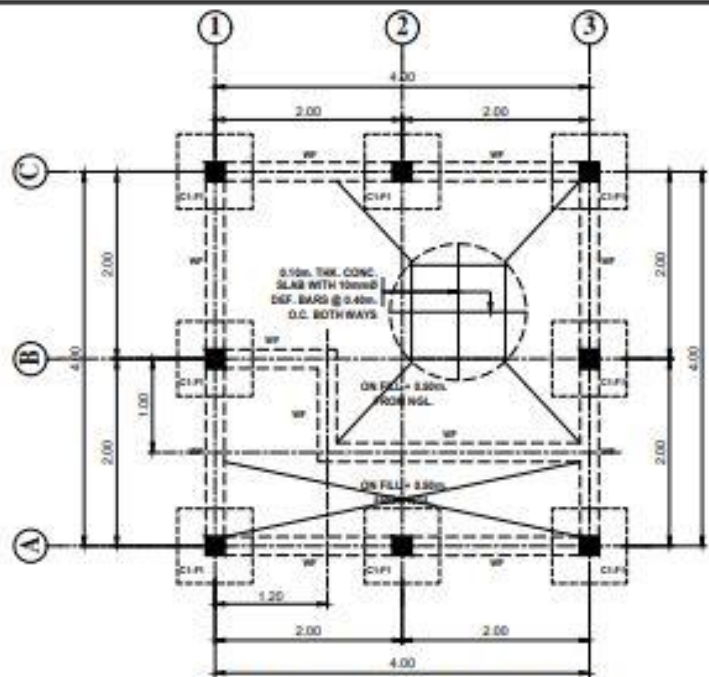
**RIZALINDA L. ABING**  
CHIEF, PRRSD

APPROVED:

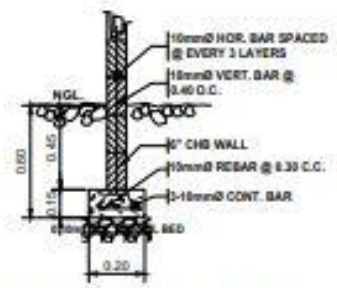
**NILO SELIM KATADA, Ph.D.**  
REGIONAL DIRECTOR

SHEET NO.

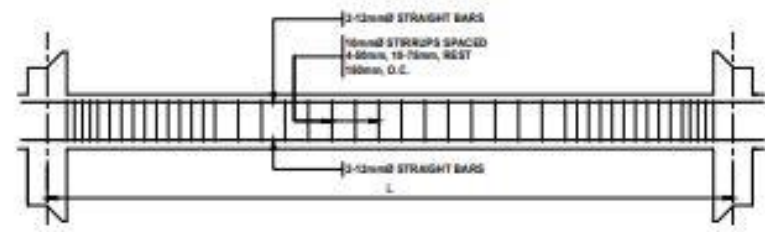
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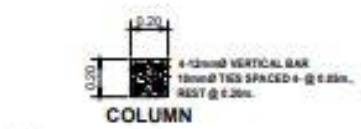
**FOUNDATION PLAN (GUARD HOUSE)**  
SCALE: 1:50m



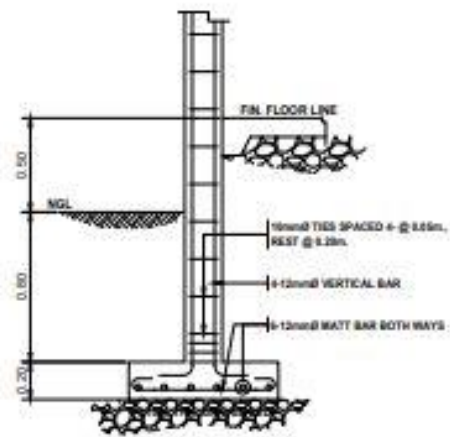
**WF DETAIL (GUARD HOUSE)**  
SCALE: 1:25m



**ROOF BEAM DETAIL (GUARD HOUSE)**  
SCALE: 1:30m



PLAN:



SECTION:

**COLUMN AND FOOTING DETAIL (GUARD HOUSE)**  
SCALE: 1:30m



CERTIFIED/PREPARED BY:  
**MARK RETEP M. LOZADA**  
CIVIL ENGINEER  
PREC. NO.: 274239  
DATE ISSUED: 04/06/2022  
PLACE ISSUED: CITY OF BULWAG

PROJECT TITLE:  
**ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)**  
PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE

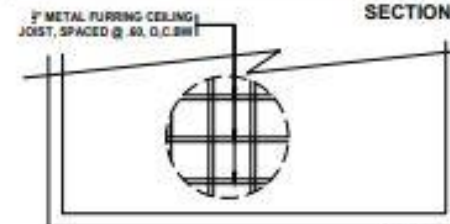
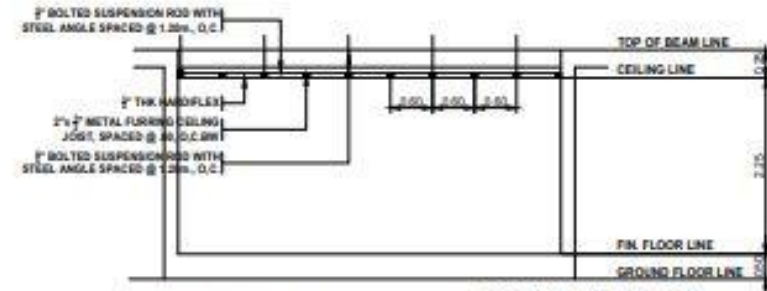
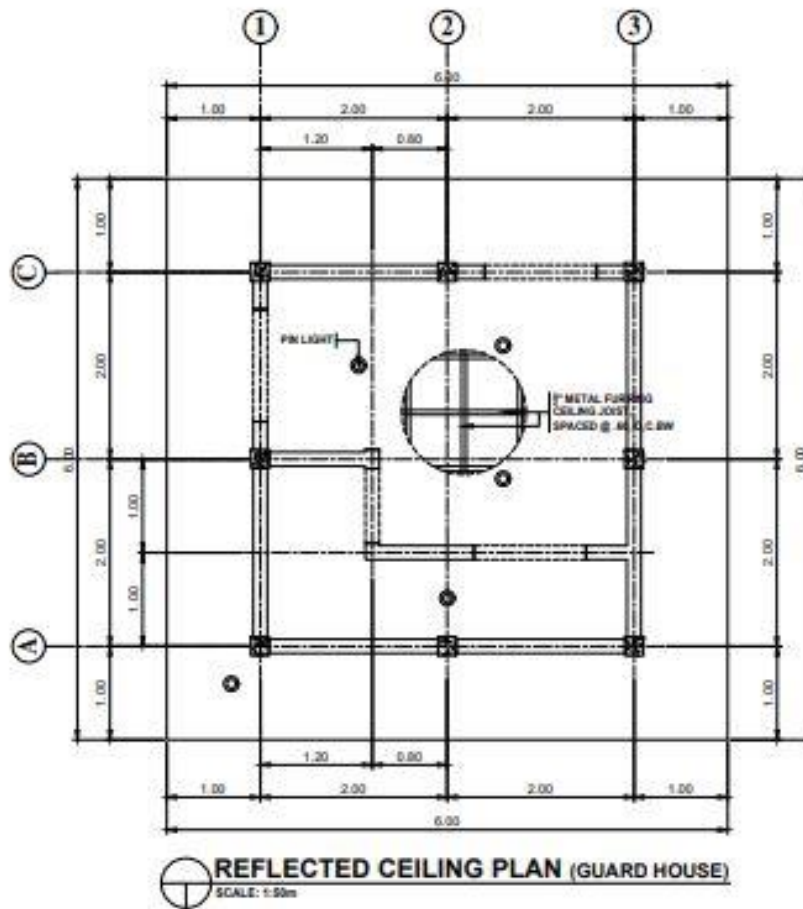
DRAWN BY:  
**RANGIE P. ONTO**  
CDD ENGINEER

CHECKED BY:  
**THESSALYN B. LIMAS**  
SR. ENGINEER

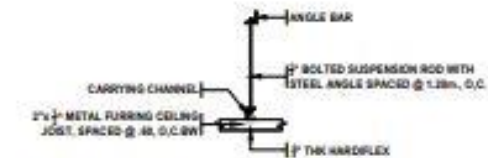
RECOMMENDING APPROVAL:  
**RIZALINDA L. ABING**  
CHIEF PRSG

APPROVED:  
**NILO SELIM KATADA, Ph.D.**  
REGIONAL DIRECTOR

SHEET NO.  
**15**  
**04 06**



**CEILING DETAIL (GUARD HOUSE)**  
SCALE: 1:50m



CERTIFIED/PREPARED BY:  
**MARK RETEP M. LOZADA**  
CIVIL ENGINEER  
PRC NO. 214298 VALID UNTIL: 08/19/2022  
PTR NO. 228847 DATE ISSUED: 04/06/2022  
PLACE ISSUED: CITY OF BULWAGAN

PROJECT TITLE:  
**ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)**  
PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE

DRAWN BY:  
**RANGIE P. ONTO**  
CRD (ENR) STAFF

CHECKED BY:  
**THESSALYN B. LIMAS**  
SA - STRUCTURE

RECOMMENDING APPROVAL:  
**RIZALINDA L. ABING**  
CHIEF, PFOED

APPROVED:  
**NILO SELIM KATADA, Ph.D.**  
REGIONAL DIRECTOR

SHEET NO.  
**15**  
**0506**

# SCHEDULE OF LOADS AND COMPUTATIONS:

## SUB - PANEL BOARD 02

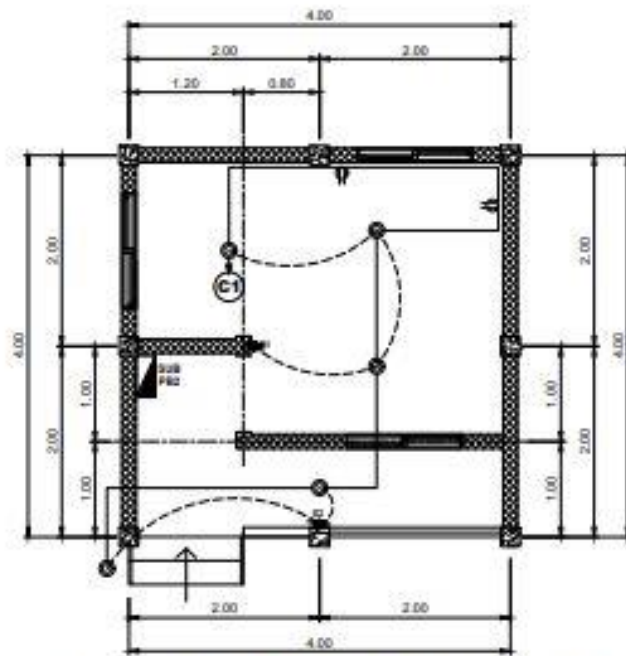
DKT NO.	LOAD DESCRIPTION	L.O.	C.O.	SWITCHES			SERVICE VOLTAGE	LOAD VA	LOAD AMPERES	C.C. PD			WIRING & CONDUIT TYPE & SIZE
				1	2	3				AT	AF	MAC	
1	LIGHTING FIXTURES	8	2	1	1	1	230	800	3.73174	30	60	10	2.5 mm <sup>2</sup> (12 AWG) THW WIRE IN 20mm Ø PVC CONDUIT PIPE
2	CONVENIENCE OUTLET	12	2	1	1	1	230	1200	5.2174	30	60	10	2.5 mm <sup>2</sup> (12 AWG) THW WIRE IN 20mm Ø PVC CONDUIT PIPE
3	CONVENIENCE OUTLET	8	2	1	1	1	230	800	3.73174	30	60	10	2.5 mm <sup>2</sup> (12 AWG) THW WIRE IN 20mm Ø PVC CONDUIT PIPE
4	SPARE						230	300	1.36435	30	60	10	SPARE - OUT
5	SPARE						230	300	1.36435	30	60	10	SPARE - OUT
	<b>TOTAL</b>	<b>28</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>3</b>	<b>230</b>	<b>2300</b>	<b>10.4326</b>	<b>60</b>	<b>60</b>	<b>10</b>	<b>2.5 mm<sup>2</sup> (12 AWG) THW WIRE IN 20mm Ø PVC CONDUIT PIPE</b>

### LEGEND:



### MOUNTING HEIGHT:

LIGHT SWITCH	100 mm A.P.F.
PANELBOARD	180 mm A.P.F.
TEL. DATA C.O.	300 mm A.P.F.
COUNTER TOP OUTLET	REFER TO ARCHT. OR PEE
OTHERS	REFER TO ARCHT. OR PEE



**ELECTRICAL LAY-OUT PLAN (GUARD HOUSE)**  
SCALE: 1:50m

### COMPUTATION:

#### MAIN DKT BREAKER:

$$I_{cb} = [ \text{TOTAL AMPERES} + (1.5) S.2174 ]$$

$$= [ 20.6957 + 7.6261 ]$$

$$= 28.3218 \text{ AMPERES}$$

THEREFORE, USE 60 AMPERES MAIN CIRCUIT BREAKER

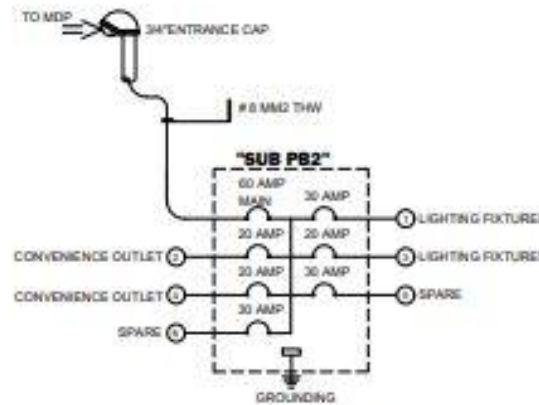
#### MAIN FEEDER:

$$I_c = [ 20.6957 + (0.25) S.2174 ]$$

$$= [ 20.6957 + 1.36435 ]$$

$$= 22.06005 \text{ AMPERES}$$

USE 2 - # 8 AWG (60A@6000V C.) IN A 20MM Ø PVC & 1 - #0 AT CB  
ALL OCPD SHALL BE 60AF & 10 KAC



**RISER DIAGRAM**

### TECHNICAL SPECIFICATIONS:

- THE TYPE OF SERVICE SHALL BE 230V, 60Hz, 3 PHASE.
- ALL ELECTRICAL WORKS HEREIN SHALL COMPLY TO THE PROVISION OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, LOCAL ORDINANCE OF MUNICIPALITY OR CITY, AND THE RULES AND REGULATION OF LOCAL ELECTRIC COOPERATIVE.
- WIRING METHOD SHALL BE IN EMT, IMC OR RSC IF EMBEDDED OR EXPOSE WORK.
- ALL MATERIALS TO BE USED SHALL BE NEW AND APPROVED TYPE FOR THE PURPOSE AND LOCATION.
- ALL ELECTRICAL WORKS SHALL BE UNDER THE DIRECT SUPERVISION OF A DULY LICENSE ELECTRICAL ENGINEER OR MASTER ELECTRICIAN.
- ALL WIRING WORKS SHALL BE PLACED IN RACEWAY, IN NEON LIGHT, THE HIGH TENSION CABLE SHOULD BE PROVIDED WITH HV INSULATION SUPPORT, OPEN WIRING ARE NOT ALLOWED.
- ALL NEON TRANSFORMERS, BALLAST AND TRANSFORMERS SHALL ENCLOSED IN METAL AND INSTALLED IN APPROVED LOCATION. A GROUND WIRE IN THE RACEWAY SHOULD BE INSTALLED.
- THE CONTRACTOR SHALL PROVIDE SUFFICIENT GROUND ROD AND NECESSARY MATERIALS TO BE ABLE TO OBTAIN ACCEPTABLE EARTH RESISTANCE ON SITE. CONTINUITY OF GROUNDING SYSTEM SHOULD BE MAINTAIN.
- ALL LIGHTING FIXTURES, CONDUITS/PIPES, NEON TRANSFORMERS, PINLIGHTS SHALL BE PROVIDED WITH RIGID STEEL HANGERS WITH MINIMUM SIZE OF 4mmØ.
- CONDUITS/ PIPES LAYOUT ON WALLS AND CEILING SHALL SUPPORTED EVERY 1500mm (SPACING) BY MEANS OF STEEL MALLEABLE CLAMP OR EQUIVALENT.



**BUREAU OF FISHERIES AND AQUATIC RESOURCES**

CERTIFIED BY:

PROFESSIONAL ELECTRICAL ENGINEER

PRC NO. \_\_\_\_\_ VALID UNTIL: \_\_\_\_\_  
 PPR NO. \_\_\_\_\_ DATE ISSUED: \_\_\_\_\_  
 TIN NO. \_\_\_\_\_ PLACE ISSUED: \_\_\_\_\_

PROJECT TITLE:

**ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)**

PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE

DRAWN BY:

**RANGIE P. ONTO**  
CPD-ENRTO STAMP

PREPARED BY:

**MARK RETEP M. LOZADA, CE**  
PROJECT ENGINEER, LH

CHECKED BY:

**THESSALYN B. LIMAS**  
LT - ENGINEER II

RECOMMENDING APPROVAL:

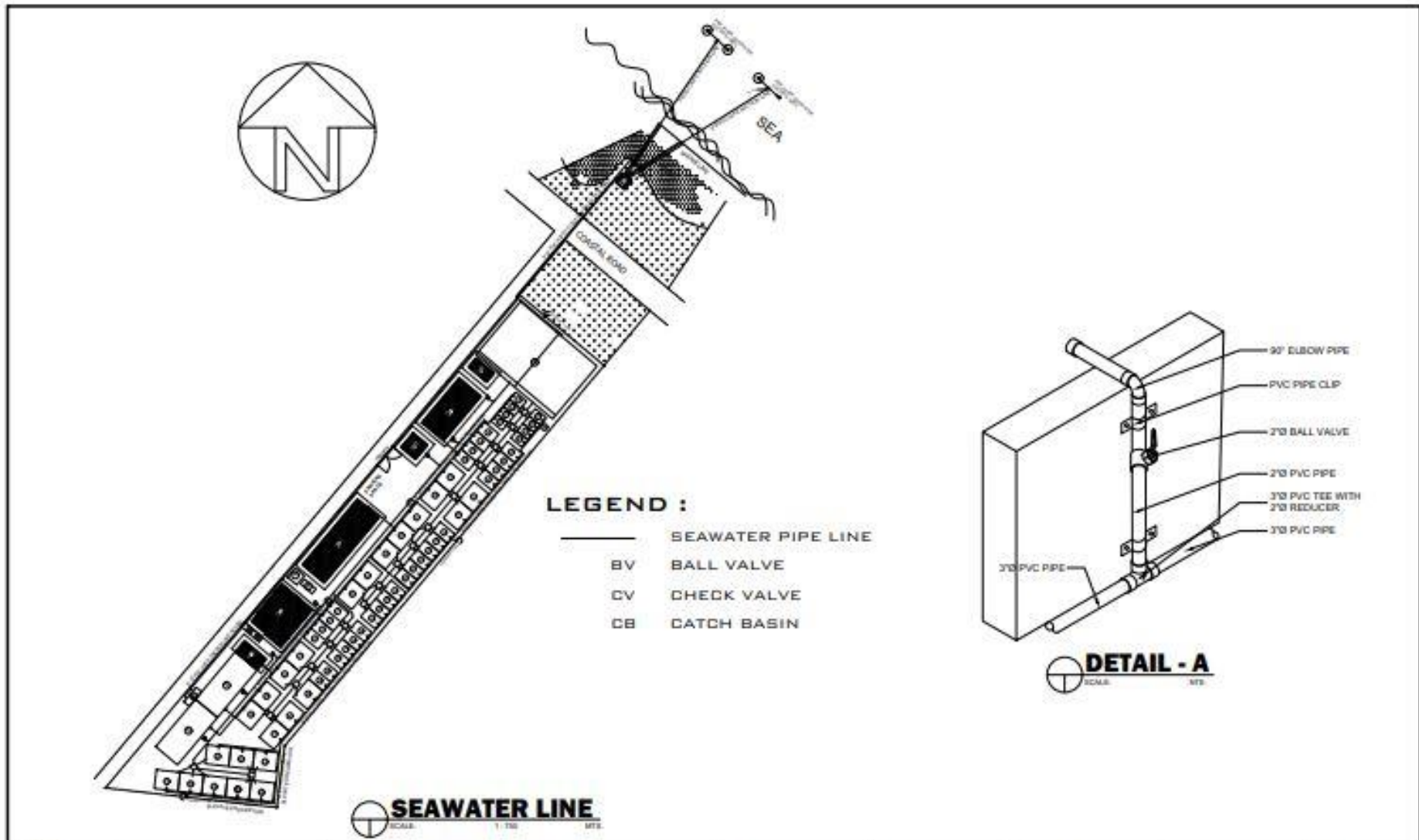
**RIZALINDA L. ABING**  
CHIEF PPRD

APPROVED:

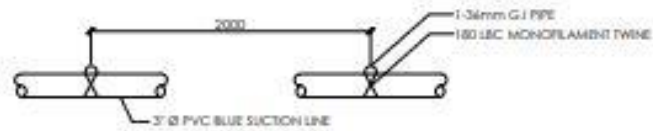
**NILO SELIM KATADA, Ph.D.**  
REGIONAL DIRECTOR

SHEET NO.

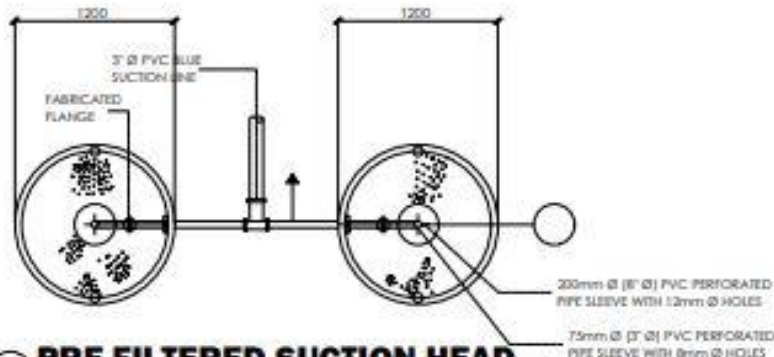
**15**  
**0606**



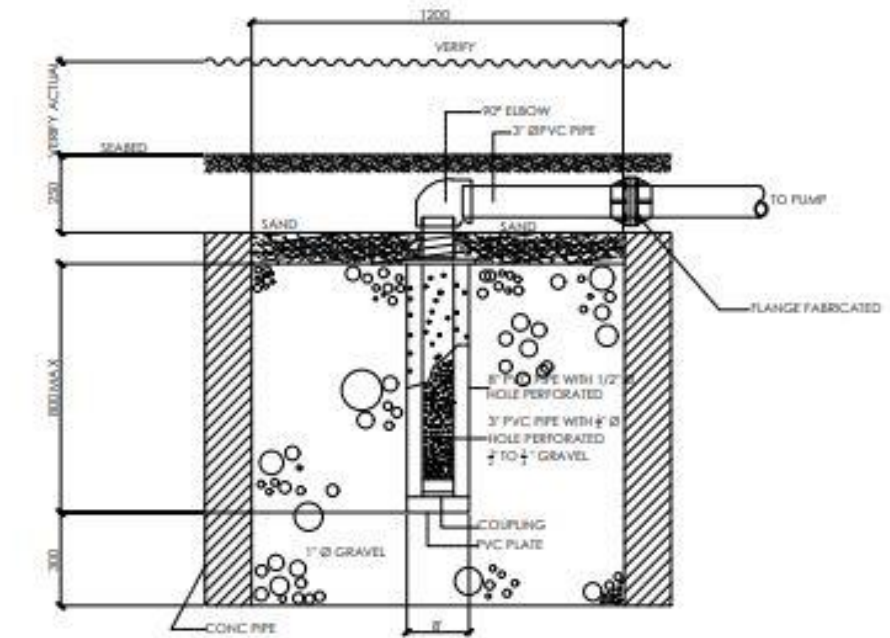
<p><b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b></p>	CERTIFIED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.
	<p>WATER PLUMBER</p> <p>PRC NO.      VALID UNTIL:</p> <p>FOR NO.      DATE ISSUED:</p> <p>TN NO.      PLACE ISSUED:</p>	<p><b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b></p> <p>PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE</p>	<p><b>RANGEL P. QUINTO</b> CPE 2020 STAMP</p> <p>PREPARED BY:</p> <p><b>MARK RETEP M. LOZADA, CE</b> PROJECT ENGINEER, LE</p>	<p><b>THESSALYN B. LIMAS</b> DR. REGISTERED</p>	<p><b>RIZALINDA L. ABING</b> CHIEF, FPESD</p>	<p><b>NILO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR</p>	<p><b>16</b></p> <p><b>0103</b></p>




**SUCTION LINE DETAIL A**  
SCALE: 1/8" = 1'-0"



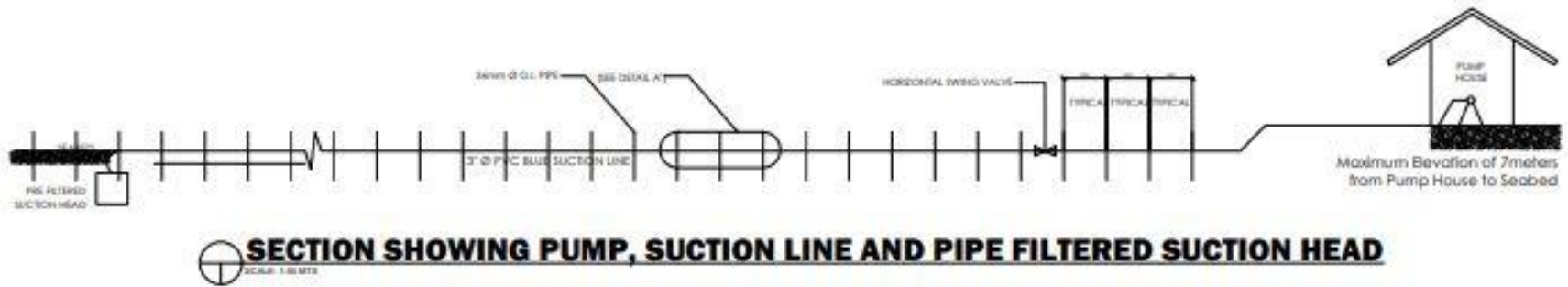
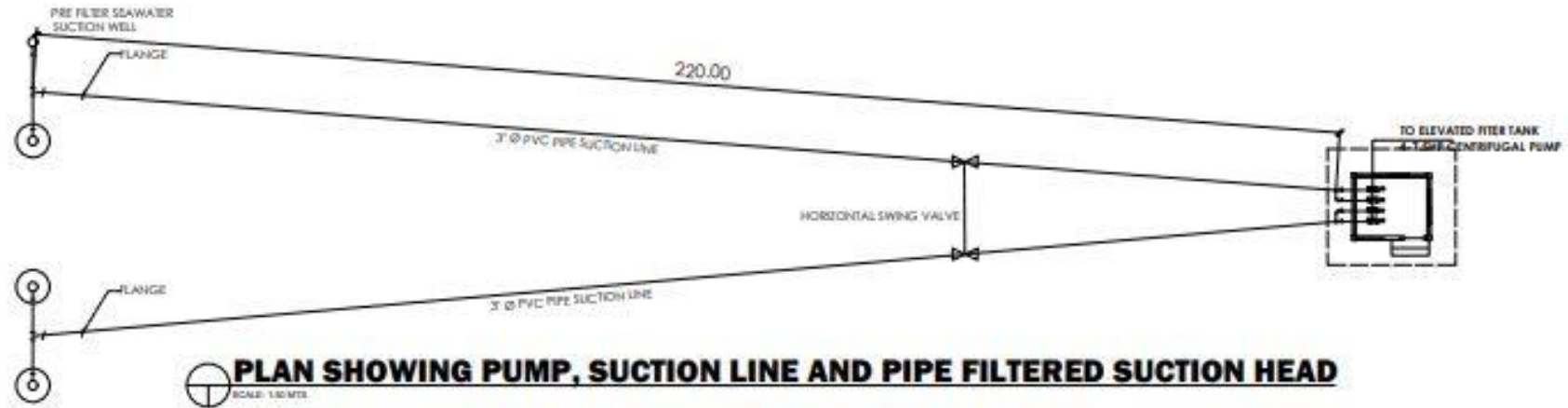
**PRE FILTERED SUCTION HEAD**  
SCALE: 1/8" = 1'-0"




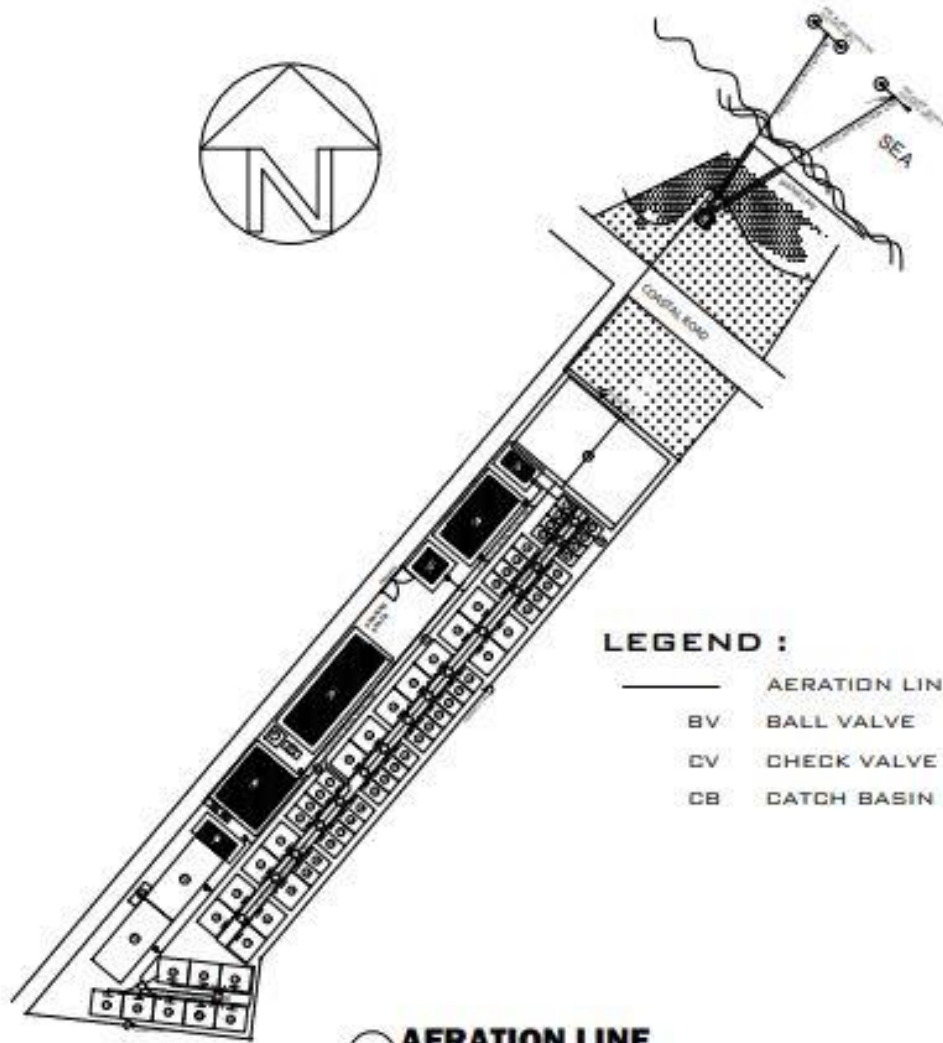
**PRE FILTERED SEAWATER INTAKE PIPE SYSTEM**  
SCALE: 1/8" = 1'-0"

 <p><b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b></p>	CERTIFIED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.	
	<p>_____</p> <p>SEALER PLUMBER</p>	<p><b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b></p>	<p><b>RANGEL P. OMTA</b> DPO DINDO STAFF</p>					16
	<p>PFC NO. _____</p> <p>FOR NO. _____</p> <p>TA NO. _____</p>	<p>VALID UNTIL: _____</p> <p>DATE ISSUED: _____</p> <p>PLACE ISSUED: _____</p>	<p>PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE</p>	<p><b>MARK REYEP M. LOZADA, CE</b> PROJECT ENGINEER, LR</p>	<p><b>THESSALYN B. LIMAS</b> DR. ENGINEER II</p>	<p><b>RIZALINDA L. ABING</b> CHIEF, PFCED</p>	<p><b>NILO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR</p>	0203

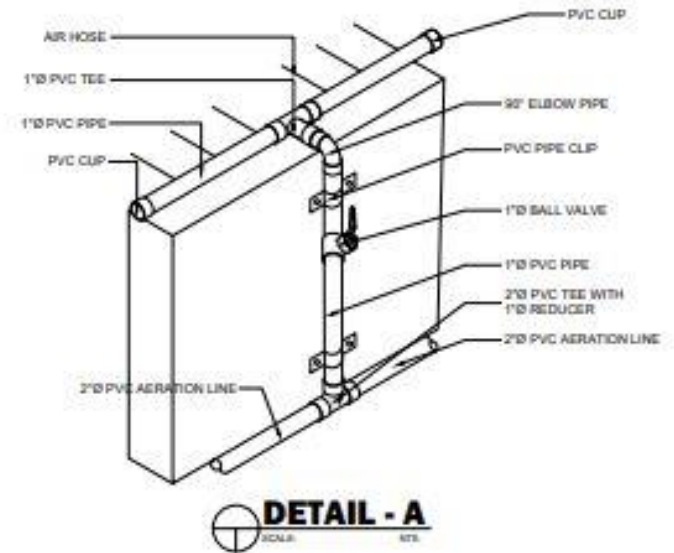





 <b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b>	CERTIFIED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.:
	WATER PLUMBER	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>RANGIE P. ONTO</b> CRD ENGR STAFF				<b>16</b>
	PRC NO.: DATE ISSUED: PLACE ISSUED:	PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE	PREPARED BY: <b>MARK RETEP M. LOZADA, CE</b> PROJECT ENGINEER, JR.	<b>THESSALYN B. LIMAS</b> DR. ENGINEER II	<b>RIZALINDA L. ABING</b> CHIEF, FEED	<b>NILO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>03 03</b>

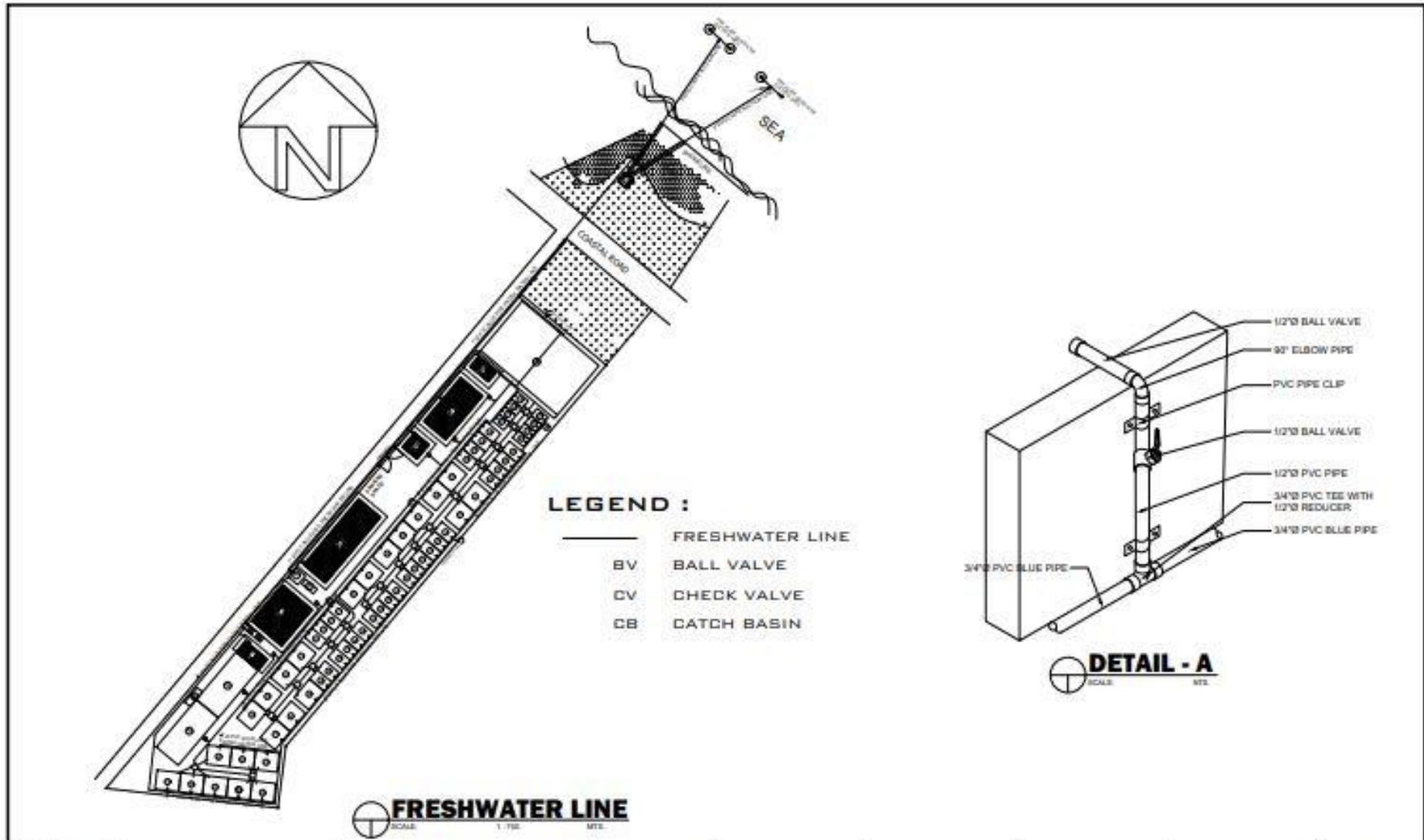


- LEGEND :**
- AERATION LINE
  - BV BALL VALVE
  - CV CHECK VALVE
  - CB CATCH BASIN



**AERATION LINE**  
SCALE: 1:100 MET.

 <b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b>	CERTIFIED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.
	WATER PLUMBER	<b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b>	<b>RANGIE P. ONTO</b> CDD ENVTS. STAFF				<b>17</b>
	PIC NO.      VALID UNTIL: PTR NO.      DATE ISSUED: TR NO.      PLACE ISSUED:	PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE	PREPARED BY:	<b>THESSALYN B. LIMAS</b> CDD ENGINEER II	<b>RIZALINDA L. ABING</b> CHIEF, FEED	<b>NILO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR	<b>0101</b>



 <p><b>BUREAU OF FISHERIES AND AQUATIC RESOURCES</b></p>	CERTIFIED BY:	PROJECT TITLE:	DRAWN BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED:	SHEET NO.
	<p>_____ SELETA PLUMBER</p> <p>PRC NO. _____ VALID UNTIL _____          PPN NO. _____ DATE ISSUED _____          TSN NO. _____ PLACE ISSUED _____</p>	<p><b>ESTABLISHMENT OF MULTI-SPECIES MARINE HATCHERY IN BARANGAY ATA-ATAHON, NASIPIT IN THE PROVINCE OF AGUSAN DEL NORTE (RA 10858)</b></p> <p>PROJECT LOCATION: BRGY. ATA-ATAHON, NASIPIT, AGUSAN DEL NORTE</p>	<p><b>RANQUE P. ONTO</b> CPE, ENGR, EIT/PP</p> <p>PREPARED BY:</p> <p><b>MARK RETEP M. LOZADA, CE</b> PROJECT ENGINEER, LA</p>	<p><b>THESSALYN B. LIMAS</b> CE - ELECTRICAL</p>	<p><b>RIZALINDA L. ABING</b> CHIEF, P/PROJ</p>	<p><b>NILO SELIM KATADA, Ph.D.</b> REGIONAL DIRECTOR</p>	<p><b>18</b></p> <p><b>0101</b></p>

## *Section VIII. Bill of Quantities*



Republic of the Philippines  
 Department of Agriculture  
**BUREAU OF FISHERIES AND AQUATIC RESOURCES**  
**Caraga Region**  
 Km. 4 Barangay Luna, National Highway, Surigao City  
 Website: caraga.bfar.da.gov.ph

Name of Proposed Project: **Establishment of Multi-Species Marine Hatchery**

Location: **Brgy. Ata-atahon, Nasipit, Agusan del Norte**

Subject: **Bill of Quantities**

Qty	Unit	Description	Unit Cost	Cost
<b>A. GENERAL REQUIREMENTS</b>				
<b>SPL I TEMPORARY FACILITIES FOR THE ENGINEERS</b>				
		<i>Qty.:</i>	<i>12.00 months</i>	
		Office and Quarter Rental (To include room for BFAR-PE)		
1.00	lot	Area = 60.00sq.m. Rentable Spaces		
			<b>Office Rental Cost =</b>	
<b>SPL II PROJECT BILLBOARD</b>				
		<i>Qty.:</i>	<i>2.00 each</i>	
		<b>Labor:</b>		
1		Foreman	16 hours	
1		Skilled	16 hours	
1		Laborer	16 hours	
			<b>Labor Cost=</b>	
		<b>Materials:</b>		
2.00	units	Tarpauline (8'x8')		
48.00	bd.ft.	12pcs. - 2x3x8 Good Lumber		

64.00	bd.ft.	8pcs. - 2x4x12 Good Lumber		
3.00	kgs.	Assorted C.W Nails		
4.00	sheets	1/4 Marine Plywood		
1.00	bag	Portland Cement		
			<b>Materials Cost =</b>	
<b>SPL III PERMITS AND CLEARANCE</b>				
		<i>Qty.:</i>	<i>1.00 lot</i>	
1.00	lot	Permit and Clearances (includes Building, Plumbing, Electrical and Mechanical Permits, Zoning Certificate and Clearance, Fire Safety, etc.)		
			<b>Cost=</b>	
<b>SPL IV MOBILIZATION/DEMOBILIZATION</b>				
		<i>Qty.:</i>	<i>1.00 lot</i>	
		<b>Equipment Rental: (To include fuel &amp; lubricants)</b>		
1		Backhoe	16 hours	
1		Payloader	16 hours	
2		Dump Truck	16 hours	
1		Road Roller	16 hours	
1		Road Grader	16 hours	
1		Cargo Stake Truck	8 hours	
1		Water Truck	16 hours	
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Backhoe Operator	16 hours	
1		Payloader Operator	16 hours	
2		Dump Truck Driver	16 hours	
1		Road Roller Operator	16 hours	

1		Road Grader Operator	16 hours		
1		Stake Truck Operator	8 hours		
1		Water Truck Driver	16 hours		
		<b>Unskilled:</b>			
1		Backhoe Helper	16 hours		
1		Payloader Helper	16 hours		
2		Dump Truck Helper	16 hours		
1		Road Roller Helper	16 hours		
1		Road Grader Helper	16 hours		
1		Stake Truck Helper	8 hours		
1		Water Truck Helper	16 hours		
6		Laborers	8 hours		
				<b>Labor Cost=</b>	

**B. SITE DEVELOPMENT**

<b>100 (1) CLEARING AND GRUBBING</b>						
		<i>Qty.:</i>	<i>0.30 hec.</i> <i>3,000 sq.m.</i>			
		<b>Equipment Rental:</b> (To include fuel & lubricants)				
1		Bulldozer	6 hours			
1		Payloader	6 hours			
2		Dump Truck	6 hours			
				<b>Equipment Rental Cost=</b>		
		<b>Labor:</b>				
		<b>Skilled:</b>				
1		Foreman	6 hours			
1		Bulldozer Operator	6 hours			
1		Payloader Operator	6 hours			
2		DT Driver	6 hours			

		<b>Unskilled:</b>		
1		Helper (Bulldozer)	6 hours	
1		Helper (Payloader)	6 hours	
2		Helper (DT)	6 hours	
2		Laborer	6 hours	
				<b>Labor Cost=</b>
<b>100 (3) INDIVIDUAL REMOVAL OF TREES</b>				
		<i>Qty.:</i>	<i>120.00 each</i>	
		<b>Equipment Rental:</b> (To include fuel & lubricants)		
1		Backhoe (0.80 cu.m.)	60 hours	
1		Dump Truck (10 cu.m.)	40 hours	
1		Chainsaw	40 hours	
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled</b>		
1		Foreman	60 hours	
1		Backhoe Operator	60 hours	
1		Dumptruck Driver	40 hours	
1		Chainsaw Operator	40 hours	
1		Skilled Laborer	40 hours	
		<b>Unskilled</b>		
1		Helper (Backhoe)	60 hours	
1		Helper (Dumptruck)	40 hours	
2		Unskilled	40 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
2,400.00	meters	Rope		
				<b>Materials Cost=</b>



104(1)a		EMBANKMENT FROM BORROW			
		Qty.:		1,951.76 cu.m.	
		<b>Equipment Rental:</b> (To include fuel & lubricants)			
1		Road Grader		40 hours	
1		Road Roller w/ Vibrator		40 hours	
1		Water Truck		40 hours	
					<b>Equipment Rental Cost=</b>
		<b>Labor:</b>			
		<b>Skilled:</b>			
1		Foreman		40 hours	
1		Road Grader Operator		40 hours	
1		Road Roller Operator		40 hours	
1		Water Truck Driver		40 hours	
		<b>Unskilled:</b>			
1		Helper (Road Grader)		40 hours	
1		Helper (Road Roller)		40 hours	
1		Helper (Water Truck)		40 hours	
2		Laborer		40 hours	
					<b>Labor Cost=</b>
		<b>Materials:</b>			
2,439.70	cu.m.	Embankment Material			
					<b>Materials Cost=</b>
200		AGGREGATE SUBBASE COURSE			
		Qty.:	(Compacted)	612.00 cu.m	
			(Loose)	673.20 cu.m	
		<b>Equipment Rental:</b> (To include fuel & lubricants)			
1		Road Grader		13 hours	
1		Road Roller		13 hours	

1		Water Truck	4 hours		
				<b>Equipment Rental Cost=</b>	
		<b>Labor:</b>			
		<b>Skilled:</b>			
1		Foreman	13 hours		
1		Road Grader Operator	13 hours		
1		Road Roller Operator	13 hours		
1		Water Truck Operator	4 hours		
		<b>Unskilled:</b>			
1		Road Grader (Helper)	13 hours		
1		Road Roller (Helper)	13 hours		
1		Water Truck (Helper)	4 hours		
2		Laborers	13 hours		
		<b>Materials:</b>		<b>Labor Cost=</b>	
673.20	cu.m.	Agg. Subbase Course (delivered on site)			
				<b>Materials Cost=</b>	
<b>C. RESERVOIR TANK, BROODSTOCK TANK AND ELEVATED WATER TANK</b>					
<b>803(1)a STRUCTURE EXCAVATION</b>					
		<i>Qty.:</i>	<i>394.49 cu.m.</i>		
		<b>Equipment Rental: (To include fuel &amp; lubricants)</b>			
1		Backhoe	20 hours		
2		Dumptruck	20 hours		
		Minor Tools			
				<b>Equipment Rental Cost=</b>	
		<b>Labor:</b>			
		<b>Skilled:</b>			
1		Foreman	20 hours		
1		Backhoe Operator	20 hours		

2		DT Driver	20 hours		
		<b>Unskilled:</b>			
1		Helper (Backhoe)	20 hours		
2		Helper (DT)	20 hours		
3		Laborer	20 hours		
				<b>Labor Cost=</b>	
<b>804(1)a EMBANKMENT FROM STRUCTURE EXCAVATION</b>					
		<i>Qty.:</i>	<i>324.41 cu.m.</i>		
		<b>Equipment Rental: (To include fuel &amp; lubricants)</b>			
1		Backhoe	33 hours		
1		Plate Compactor	33 hours		
		Minor Tools			
				<b>Equipment Rental Cost=</b>	
		<b>Labor:</b>			
		<b>Skilled:</b>			
1		Foreman	33 hours		
1		Backhoe Operator	33 hours		
		<b>Unskilled:</b>			
1		Helper (Backhoe)	33 hours		
3		Laborer	33 hours		
				<b>Labor Cost=</b>	
<b>804(1)b EMBANKMENT FROM BORROW</b>					
		<i>Qty.:</i>	<i>290.49 cu.m.</i>		
		<b>Equipment Rental: (To include fuel &amp; lubricants)</b>			
1		Backhoe	30 hours		
1		Plate Compactor	30 hours		
		Minor Tools			
				<b>Equipment Rental Cost=</b>	

		<b>Labor:</b>		
1		Foreman	30 hours	
1		Backhoe Operator	30 hours	
1		Helper (Backhoe)	30 hours	
3		Laborer	30 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
290.49	cu.m.	Embankment Materials (excavated from treatment tank)		
				<b>Materials Cost=</b>
<b>804(4) GRAVEL BEDDING</b>				
		<i>Qty.:</i>	<i>41.64 cu.m.</i>	
		<b>Equipment Rental: (To include fuel &amp; lubricants)</b>		
1		Plate Compactor	35 hours	
		Minor Tools	35 hours	
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	35 hours	
1		PC Operator	35 hours	
		<b>Unskilled:</b>		
3		Laborer	35 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
41.64	cu.m.	Gravel Bed (G1)		
				<b>Materials Cost=</b>

900(1)		STRUCTURAL CONCRETE CLASS A, 28 DAYS		
		<i>Qty.:</i>	268.53 cu.m.	
		<b>Equipment Rental:</b> (To include fuel & lubricants)		
2		Transit Mixer	284 hours	
1		Concrete Vibrator	284 hours	
		Minor Tools		
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
2		Foreman	284 hours	
2		Skilled Laborer	284 hours	
2		TM Driver	284 hours	
		<b>Unskilled</b>		
6		Unskilled Laborer	284 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
2,418.00	bags	Cement		
1,741.00	pack	Water Proofing Compound		
134.26	cu.m	Sand (Agusan Source)		
268.53	cu.m	Gravel (Agusan Source)		
				<b>Materials Cost=</b>
902(1)		REINFORCING STEEL BARS, GRADE 60/GRADE 40		
		<i>Qty.:</i>	28,778.92 kgs	
		<b>Equipment Rental:</b> (To include fuel & lubricants)		
1		Bar Cutter	201 hours	
1		Bar Bender	201 hours	
		Minor Tools		
				<b>Equipment Rental Cost=</b>

		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	201 hours	
3		Skilled Laborer	201 hours	
		<b>Unskilled:</b>		
12		Laborer	201 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
411.00	pcs.	20mmØx6m-def. bar		
860.00	pcs.	16mmØx6m-def. bar		
1756.00	pcs.	12mmØx6m-def. bar		
1402.00	pcs.	10mmØx6m-def. bar		
359.74	kgs.	#16 tie wire		
				<b>Materials Cost=</b>
<b>903(2) FORMS AND SCAFFOLDINGS</b>				
		<i>Qty.:</i>	<i>1.00 lot</i>	
		<b>Equipment Rental:</b>		
		Minor Tools		
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		Installation		
		<b>Skilled:</b>		
1		Foreman	150 hours	
3		Skilled Laborer	150 hours	
		<b>Unskilled:</b>		
6		Unskilled Laborer	150 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
174.00	sheets	1/2" thk Or. Plywood		

700.80	bd.ft	2 x 3 x 16 Good Lumber		
3,109.72	bd.ft	2 x 2 x 16 Good Lumber		
60.00	kgs	CW Nails #4		
60.00	kgs	CW Nails #3		
60.00	kgs	CW Nails #2 ½		
60.10	kgs	CW Nails #1		
			<b>Materials Cost=</b>	
<b>1002 GI PIPE ROOFING &amp; RAILINGS</b>				
		<i>Qty.:</i>	<i>1.00 lot</i>	
		<b>Equipment Rental:</b>		
1		Welding Machine	140 hours	
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	140 hours	
1		Skilled Laborer	140 hours	
		<b>Unskilled:</b>		
2		Unskilled Laborer	140 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
16.00	pcs	2"dia x 6m GI Pipe		
33.00	pcs	1 ½ dia x 6m GI Pipe		
19.00	pcs	1"dia x 6m GI Pipe		
5.00	pcs	16mm x 6m Plain Bars		
29.00	pcs	12mmx6m Ø def. bar		
30.00	kgs	Welding Rod		
2.00	roll	Black shading net 90% 6' x 50		
1.00	roll	Polyethylene rope #14		
1.00	roll	Pamo twine (big)		

1.00	roll	Nylon twine, 150lbs		
2.00	gal	Epoxy Primer		
			<b>Materials Cost=</b>	
<b>1016 WATERPROOFING CEMENT BASE</b>				
		<i>Qty.:</i>	<i>538.50 sq.m.</i>	
		<b>Equipment Rental:</b>		
		Minor Tools		
			<b>Equipment Rental Cost=</b>	
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	36 hours	
1		Skilled Laborer	36 hours	
		<b>Unskilled:</b>		
1		Unskilled Laborer	36 hours	
			<b>Labor Cost=</b>	
		<b>Materials</b>		
28.00	gal	Cementitious Waterproofing		
8.00	pcs	Paint Brush #4		
			<b>Materials Cost=</b>	
<b>1027 CEMENT PLASTER FINISH</b>				
		<i>Qty.:</i>	<i>262.40 sq.m.</i>	
		<b>Equipment Rental:</b>		
		Minor Tools		
			<b>Equipment Rental Cost=</b>	
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	37 hours	
2		Skilled Laborer	37 hours	



		<b>Unskilled:</b>		
4		Unskilled Laborer	37 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
103.00	bags	Portland Cement		
103.00	pack	Water Proofing Compound		
5.47	cu.m.	Sand (Agusan Source)		
				<b>Materials Cost=</b>
<b>1032 PAINTING WORKS</b>				
		<i>Qty.:</i>	<i>985.15 sq.m.</i>	
		<b>Equipment Rental:</b>		
		Minor Tools		
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	165 hours	
2		Skilled Laborer	165 hours	
		<b>Unskilled:</b>		
1		Unskilled Laborer	165 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
29.00	gal	Epoxy Primer		
40.00	gal	Aqua Epoxy		
11.00	gal	Epoxy Reducer		
17.00	gal	Primer Flat Latex		
29.00	gal	Semi Gloss Latex		
11.00	pcs	Paint Roller 7" w/ tray		
11.00	pcs	Paint Brush #4		

17.00	pcs	Sanding Paper		
				Materials Cost=
<b>1046 100mm Non Load/Load Bearing CHB</b>				
		<i>Qty.:</i>	<i>7.76 sq.m.</i>	
		<b>Equipment Rental:</b>		
1		One Bagger Mixer		
		Minor Tools		
				Equipment Rental Cost=
		<b>Labor:</b>		
1		Foreman	3 hours	
2		Skilled Laborer	3 hours	
		<b>Unskilled:</b>		
3		Unskilled Laborer	3 hours	
				Labor Cost=
		<b>Materials:</b>		
97.00	pcs.	CHB (4")		
5.00	bags	Portland Cement		
0.34	cu.m.	Sand		
				Materials Cost=
<b>D. RETAINING WALL TREATMENT TANK AND PERIMETER FENCE</b>				
<b>803(1)a STRUCTURE EXCAVATION</b>				
		<i>Qty.:</i>	<i>546.69 cu.m.</i>	
		<b>Equipment Rental:</b> (To include fuel & Lubricants)		
1		Backhoe	28 hours	
2		Dumptruck	28 hours	
		Minor Tools		
				Equipment Rental Cost=

		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	28 hours	
1		Backhoe Operator	28 hours	
2		DT Driver	28 hours	
		<b>Unskilled:</b>		
1		Helper (Backhoe)	28 hours	
2		Helper (DT)	28 hours	
3		Laborer	28 hours	
				<b>Labor Cost=</b>
<b>804(1)a</b>		<b>EMBANKMENT FROM STRUCTURE EXCAVATION</b>		
		<i>Qty.:</i>	<i>104.28 cu.m.</i>	
		<b>Equipment Rental:</b> (To include fuel & lubricants)		
1		Backhoe	11 hours	
1		Plate Compactor	11 hours	
		Minor Tools		
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	11 hours	
1		Backhoe Operator	11 hours	
		<b>Unskilled:</b>		
1		Helper (Backhoe)	11 hours	
3		Laborer	11 hours	
				<b>Labor Cost=</b>
<b>804(4)</b>		<b>GRAVEL BEDDING</b>		
		<i>Qty.:</i>	<i>55.00 cu.m.</i>	
		<b>Equipment Rental:</b> (To include fuel & Lubricants)		
1		Plate Compactor	46 hours	

		Minor Tools		
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	46 hours	
1		PC Operator	46 hours	
		<b>Unskilled:</b>		
3		Laborer	46 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
55.00	cu.m.	Gravel Bed (G1)		
				<b>Materials Cost=</b>
<b>900(1) STRUCTURAL CONCRETE CLASS A, 28 DAYS</b>				
		<i>Qty.:</i>	<i>159.59 cu.m.</i>	
		<b>Equipment Rental:</b> (To include fuel & Lubricants)		
2		Transit Mixer	169 hours	
1		Concrete Vibrator	169 hours	
		Minor Tools		
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
2		Foreman	169 hours	
2		Skilled Laborer	169 hours	
2		TM Driver	169 hours	
		<b>Unskilled:</b>		
6		Unskilled Laborer	169 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
1,474.00	bags	Cement		

520.00	bags	Water Proofing Compound		
82.01	cu.m.	Sand		
164.02	cu.m.	Gravel		
			<b>Materials Cost=</b>	
<b>902(1) REINFORCING STEEL BARS, GRADE 60//GRADE 40</b>				
		<i>Qty.:</i>	<i>17,544.08 kgs.</i>	
		<b>Equipment Rental:</b> (To include fuel & Lubricants)		
1		Bar Cutter	123 hours	
1		Bar Bender	123 hours	
		Minor Tools		
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	123 hours	
3		Skilled Laborer	123 hours	
		<b>Unskilled:</b>		
12		Laborer	123 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
353.00	pcs.	16mmØx6m-def. bar		
1898.00	pcs.	12mmØx6m-def. bar		
1103.00	pcs.	10mmØx6m-def. bar		
222.00	kgs.	#16 tie wire		
				<b>Materials Cost=</b>
<b>903(2) FORMS AND SCAFFOLDINGS</b>				
		<i>Qty.:</i>	<i>1.00 lot</i>	
		<b>Equipment Rental:</b> (To include fuel & Lubricants)		
		Minor Tools		
				<b>Equipment Rental Cost=</b>

		<b>Labor:</b>		
		<b>Skilled:</b>		
		Installation		
1		Foreman	200 hours	
2		Skilled Laborer	200 hours	
		<b>Unskilled:</b>		
6		Laborer	200 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
100.00	sheets	1/2" thk Ordinary Plywood		
1,600.00	bd.ft.	2 x 4 x 16 Good Lumber		
1,200.00	bd.ft.	2 x 3 x 16 Good Lumber		
1,067.00	bd.ft.	2 x 2 x 16 Good Lumber		
50.00	kgs	CW Nails #4		
50.00	kgs	CW Nails #3		
50.00	kgs	CW Nails #2 1/2		
50.00	kgs	CW Nails #1		
				<b>Materials Cost=</b>
<b>1016</b>	<b>WATERPROOFING CEMENT BASE</b>			
		<i>Qty.:</i>	<i>274.56 sq.m.</i>	
		<b>Equipment Rental:</b>		
		Minor Tools		
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	19 hours	
1		Skilled Laborer	19 hours	

		<b>Unskilled:</b>		
1		Laborer	19 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
14.00	gal	Cementitious Waterproofing		
10.00	pcs	Paint Brush #4		
				<b>Materials Cost=</b>
<b>1027(1) CEMENT PLASTER FINISH</b>				
		<i>Qty.:</i>	<i>1,773.10 sq.m.</i>	
		<b>Equipment Rental:</b>		
		Minor Tools		
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	249 hours	
2		Skilled Laborer	249 hours	
		<b>Unskilled:</b>		
2		Laborer	249 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
533.00	bags	Portland Cement		
50.00	pack	Water Proofing Compound		
30.00	cu.m.	Sand		
				<b>Materials Cost=</b>
<b>1032 (1) PAINTING WORKS</b>				
		<i>Qty.:</i>	<i>972.36 sq.m.</i>	
		<b>Equipment Rental:</b>		
		Minor Tools		
				<b>Equipment Rental Cost=</b>

		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	163 hours	
2		Skilled Laborer	163 hours	
		<b>Unskilled:</b>		
1		Laborer	163 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
28.00	gal	Primer Flat Latex		
36.00	gal	Latex Semi Gloss		
28.00	gal	Epoxy Primer		
22.00	gal	Quick Dry Enamel		
14.00	gal	Aqua Epoxy		
8.40	gal	Epoxy Reducer		
5.00	pcs	Paint Roller 7" w/ tray		
2.00	pcs	Paint Brush #4		
5.00	pcs	Sanding Paper		
				<b>Materials Cost=</b>
<b>1046</b>	<b>100mm/150mm NON LOAD/LOAD BEARING CHB</b>			
		<i>Qty.:</i>	<i>886.55 sq.m.</i>	
		<b>Equipment Rental: (To include fuel &amp; lubricants)</b>		
1		One Bagger Mixer	279 hours	
		Minor Tools		
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	279 hours	
2		Skilled Laborer	279 hours	



		<b>Unskilled:</b>		
3		Laborer	279 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
10,924.00	pcs.	CHB (6")		
159.00	pcs.	CHB (4")		
513.00	bags	Portland Cement		
44.00	cu.m.	Sand		
				<b>Materials Cost=</b>
<b>1047 (2) WELDING WORKS</b>				
		<i>Qty.:</i>	<i>1.00 lot</i>	
		<b>Equipment Rental: (To include fuel &amp; lubricants)</b>		
1		Welding Machine	320 hours	
1		Cutting Outfit	160 hours	
	<b>900(1)</b>	Minor Tools		
				<b>Equipment Rental Cost=</b>
	<b>903(2)</b>	<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	320 hours	
2		Skilled Laborer	320 hours	
		<b>Unskilled:</b>		
3		Unskilled Laborer	320 hours	
				<b>Labor Cost=</b>
	<b>1046</b>	<b>Materials:</b>		
156.00	pcs	1 ¼ " dia X 6m G.I. PIPE Sched 40		
4.00	pcs	2" dia X 6m G.I. PIPE Sched 40		
1.00	pcs	1 ½ " dia X 6m G.I. PIPE Sched 40		
1.00	pcs	½ " x 2" Flat Bar		
114.00	pcs	G.I. Cup		

25.00	roll	Cyclone Wire		
14.00	pcs	Fabricated Hinges		
30.00	kgs	Welding Rod		<b>Materials Cost=</b>
<b>E. TECHNICIAN'S QUARTER, HARVESTING, HATCHING AND SPAWNING AREA</b>				
<b>803 (1)a STRUCTURE EXCAVATION</b>				
		<i>Qty.:</i>	<i>91.35 cu.m.</i>	
		<b>Equipment Rental: (To include fuel &amp; lubricants)</b>		
1		Backhoe	5 hours	
2		Dumptruck	5 hours	
		Minor Tools		
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	5 hours	
1		Backhoe Operator	5 hours	
2		DT Driver	5 hours	
		<b>Unskilled:</b>		
1		Helper (Backhoe)	5 hours	
2		Helper (DT)	5 hours	
3		Laborer	5 hours	
				<b>Labor Cost=</b>
<b>804 (1) a EMBANKMENT FROM STRUCTURE EXCAVATION</b>				
		<i>Qty.:</i>	<i>76.20 cu.m.</i>	
		<b>Equipment Rental: (To include fuel &amp; lubricants)</b>		
1		Backhoe	8 hours	
2		Plate Contractor	8 hours	
		Minor Tools		
				<b>Equipment Rental Cost=</b>

		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	8 hours	
1		Backhoe Operator	8 hours	
		<b>Unskilled:</b>		
1		Helper (Backhoe)	8 hours	
3		Laborer	8 hours	
				<b>Labor Cost=</b>
<b>804 (1) b EMBANKMENT FROM BORROW</b>				
		<i>Qty.:</i>	28.00 cu.m.	
		<b>Equipment Rental:</b> (To include fuel & lubricants)		
1		Backhoe	3 hours	
1		Plate Contractor	3 hours	
		Minor Tools		
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	3 hours	
1		Backhoe Operator	3 hours	
		<b>Unskilled:</b>		
1		Helper (Backhoe)	3 hours	
3		Laborer	3 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
28.00	cu.m.	Embankment Materials (excavated from treatment tank)		
				<b>Materials Cost=</b>

804 (4) GRAVEL BEDDING				
		<i>Qty.:</i>	29.65 cu.m.	
		<b>Equipment Rental: (To include fuel &amp; lubricants)</b>		
1		Plate Compactor	20 hours	
		Minor Tools		
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	20 hours	
1		PC Operator	20 hours	
		<b>Unskilled:</b>		
3		Laborer	20 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
29.65	cu.m.	Gravel Bed (G1)		
				<b>Materials Cost=</b>
900 (1) STRUCTURAL CONCRETE CLASS A, 28 DAYS				
		<i>Qty.:</i>	47.03 cu.m.	
		<b>Equipment Rental: (To include fuel &amp; lubricants)</b>		
2		Transit Mixer	50 hours	
1		Concrete Vibrator	50 hours	
		Minor Tools		
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
2		Foreman	50 hours	
2		Skilled Laborer	50 hours	
2		TM Driver	50 hours	

		<b>Unskilled:</b>		
6		Unskilled Laborer	50 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
425.00	bags	Cement		
23.52	cu.m.	Sand (Agusan Source)		
47.03	cu.m.	Gravel (Agusan Source)		
				<b>Materials Cost=</b>
<b>902(1) REINFORCING STEEL BARS, GRADE 60/GRADE 40</b>				
		<i>Qty.:</i>	<i>4,251.74 kgs.</i>	
		<b>Equipment Rental: (To include fuel &amp; lubricants)</b>		
1		Bar Cutter	30 hours	
1		Bar Bender	30 hours	
		Minor Tools		
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	30 hours	
3		Skilled Laborer	30 hours	
		<b>Unskilled:</b>		
12		Laborer	30 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
132.00	pcs.	16mm Ø x 6m def. bar		
166.00	pcs.	12mmØx6m def. bar		
569.00	pcs.	10mmx6m Ø def. bar		
65.00	kgs.	#16 tie wire		
				<b>Materials Cost=</b>

903(2) FORMS AND SCAFFOLDINGS				
		<i>Qty.:</i>	<i>1.00 lot</i>	
		<b>Equipment Rental:</b>		
		Minor Tools		
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
		Installation		
1		Foreman	80 hours	
2		Skilled Laborer	80 hours	
		<b>Unskilled:</b>		
6		Laborer	80 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
86.00	sheets	½ " thk Ordinary Plywood		
300.00	bd.ft.	2 x 3 x 16 Good Lumber		
905.00	bd.ft.	2 x 2 x 16 Good Lumber		
14.00	kgs	CW Nails #4		
14.00	kgs	CW Nails #3		
14.00	kgs	CW Nails #2 ½		
14.00	kgs	CW Nails #1		
				<b>Materials Cost=</b>
1003 FIBER CEMENT BOARD ON METAL FRAME CEILING				
		<i>Qty.:</i>	<i>160.00 sq.m.</i>	
		<b>Equipment Rental:</b>		
		Minor Tools		
				<b>Equipment Rental Cost=</b>

		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	129 hours	
2		Skilled Laborer	129 hours	
		<b>Unskilled:</b>		
2		Unskilled Laborer	129 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
59.00	sheets	4.5mm Fiber Cement Board		
44.00	pcs	0.25mx2.4mx½ thk Fiber Cement Fascia Board		
181.00	pcs	0.40mmX19mmx50mm Metal Furring		
58.00	pcs	0.40mmX19mmx50mm Carrying Channel		
39.00	pcs	1"x1" Wall Angle		
160.00	pcs	¼ " Suspension Rod Hanger		
960.00	pcs	Channel Clip		
2,240.00	pcs	Rivets		
				<b>Materials Cost=</b>
<b>1010</b>	<b>DOORS AND WINDOWS</b>			
		<i>Qty.:</i>	<i>1.00 lot</i>	
		<b>Equipment Rental:</b>		
		Minor Tools		
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	150 hours	
2		Skilled Laborer	150 hours	
		<b>Unskilled:</b>		
2		Unskilled Laborer	150 hours	
				<b>Labor Cost=</b>

		<b>Materials:</b>		
9.00	sets	D1:Hardwood Panel Door (.90m x 2.10m) w/ jamb		
1.00	sets	D2:Double Flush Door (1.4m x 2.10m) w/ jamb		
6.00	sets	D3:Flush Door (0.65m x 2.10m) w/ jamb		
17.00	pcs	Door Knob		
68.00	pcs	Hinges		
7.00	sets	W1:Sunbrown Analok Sliding Window (1.2m x 1.2m)		
1.00	sets	W2:Sunbrown Analok Sliding Window (2.1m x 0.60m)		
4.00	sets	W3:Sunbrown Analok Awning Window (0.60m x 0.60m)		
1.00	set	W4:Sunbrown Analok Awning Window (1.2m x 0.60m)		
			<b>Materials Cost=</b>	
<b>1013(2) FABRICATED METAL ROOFING ACCESSORY</b>				
		<i>Qty.:</i>	<i>80.00 ln.m.</i>	
		<b>Equipment Rental:</b>		
		Minor Tools		
			<b>Equipment Rental Cost=</b>	
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	40 hours	
1		Skilled Laborer	40 hours	
		<b>Unskilled:</b>		
1		Unskilled Laborer	40 hours	
			<b>Labor Cost=</b>	
		<b>Materials:</b>		
20.00	ln.m.	0.5mm thk Pre-painted Ridge Roll		
16.00	ln.m.	1.3mm thk Metaplas Ridge Roll		
40.00	ln.m.	0.5mm thk Box Gutter		
18.00	ln.m.	0.5mm thk End Flashing		
16.00	ln.m.	1.3mm thk Metaplas End Flashing		



4.00	In.m.	1.3mm thk Metaplas Wall Flashing		
3,570.00	pcs	Tek screw		
4.00	gal	Roof Sealant		
			<b>Materials Cost=</b>	
<b>1014 PREPAINTED METAL SHEETS, LONG SPAN 0.5mm</b>				
		<i>Qty.:</i>	<i>323.00 ln.m.</i>	
		<b>Equipment Rental:</b>		
		Minor Tools		
			<b>Equipment Rental Cost=</b>	
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	216 hours	
1		Skilled Laborer	216 hours	
		<b>Unskilled:</b>		
2		Unskilled Laborer	216 hours	
			<b>Labor Cost=</b>	
		<b>Materials:</b>		
172.00	In.m.	0.5mm thk Pre-painted Long Span Rib Type roof		
151.00	In.m.	1.3mm thk Metaplas Corrugated Roofing		
6.00	pcs	Tek screw		
4.00	gal	Roof Sealant		
			<b>Materials Cost=</b>	
<b>1018 TILE WORKS</b>				
		<i>Qty.:</i>	<i>148.62 sq.m.</i>	
		<b>Equipment Rental:</b>		
		Minor Tools		
			<b>Equipment Rental Cost=</b>	

		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	77 hours	
5		Skilled Laborer	77 hours	
		<b>Unskilled:</b>		
5		Unskilled Laborer	77 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
8.50	sq.m	Granite Counter Top		
392.00	pcs	.60mx.60m Granite Tiles		
49.00	bags	Portland Cement		
4.00	cu.m.	Sand		
19.00	kgs	Tile Grout		
22.00	bags	Tile Adhesive		
				<b>Materials Cost=</b>
<b>1027(1) CEMENT PLASTER FINISH</b>				
		<i>Qty.:</i>	<i>589.07 sq.m.</i>	
		<b>Equipment Rental:</b>		
		Minor Tools		
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	83 hours	
2		Skilled Laborer	83 hours	
		<b>Unskilled:</b>		
2		Unskilled Laborer	83 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
186.00	bags	Portland Cement		

12.00	cu.m.	Sand		
				<b>Materials Cost=</b>
<b>1032(1) PAINTING WORKS</b>				
		<i>Qty.:</i>	<i>741.75 sq.m.</i>	
		<b>Equipment Rental:</b>		
		Minor Tools		
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	149 hours	
2		Skilled Laborer	149 hours	
		<b>Unskilled:</b>		
1		Unskilled Laborer	149 hours	
				<b>Labor Cost=</b>
36.00	gal	Primer Flat Latex		
54.00	gal	Latex Semi Gloss		
32.00	gal	Body Filler		
12.00	can	Latex Tinting Color		
18.00	gal	Epoxy Primer		
10.00	sets	Paint Roller w/ tray		
5.00	pcs	Paint Brush		
15.00	pcs	Ceiling Painting Tape		
15.00	pcs	Sanding Paper (#80)		
15.00	pcs	Sanding Paper (#100)		
				<b>Materials Cost=</b>
<b>1046 MASONRY WORKS</b>				
		<i>Qty.:</i>	<i>322.54 sq.m.</i>	
		<b>Equipment Rental:</b>		
1		One Bagger Mixer	85 hours	

		Minor Tools		
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	85 hours	
2		Skilled Laborer	85 hours	
		<b>Unskilled:</b>		
3		Unskilled Laborer	85 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
4,034.00	pcs.	CHB (4")		
170.00	bags	Portland Cement		
16.00	cu.m.	Sand		
				<b>Materials Cost=</b>
<b>1047(2) STRUCTURAL STEEL ROOF TRUSS</b>				
		<i>Qty.:</i>	<i>1.00 lot</i>	
		<b>Equipment Rental:</b>		
1		Welding Machine	280 hours	
1		Cutting Outfit	140 hours	
		Minor Tools		
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	280 hours	
2		Skilled Laborer	280 hours	
		<b>Unskilled:</b>		
3		Unskilled Laborer	280 hours	
				<b>Labor Cost=</b>

		<b>Materials:</b>		
2.00	pcs	1.5mm thk 2x6x6m Rectangular Tube		
7.00	pcs	1.5mm thk 2x4x6m Rectangular Tube		
10.00	pcs	20cm x 20cm x 1/4" Base Plate		
40.00	pcs	12mm dia Bolt w/ nut and washer		
8.00	pcs	Expansion Bolt 16mm		
51.00	pcs	6mm 2"x2" Angle Bar		
16.00	pcs	1/4" 1 1/2"x1 1/2" Angle Bar		
28.00	pcs	3/16" 1"x1" Angle Bars		
100.00	pcs	2"X4" x 6m C-Purlins		
28.00	pcs	1/8" x1"x1" Flat Bars		
16.00	pcs	380mmx12mm SAG Rod with bolts & nuts		
8.00	pcs	Hanger Rod		
8.00	pcs	2" dia x 6m G.I. Pipe		
32.00	pcs	1" dia x 6m GI Pipe Sched 40		
45.00	pcs	3/4" dia x 6m GI Pipe		
50.00	kgs	Welding Rod		
			<b>Materials Cost=</b>	
<b>1053(2) STAINLESS STEEL RAILING AND GRAB BAR</b>				
		<i>Qty.:</i>	<i>1.00 lot</i>	
		<b>Equipment Rental:</b>		
1		Welding Machine	30 hours	
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	30 hours	
1		Skilled Laborer	30 hours	

		<b>Unskilled:</b>		
2		Unskilled Laborer	30 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
13.00	pcs.	2" dia Stainless Pipe		
4.00	pcs.	1 1/2" dia Stainless Pipe		
2.00	kgs.	Welding Rod		
				<b>Materials Cost=</b>
<b>1002</b>		<b>PLUMBING WORKS</b>		
		<i>Qty.:</i>	<i>1.00 lot</i>	
		<b>Equipment Rental:</b>		
1		Minor Tools	50 hours	
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	50 hours	
2		Skilled Laborer	50 hours	
		<b>Unskilled:</b>		
2		Unskilled Laborer	50 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
		<b>Sanitary</b>		
8.00	pcs	4" Ø PVC PIPE		
3.00	pcs	4" Ø PVC Wye		
6.00	pcs	4" Ø 90 deg. PVC Elbow		
4.00	pcs	4" Ø " PVC Clean Out		
2.00	pcs	4" Ø PVC Cross tee		
2.00	sets	Lavatory w/ complete fittings and accessories		
2.00	sets	Water Closets w/ complete fittings and accessories		

12.00	pcs	2" Ø PVC Pipe		
4.00	pcs	2" Ø PVC Wye		
6.00	pcs	2" Ø "P" Trap PVC		
6.00	pcs	2" Ø 90 deg. elbow PVC		
4.00	pcs	2" Ø " Clean Out		
4.00	pcs	2" Ø Cross tee PVC		
3.00	pcs	2" Floor Drain		
4.00	can	PVC Solvent		
		<b>Water Line</b>		
15.00	pcs	1/2" Ø Blue PIPE		
2.00	pcs	Shower Head treaded		
2.00	pcs	1/2" Ø Shower valve treaded		
6.00	pcs	1/2" Ø Treaded tee blue		
4.00	pcs	1/2" Ø 90 deg. Treaded elbow blue		
2.00	pcs	Bidet		
4.00	sets	Kitchen Sink		
5.00	pcs	Faucet		
2.00	pcs	1/2" Ø Cross tee blue		
4.00	pcs	1/2" Ø 90 deg. Treaded elbow blue		
6.00	pcs	Teflon Tape		
			<b>Materials Cost=</b>	
<b>F. GUARD HOUSE, POWER HOUSE, PUMP HOUSE</b>				
<b>803 (1) a STRUCTURE EXCAVATION</b>				
		<i>Qty.:</i>	<i>21.34 cu.m.</i>	
		<b>Equipment Rental:</b>		
1		Backhoe	2 hours	
2		Dumptruck	2 hours	
		Minor Tools		
			<b>Equipment Rental Cost=</b>	

		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	2 hours	
1		Backhoe Operator	2 hours	
2		DT Driver	2 hours	
		<b>Unskilled:</b>		
1		Helper (Backhoe)	2 hours	
2		Helper (DT)	2 hours	
3		Laborer	2 hours	
				<b>Labor Cost=</b>
<b>804(1)a</b>		<b>EMBANKMENT FROM STRUCTURE EXCAVATION</b>		
		<i>Qty.:</i>	<i>15.98 cu.m.</i>	
		<b>Equipment Rental:</b>		
1		Backhoe	2 hours	
1		Plate Compactor	2 hours	
		Minor Tools		
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	2 hours	
1		Backhoe Operator	2 hours	
		<b>Unskilled:</b>		
1		Helper (Backhoe)	2 hours	
3		Laborer	2 hours	
				<b>Labor Cost=</b>
<b>804(1)b</b>		<b>EMBANKMENT FROM BORROW</b>		
		<i>Qty.:</i>	<i>6.00 cu.m.</i>	
		<b>Equipment Rental:</b>		
1		Backhoe	1 hour	



1		Plate Compactor	1 hour		
		Minor Tools			
				<b>Equipment Rental Cost=</b>	
		<b>Labor:</b>			
		<b>Skilled:</b>			
1		Foreman	1 hours		
1		Backhoe Operator	1 hour		
		<b>Unskilled:</b>			
1		Helper (Backhoe)	1 hour		
3		Laborer	1 hour		
				<b>Labor Cost=</b>	
		<b>Materials:</b>			
6.00	cu.m.	Embankment Materials			
				<b>Materials Cost=</b>	
<b>804 (4) GRAVEL BEDDING</b>					
		<i>Qty.:</i>	<i>7.27 cu.m.</i>		
		<b>Equipment Rental: (To include fuel &amp; lubricants)</b>			
1		Plate Compactor	7 hours		
		Minor Tools	7 hours		
				<b>Equipment Rental Cost=</b>	
		<b>Labor:</b>			
		<b>Skilled:</b>			
1		Foreman	7 hours		
1		PC Operator	7 hours		
		<b>Unskilled:</b>			
3		Laborer	7 hours		
				<b>Labor Cost=</b>	

		<b>Materials:</b>		
7.27	cu.m	Gravel Bed (G1)		
			<b>Materials Cost=</b>	
<b>900 (1) STRUCTURAL CONCRETE CLASS A, 28 DAYS</b>				
		<i>Qty.:</i>	<i>11.17 cu.m.</i>	
		<b>Equipment Rental: (To include fuel &amp; lubricants)</b>		
2		Transit Mixer	12 hours	
1		Concrete Vibrator	12 hours	
		Minor Tools		
			<b>Equipment Rental Cost=</b>	
		<b>Labor:</b>		
		<b>Skilled:</b>		
2		Foreman	12 hours	
2		Skilled Laborer	12 hours	
2		TM Driver	12 hours	
		<b>Unskilled:</b>		
6		Unskilled Laborer	12 hours	
			<b>Labor Cost=</b>	
		<b>Materials:</b>		
102.00	bags	Cement		
5.59	cu.m.	Sand (Agusan Source)		
11.17	cu.m.	Gravel (Agusan Source)		
			<b>Materials Cost=</b>	
<b>902(1) REINFORCING STEEL BARS, GRADE 60/GRADE 40</b>				
		<i>Qty.:</i>	<i>2,034.50 kgs.</i>	
		<b>Equipment Rental: (To include fuel &amp; lubricants)</b>		
1		Bar Cutter	15 hours	
1		Bar Bender	15 hours	

		Minor Tools		
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	15 hours	
3		Skilled Laborer	15 hours	
		<b>Unskilled:</b>		
12		Unskilled Laborer	12 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
139.00	pcs.	12mmØx6m def. bar		
347.00	pcs.	10mmx6m Ø def. bar		
32.00	kgs.	#16 tie wire		
				<b>Materials Cost=</b>
<b>1003 FIBER CEMENT BOARD ON METAL FRAME CEILING</b>				
		<i>Qty.:</i>	<i>36.00 sq.m.</i>	
		<b>Equipment Rental:</b>		
		Minor Tools		
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	29 hours	
2		Skilled Laborer	29 hours	
		<b>Unskilled:</b>		
2		Unskilled Laborer	29 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
13.00	sheets	4.5mm Fiber Cement Board		
18.00	pcs	0.2mx2.4m Fiber Cement Fascia Board		

41.00	pcs	0.40mmX19mmx50mm Metal Furring		
13.00	pcs	0.40mmX19mmx50mm Carrying Channel		
9.00	pcs	1"x1" Wall Angle		
36.00	pcs	1/4" Suspension Rod Hanger		
216.00	pcs	Channel Clip		
504.00	pcs	Rivets		
1.00	box	Tekscrew		
			<b>Materials Cost=</b>	
<b>1010 DOORS AND WINDOWS</b>				
		<i>Qty.:</i>	<i>1.00 lot</i>	
		<b>Equipment Rental:</b>		
		Minor Tools		
			<b>Equipment Rental Cost=</b>	
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	50 hours	
2		Skilled Laborer	50 hours	
		<b>Unskilled:</b>		
2		Unskilled Laborer	50 hours	
			<b>Labor Cost=</b>	
		<b>Materials:</b>		
1.00	set	Flush Door D1 (.9 X 2.10)		
2.00	set	Flush Door D2 (.80 X 2.1)		
1.00	set	Flush Double Door D2 (1.6 X 2.1)		
4.00	pcs	Door Knob		
24.00	pcs	Hinges		
1.00	set	6mm thk Sunbrown Analok Sliding Window (2.1mx1.27m)		
2.00	set	6mm thk Sunbrown Analok Sliding Window (1.4mx1.27m)		
42.00	pcs	Square louver Concrete Blocks		

2.00	sets	Jalousie Window (1.4x1.2)		
1.00	sets	Jalousie Window (1.4x0.6)		
			<b>Materials Cost=</b>	
<b>1014 PREPAINTED METAL SHEETS, METAPLAS ROOFING</b>				
		<i>Qty.:</i>	<i>172.00 ln.m.</i>	
		<b>Equipment Rental:</b>		
		Minor Tools		
			<b>Equipment Rental Cost=</b>	
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	115 hours	
1		Skilled Laborer	115 hours	
		<b>Unskilled:</b>		
2		Unskilled Laborer	115 hours	
			<b>Labor Cost=</b>	
		<b>Materials:</b>		
123.00	lm	1.33mm thk Metaplas Corrugated Roofing		
28.00	lm	1.33mm Metaplas Ridge Roll		
22.00	pcs	Fiber Cement Fascia Board, 0.25mx2.4m		
3.00	box	Tek screw		
3.00	box	Rivets		
4.00	ltr	Roof Sealant		
			<b>Materials Cost=</b>	
<b>1027(1) CEMENT PLASTER FINISH</b>				
		<i>Qty.:</i>	<i>209.29 sq.m.</i>	
		<b>Equipment Rental:</b>		
		Minor Tools		
			<b>Equipment Rental Cost=</b>	

		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	30 hours	
2		Skilled Laborer	30 hours	
		<b>Unskilled:</b>		
2		Unskilled Laborer	30 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
64.00	bags	Portland Cement		
3.35	cu.m.	Sand		
				<b>Materials Cost=</b>
<b>1032(1) PAINTING WORKS</b>				
		<i>Qty.:</i>	<i>237.50 sq.m.</i>	
		<b>Equipment Rental:</b>		
		Minor Tools		
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	60 hours	
2		Skilled Laborer	60 hours	
		<b>Unskilled:</b>		
1		Unskilled Laborer	60 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
11.00	gal	Primer Flat Latex		
22.00	gal	Latex Semi Gloss		
3.00	gal	Epoxy Primer		
8.00	gal	Polituff Body Filler		
4.00	pcs	Paint Roller with tray		

4.00	pcs	Paint Brush		
6.00	pcs	Sand Paper		
				<b>Materials Cost=</b>
<b>1046 MASONRY WORKS</b>				
		<i>Qty.:</i>	<i>104.65 sq.m.</i>	
		<b>Equipment Rental: (To include fuel &amp; lubricants)</b>		
1		One Bagger Mixer	28 hours	
		Minor Tools		
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	28 hours	
2		Skilled Laborer	28 hours	
		<b>Unskilled:</b>		
3		Unskilled Laborer	28 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
1,309.00	pcs.	CHB (4")		
56.00	bags	Portland Cement		
4.55	cu.m.	Sand		
				<b>Materials Cost=</b>
<b>1047(2) STRUCTURAL STEEL ROOF TRUSS</b>				
		<i>Qty.:</i>	<i>1.00 lot</i>	
		<b>Equipment Rental:</b>		
1		Welding Machine	120 hours	
1		Cutting Outfit	60 hours	
		Minor Tools		
				<b>Equipment Rental Cost=</b>

		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	120 hours	
2		Skilled Laborer	120 hours	
		<b>Unskilled:</b>		
3		Unskilled Laborer	120 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
18.00	pcs	.18cm x .18cm x 1/4" Base Plate		
64.00	pcs	12mm dia Bolt w/ nut and washer		
45.00	pcs	2" x 2" x 6mm thk Angle Bars		
21.00	pcs	1 1/2" x 1 1/2" x 6mm thk Angle Bars		
16.00	pcs	3/16" x1"x1" Angle Bar		
33.00	pcs	2"X3" x 6m C-Purlins		
4.00	pcs	1/8" x1"x1" Flat Bars		
1.00	pcs	2"x4"x6m Rectangular Tube		
4.00	pcs	2"x2"x6m Square Tube		
50.00	kgs	Welding Rod		
				<b>Materials Cost=</b>
<b>G. ALGAL TANK, ROTIFIER AND LRT WITH ROOFING</b>				
<b>803 (1) STRUCTURE EXCAVATION</b>				
		<i>Qty.:</i>	504.93 cu.m.	
		<b>Equipment Rental:</b>		
1		Backhoe	26 hours	
2		Dumptruck	26 hours	
		Minor Tools		
				<b>Equipment Rental Cost=</b>



		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	26 hours	
1		Backhoe Operator	26 hours	
2		DT Driver	26 hours	
		<b>Unskilled:</b>		
1		Helper (Backhoe)	26 hours	
2		Helper (DT)	26 hours	
3		Laborer	26 hours	
				<b>Labor Cost=</b>
<b>804(1)a</b>		<b>EMBANKMENT FROM STRUCTURE EXCAVATION</b>		
		<i>Qty.:</i>	<i>52.84 cu.m.</i>	
		<b>Equipment Rental:</b> (To include fuel & lubricant)		
1		Backhoe	6 hours	
1		Plate Compactor	6 hours	
		Minor Tools		
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	6 hours	
1		Backhoe Operator	6 hours	
		<b>Unskilled:</b>		
1		Helper (Backhoe)	6 hours	
3		Laborer	6 hours	
				<b>Labor Cost=</b>
<b>804(4)</b>		<b>GRAVEL BEDDING</b>		
		<i>Qty.:</i>	<i>101.60 cu.m.</i>	
		<b>Equipment Rental:</b>		
1		Plate Compactor	85 hours	

		Minor Tools		
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	85 hours	
1		PC Operator	85 hours	
		<b>Unskilled:</b>		
3		Laborer	85 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
101.60	cu.m	Gravel Bed (G1)		
				<b>Materials Cost=</b>
<b>900(1) STRUCTURAL CONCRETE CLASS A, 28 DAYS</b>				
		<i>Qty.:</i>	<i>266.94 sq.m.</i>	
		<b>Equipment Rental:</b>		
2		Transit Mixer	282 hours	
1		Concrete Vibrator	282 hours	
		Minor Tools		
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
2		Foreman	282 hours	
2		Skilled Laborer	282 hours	
2		TM Driver	282 hours	
		<b>Unskilled:</b>		
6		Laborer	282 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
2,404.00	bags	Cement		

1,368.00	bags	Water Proofing Compound		
133.47	cu.m.	Sand		
266.94	cu.m.	Gravel		
			<b>Materials Cost=</b>	
<b>902(1) REINFORCING STEEL BARS, GRADE60/GRADE 40</b>				
		<i>Qty.:</i>	<i>12,550.30 kgs</i>	
		<b>Equipment Rental:</b>		
1		Bar Cutter	88 hours	
1		Bar Bender	88 hours	
		Minor Tools		
			<b>Equipment Rental Cost=</b>	
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	88 hours	
3		Skilled Laborer	88 hours	
		<b>Unskilled:</b>		
12		Laborer	88 hours	
			<b>Labor Cost=</b>	
		<b>Materials:</b>		
154.00	pcs.	16mmØx6m-def. bar		
422.00	pcs.	12mmØx6m-def. bar		
2389.00	pcs.	10mmØx6m-def. bar		
189.76	kgs.	#16 tie wire		
			<b>Materials Cost=</b>	
<b>1016 WATERPROOFING CEMENT BASE</b>				
		<i>Qty.:</i>	<i>1,120.56 sq.m.</i>	
		<b>Equipment Rental:</b>		
		Minor Tools		
			<b>Equipment Rental Cost=</b>	

		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	225 hours	
1		Skilled Laborer	225 hours	
		<b>Unskilled:</b>		
1		Laborer	225 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
58.00	gal	Cementitious Waterproofing		
10.00	pcs	Paint Brush #4		
				<b>Materials Cost=</b>
<b>1027(1) CEMENT PLASTER FINISH</b>				
		<i>Qty.:</i>	<i>1,816.62 sq.m.</i>	
		<b>Equipment Rental:</b>		
		Minor Tools		
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	255 hours	
2		Skilled Laborer	255 hours	
		<b>Unskilled:</b>		
2		Laborer	255 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
546.00	bags	Portland Cement		
538.00	pack	Water Proofing Compound		
28.17	cu.m.	Sand		
				<b>Materials Cost=</b>

1032(1)		PAINTING WORKS		
		<i>Qty.:</i>	2,034.35 sq.m.	
		<b>Equipment Rental:</b>		
		Minor Tools		
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	340 hours	
2		Skilled Laborer	340 hours	
		<b>Unskilled:</b>		
1		Laborer	340 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
53.00	gal	Epoxy Primer		
10.00	gal	Quick Dry Enamel		
43.00	gal	Aqua Epoxy		
22.00	gal	Epoxy Reducer		
30.00	gal	Primer Flat Latex		
30.00	gal	Latex Semi Gloss		
5.00	pcs	Paint Roller 7" w/ tray		
2.00	pcs	Paint Brush #4		
5.00	pcs	Sanding Paper		
				<b>Materials Cost=</b>
1046		MASONRY WORKS		
		<i>Qty.:</i>	991.12 sq.m.	
		<b>Equipment Rental:</b>		
1		One Bagger Mixer	260 hours	
		Minor Tools		
				<b>Equipment Rental Cost=</b>

		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	260 hours	
2		Skilled Laborer	260 hours	
		<b>Unskilled:</b>		
3		Laborer	260 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
12,389.00	pcs.	CHB (4")		
519.00	bags	Portland Cement		
44.48	cu.m.	Sand		
				<b>Materials Cost=</b>
<b>1047(2) WELDING WORKS</b>				
		<i>Qty.:</i>	<i>1.00 lot</i>	
		<b>Equipment Rental:</b>		
1		Welding Machine	520 hours	
1		Cutting Outfit	260 hours	
		Minor Tools		
				<b>Equipment Rental Cost=</b>
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	520 hours	
2		Skilled Laborer	520 hours	
		<b>Unskilled:</b>		
3		Laborer	520 hours	
				<b>Labor Cost=</b>
		<b>Materials:</b>		
130.00	pcs	2" dia x 6m GI Pipe Sched 40		
143.00	pcs	1 "dia x 6m G.I. Pipe Sched 40		

22.00	pcs	1 1/2" dia x 6m G.I. PIPE Sched 40		
23.00	pcs	3" dia x 6m GI Pipe Sched 40		
46.00	pcs	25cm x 25cm x 1/2" thk Base Plate		
184.00	pcs	16mm dia Bolt w/ nut and washer		
100.00	kgs	Welding Rod		
2.00	roll	Monofilament No. 120		
1.00	roll	Nylon Twine 150lbs		
1.00	roll	Pamo Twine (momoy) big		
2.00	roll	Polyethylene rope #14		
16.00	rolls	roll 12ft x 50m 90% BLACK SHADING NET		
			<b>Materials Cost=</b>	
<b>H. PLUMBING WORKS AND EQUIPMENT</b>				
<b>1001 PLUMBING WORKS</b>				
		<i>Qty.:</i>	<i>1.00 lot</i>	
		<b>Equipment Rental:</b>		
4	units	7.5 HP Centrifugal water pump, 3 phase, Self Priming, 304 Stainless, Head 30 meters 290GPM		
4	units	5 HP Roots blower, 3 Phase, 4.2 cu.m./minute		
			<b>Equipment Rental Cost=</b>	
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	650 hours	
3		Skilled Laborer	650 hours	
		<b>Unskilled:</b>		
6		Laborer	650 hours	
			<b>Labor Cost=</b>	
		<b>I. Seawater Line (From Reservoir to BT, Algal Rotifier, LRT)</b>		
		<b>Materials:</b>		
200.00	pcs	3" dia x 3m PVC Blue Pipe		

14.00	pcs	3" dia PVC Elbow		
70.00	pcs	2" dia PVC Elbow		
10.00	pcs	3" dia PVC Tee		
70.00	pcs	3" dia x 2" PVC Reducer		
4.00	pcs	3" dia PVC Ball Valve		
70.00	pcs	2" dia PVC Ball Valve		
34.00	pcs	2" dia x 3m PVC Blue Pipe		
15.00	pcs	Solvent Cement 400cc		
1.00	pcs	2" dia x 1" PVC Reducer		
3.00	pcs	1" dia PVC Pipe		
200.00	pcs	Stainless Screw 4 x 1		
200.00	pcs	Toks #4		
140.00	pcs	PVC Clip 2"		
2.00	pcs	1" dia PVC Elbow		
1.00	pcs	1" dia PVC Elbow Threaded		
1.00	pcs	PVC Faucet		
		<b>II. Aeration Line (From Blower to BT, Algal, Rotifier, LRT)</b>		
		<b>Materials:</b>		
142.00	pcs	2" dia x 3m PVC Blue Pipe		
18.00	pcs	PVC Elbow 2"		
74.00	pcs	PVC Tee 2"		
66.00	pcs	PVC Tee reducer 2" x 1"		
3.00	pcs	PVC Elbow reducer 2" x 1"		
64.00	pcs	PVC Ball Valve 2"		
66.00	pcs	PVC Ball Valve 1"		
66.00	pcs	PVC Elbow 1"		
66.00	pcs	PVC Tee 1"		
132.00	pcs	PVC Cup 1"		
132.00	pcs	PVC Clip 1"		



15.00	can	PVC Solvent Cement 400CC		
10.00	ft	Copper tube 1/8"		
2.00	set	Epoxy A & B		
200.00	pcs	Stainless Screw #4 x1"		
200.00	pcs	Tox #4		
		<b>III. Freshwater Line (From Elevated Water Tank)</b>		
142.00	pcs	PVC pipe 1'x3.0m blue		
18.00	pcs	PVC Elbow 1"		
74.00	pcs	PVC Tee 1"		
66.00	pcs	PVC Reducer 1" x 3/4"		
66.00	pcs	PVC Ball Valve 1"		
4.00	pcs	PVC Valve 3/4"		
4.00	pcs	PVC Valve 1/2"		
4.00	pcs	PVC Pipe 3/4" x 3.0m blue		
2.00	pcs	PVC Elbow 3/4"		
4.00	pcs	PVC Tee 3/4"		
6.00	pcs	PVC Reducer 3/4" x 1/2"		
4.00	pcs	PVC Pipe 1/2" x 3.0m		
13.00	pcs	PVC Elbow 1/2"		
2.00	pcs	PVC Tee 1/2"		
2.00	pcs	PVC Threated Tee 1/2"		
7.00	pcs	PVC Threated Elbow 1/2"		
6.00	pcs	PVC Male Threated Adaptor 1/2"		
2.00	pcs	PVC Cup 1/2"		
15.00	pcs	PVC Solvent Cement 400CC		
4.00	pcs	G.I. Nipple		
4.00	pcs	G.I. Bushing Reducer		
4.00	pcs	Angle Valve 1/2"		
6.00	pcs	Faucet		

3.00	roll	Teflon Tape		
200.00	pcs	Stainless Screw #4x1"		
200.00	pcs	Tox #4		
		<b>IV. Stand Pipe and Drainage Line</b>		
		<b>Materials:</b>		
21.00	pcs	PVC Pipe 8" x 3.0m S-100		
8.00	pcs	PVC Elbow 8"		
2.00	pcs	PVC Tee 8"		
44.00	pcs	PVC Pipe 6"x3.0 S-100		
3.00	pcs	PVC Reducer 4" x 6"		
21.00	pcs	PVC Wye Reducer 4"x6"		
4.00	pcs	PVC Ball Valve 6"		
1.00	pcs	PVC Tee 6"		
38.00	pcs	PVC Pipe 4"x3.0m S-100		
8.00	pcs	PVC Pipe 3" x 3.0m Blue		
24.00	pcs	PVC Elbow 3"		
13.00	pcs	PVC Pipe 2" x 3.0m Blue		
32.00	pcs	PVC Elbow 2"		
1.00	cu.m.	Washed Sand		
10.00	bags	Portland Cement		
15.00	can	PVC Solvent Cement 400CC		
40.00	pcs	8" Ø Conc Culvert x 1.00m		
		<b>V. From Pump House to Elevated Filter Tank (2 units)</b>		
34.00	pcs	PVC Pipe 4"Øx 6.0m blue		
8.00	pcs	PVC Elbow 4"		
2.00	pcs	PVC Tee 4"		
20.00	pcs	PVC Long Sweep Elbow 4"		
1.00	pc	PVC Ball Valve 4"		
2.00	pcs	PVC Reducer 4"x3"		

		<b>2 Units Filter Tank</b>		
		<b>Materials:</b>		
4.00	pcs	PVC Pipe 3" x 20' blue		
6.00	pcs	PVC Elbow 3"		
3.00	pcs	PVC Tee 3"		
6.00	pcs	PVC Ball Valve 3"		
2.00	pcs	PVC Cup 3"		
6.00	pcs	PVC Pipe 1 1/2 " x 10' blue		
20.00	pcs	PVC Cup 1 1/2"		
4.00	cans	PVC Solvent Cement 400CC		
10.00	mtrs	Mosquito Net		
1.00	cu.m.	1" ØGravel		
1.00	cu.m.	3/4" Ø Gravel		
1.00	cu.m.	Pebbles #10		
1.00	cu.m	Sand		
1.00	set	Epoxy Marine A & B		
100.00	pcs	Tox #6 Metal Screw		
			<b>Materials Cost=</b>	
<b>I.ELECTRICAL WORKS AND EQUIPMENT</b>				
<b>1100</b>	<b>ELECTRICAL WORKS</b>			
		<i>Qty.:</i>	<i>1.00 lot</i>	
		<b>Equipment Rental:</b>		
3	units	25 KVA, 7620/240v, Single Phase Transformer, Pole Mounted		
1	unit	75 KVA , 240V, 3 phase, 60 Hz, ATS Ready Generator		
1	unit	300 Amp, 240V, 3 poles, Motor Actuated Automatic Transfer Switch		
			<b>Equipment Rental Cost=</b>	
		<b>Labor:</b>		
		<b>Skilled:</b>		
1		Foreman	240 hours	

3		Skilled Laborer	240 hours		
		<b>Unskilled:</b>			
6		Unskilled Laborer	240 hours		
				<b>Labor Cost=</b>	
		<b>Materials:</b>			
5.00	rolls	2.0 sqr. mm thhn, copper wire			
8.00	rolls	3.5 sqr. m thhn, copper wire			
2.00	rolls	5.5 sqr. m thhn, copper wire			
2.00	rolls	8.0 sqr. m thhn, copper wire			
2.00	rolls	14 sqr. m thhn, copper wire			
2.00	rolls	22 sqr. m thhn, copper wire			
120.00	meters	50 sqr. m thhn, copper wire			
7.00	lengths	20mm ØPVC Conduit			
10.00	lengths	32mm ØPVC Conduit			
10.00	lengths	50mm ØPVC Conduit			
1.00	set	MDP Board, 3 Phase (250A-Main, 1-150A, 2-100A, 2-60A)			
1.00	set	PB1 8 Branches (100A-Main, 6-30A, 1-20A, 1-Spare)			
1.00	set	PB2 6 Branches (60A-Main, 3-30A, 3-20A)			
1.00	set	PB3 7 Branches (150A-Main, 4-40A, 1-30A, 2-Spare)			
1.00	set	PB4 12 Branches (100A-Main, 7-30A, 2-30A, 1-Spare)			
1.00	set	PB5 6 Branches (60A-Main, 1-30A, 3-30A, 2-Spare)			
13.00	pcs	Single Gang			
9.00	pcs	Two Gang Switch			
7.00	pcs	Three Gang Switch			
1.00	set	16 watts LED Circle Bulb			
34.00	sets	9 watts Pinlight w/ Casing			
2.00	sets	9 watts LED Light Bulb w/ Receptacle			
13.00	pcs	T5 Light w/ Housing			
22.00	sets	16 watts LED Tube w/ Housing			

25.00	pcs	3 Gang Outlet Convenience		
4.00	pcs	ACU Outlet		
1.00	pcs	Refrigerator Outlet		
1.00	pcs	Freezer Outlet		
15.00	pcs	PVC Junction Box		
10.00	pcs	PVC Utility Box		
1.00	set	Magnetic Starter, 5HP		
1.00	set	Magnetic Starter, 7.5HP		
1.00	set	Magnetic Starter, 2HP		
5.00	rolls	Flexible Hose		
150.00	pcs	Flexible Connector		
10.00	sets	Ground Rod 5/8"x10"		
3.00	sets	15KV, 100amp		
3.00	pcs	½" Electrical Flexible Hose		
15.00	pcs	Electrical Tape		
			<b>Materials Cost=</b>	

***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) in accordance with Section 8.5.2 of the IRR;

#### Technical Documents

- (b) Statement of the prospective bidder of all its ongoing government and private contracts, including contracts awarded but not yet started, if any, whether similar or not similar in nature and complexity to the contract to be bid; **and**
- (c) Statement of the bidder’s Single Largest Completed Contract (SLCC) similar to the contract to be bid, except under conditions provided under the rules; **and**
- (d) Special PCAB License in case of Joint Ventures **and** registration for the type and cost of the contract to be bid; **and**
- (e) Original copy of Bid Security. If in the form of a Surety Bond, submit also a certification issued by the Insurance Commission **or** original copy of Notarized Bid Securing Declaration; **and**
- (f) Project Requirements, which shall include the following:
  - a. Organizational chart for the contract to be bid;
  - b. List of contractor’s key personnel (*e.g.*, Project Manager, Project Engineers, Materials Engineers, and Foremen), to be assigned to the contract to be bid, with their complete qualification and experience data;
  - c. List of contractor’s major equipment units, which are owned, leased, and/or under purchase agreements, supported by proof of ownership or certification of availability of equipment from the equipment lessor/vendor for the duration of the project, as the case may be; **and**
- (g) Original duly signed Omnibus Sworn Statement (OSS) **and** if applicable, Original Notarized Secretary’s Certificate in case of a corporation, partnership, or cooperative; or Original Special Power of Attorney of all members of the joint venture giving full power and authority to its officer to sign the OSS and do acts to represent the Bidder.

#### Financial Documents

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

### *Class “B” Documents*

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

## I. FINANCIAL COMPONENT ENVELOPE

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

### Other documentary requirements under RA No. 9184

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

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*The following templates are provided for easy, attached hereto as Appendix 1, which may also be accessed through this link: <https://www.gppb.gov.ph/downloadables.php>*

*5.2.1. Bid Form for the Procurement of Goods*

*5.2.3. Price Schedule for Goods Offered from Abroad*

*5.2.4. Price Schedule for Goods Offered from Within the Philippines*

*5.2.5. Bid Securing Declaration*

*5.2.6. Contract Agreement Form for the Procurement of Goods Projects;*

*5.2.8. Omnibus Sworn Statement; and*

*5.2.9. Performance Securing Declaration*

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### **Important Reminders**

- The bidders are encouraged to consult this checklist before submitting their Bid on the deadline for the submission and the receipt of Bids. However, this is by no means exclusive Bidders must still familiarize themselves with other bid requirements not otherwise included herein such as, but not limited to those in the Term of Reference, Bid Bulletin, Pertinent GPPB guidelines, rules, etc.
- All Bidders must submit their bid in accordance with the Guidelines on Electronic Submission and Receipt of Bids as indicated in the Annex B simultaneously with the submission of the printed copies as indicated in the BDS Clause 15.
- All documents shall be current and updated and any missing document in the above-mentioned Checklist is a ground for outright rejection of the bid.
- All Pages of the documents shall be signed/initialed by the bidder or by his/her authorized representative.
- To facilitate the evaluation of the bids, bidders are advised to follow the arrangement in the above-mentioned checklist.



**Statement of All Ongoing Government & Private Contracts including contracts awarded but not yet started**

Business Name : \_\_\_\_\_  
 Business Address : \_\_\_\_\_

Name of Contract and Contract Cost	Owner's Name Address Telephone Nos.	Nature of Work	Bidder's Role		Date Awarded Date Started Date of Completion	% of Accomplishment		Value of Outstanding Works/Undelivered Portion	
			Description	%		Planned	Actual		
<u>Government</u>									
<u>Private</u>									
*Continue in separate sheet if necessary							<b>Total Cost</b>		

Note: (In case of no ongoing contract, the bidder shall submit this duly signed form and indicate "No ongoing contracts" or "None" or "Not Applicable (N/A)" under the Column for Name of Contract and Project Cost (first column from left)

This statement shall be supported with:

**For Government Contract:**

- 1. Notice of award and/or Contract Agreement and/or Notice to Proceed

**For Private:**

- 2. Job order or Purchase Order or any corresponding documents reflecting the Project name and project cost.

Submitted by: \_\_\_\_\_  
 (Printed Name and Signature of Authorized Representative)

Designation : \_\_\_\_\_

Date : \_\_\_\_\_

## Statement Identifying the Single Largest Completed Contract

Business Name : \_\_\_\_\_

Business Address : \_\_\_\_\_

Name of Contract and Contract Cost	Owner's Name Address Telephone Nos.	Nature of Work / Kind of Goods	Bidder's Role		Amount at Award Amount at	Date Awarded Contract Effectivity Date Completed
			Description	%		
<u>Government</u>						<u>Government</u>
<u>Private</u>						<u>Private</u>

Note: This statement shall be supported with:

**For Government Contract:**

1. Notice of award (NOA) and/or Contract Agreement and/or Notice to Proceed (NTP)
2. Certificate of Completion of Delivery (CCDs) issued by the Owner or Certificate of Final Acceptance (CFAs) or duly signed Delivery Receipt (DRs) or Official receipt or Sales Invoice or duly accomplished Inspection and Acceptance Reports

**For Private:**

1. Job order or Purchase Order or Purchase Request
2. Certificate of Completion of Delivery (CCDs) issued by the Owner or Certificate of Final Acceptance (CFAs) or duly signed Delivery Receipt (DRs) or Official receipt or Sales Invoice

Submitted by : \_\_\_\_\_  
(Printed Name and Signature of Authorized Representative)

Designation : \_\_\_\_\_

Date : \_\_\_\_\_

## ***ANNEXES***

# **BFAR XIII – BAC ONLINE BIDDING PROCEDURE**

Annex A.....Resolution Recommending the Adoption of Guidelines for the Electronic Submission of Bids in Accordance with GPPB Resolution 09-2020 (Procurement Guidelines on Online Bidding)

Annex B.....Bidder's Kit

Annex C .....Adding a password to .PDF file using Adobe Acrobat Reader DC.

Annex D .....Procedure of Accessing the BFAR XIII BAC Online Submission of Bidding Documents via Google Forms.



Republic of the Philippines Department of Agriculture  
Bureau of Fisheries and Aquatic Resources  
Caraga Region  
Peñaranda St., Bgry. Taft (Pob.), Surigao City

## Bids and Awards Committee

### Resolution No. 2020-0028

A Resolution Recommending the Adoption of Guidelines for the Electronic Submission of Bids in Accordance with GPPB Resolution 09-2020 (Procurement Guidelines on Online Bidding)

**WHEREAS**, on the 16<sup>th</sup> day of March 2020, the Office of the President of the Philippines, issued a Proclamation no. 929, declaring a Statement of Calamity throughout the Philippines due to Corona Virus Disease 2019 for a period of six (6) months or up to 12<sup>th</sup> day of September 2020, however, on the 16<sup>th</sup> day of September 2020, a proclamation no. 1021 was issued, extending the period of the State of Calamity throughout the Philippines due to Corona Virus Disease 2019 for a period of one (1) year effective 13 September to 12 September 2021, unless earlier lifted or extended as circumstances may warrant;

**WHEREAS**, on the 15<sup>th</sup> day of May 2020 the Government Procurement Policy Board (GPPB) published a Resolution No. 09-2020 entitled “Approving Measures for the Efficient Conduct of Procurement of Procurement Activities during a State of Calamity or Implementation of Community Quarantine or Similar Restrictions”; (refer to Annex “A” copy of the resolution);

**WHEREAS**, part of the said resolution states the following:

*(2) ENJOIN PEs to maximize the use of existing rules under R.A. No. 9184, its IRR and related issuances on the conduct of procurement activities, particularly those meant to streamline, simplify and expedite the conduct of procurement and address the challenges and disruptions brought by calamities and crisis such as the COVID-19 pandemic, such as use of videoconferencing, webcasting and similar technology in the conduct of any meetings and determination of quorum by the BAC and use of digital signatures in procurement related documents;*

*(3) ALLOW the (i) submission of procurement related documents, except for the submission and receipt of bids, through electronic mail or facsimile subject to the submission of the printed copies as soon as practicable, as determined by the Bids and Awards Committee (BAC); and (ii) use of the other forms of digital or electronic signature in all procurement related documents. For this purpose, PEs shall establish their respective internal rules to ensure the security, integrity and authenticity of the documents electronically submitted and the use of digital or electronic signature.*

**NOW THEREFORE, BE IT RESOLVED AS IT HEREBY RESOLVED,** that this Committee hereby recommends to the Head of the Procuring Entity (HOPE) the adoption of the guidelines for online or electronic submission and receipt of bids (refer to Annex “B”);

**WHEREAS,** this Committee will still require the submission of the printed copies simultaneously received with the electronic copies of the Bid;

**RESOLVED, FINALLY** that on the basis of the foregoing, the BAC RECOMMENDS to the HOPE to adopt the foregoing guidelines on the electronic submission of bids in accordance with the GPPB Resolution 09-2020. These measures shall be allowed at any time, not just during the State of Calamity, or implementation of community quarantine or similar government restrictions.

Done this 23<sup>rd</sup> day of November, 2020 in Butuan City.

**Sgd. ANNA MELISSA M. TALAVERA**

BAC Chairperson

**Sgd. LEONA VICTORIA G. NORTEGA**

BAC Member

**Sgd. OMNIA B. OLAMA**

BAC Member

**Sgd. ELMA S. DUPEÑO**

BAC Member

**Sgd. IAN D. BATITANG**

BAC Member

Approved by:

**Sgd. VISA TAN-DIMERIN, CESO V**

Regional Director

## **BIDDER’S KIT FOR BFAR PROCUREMENT GUIDELINES IN ADOPTING ELECTRONIC SUBMISSION OF BIDS**

(GPPB Resolution No. 09-2020)

### **I. PRE-REGISTRATION & PRE-BID CONFERENCE**

Step 1: Register by completing the information required in the Google Form which can be accessed here:

[https://docs.google.com/forms/d/15jz6wkV9LFL6\\_eHFtuhtTCrIjylJFJLIKOlvAPaMM4/edit](https://docs.google.com/forms/d/15jz6wkV9LFL6_eHFtuhtTCrIjylJFJLIKOlvAPaMM4/edit).

Once completed, submit the form to the Secretariat and wait for an acknowledgment by e-mail.

Step 2: Join the scheduled Pre-Bid Conference by clicking the link provided by the Secretariat through e-mail using GoogleMeet. Please make sure that you allow access to the microphone and the camera.

Step 3: Kindly wait for the Secretariat to confirm your entry through Zoom to participate in the pre-bid conference.

Step 4: See attached file as “Annex B” for the House Rules to be observed during the conduct of procurement activities.

### **II. PREPARATION OF BID (SOFT COPY)**

Step 1: Prepare a final scanned copy of your Bid which is divided into two different PDF files:

1. Eligibility Documents & Technical Documents; and
2. Financial Documents

Step 2: Set a password for the scanned copy of the Eligibility Documents & Technical Documents and Financial Documents and save as a .PDF file.

Step 3: Compress the file, save the password-protected .PDF file to a ZIP file. Set another password on the ZIP file.

***Important:*** Passwords must be 8-16 characters and contain both numbers and letters/special characters. The bidder is required setting a unique combination for each file and folder. Same passwords for all files are not allowed. For details on how to set passwords in .PDF file and ZIP file, please see file attached as “Annex C”

Step 4: For effective documentation of the submitted files, you must comply with the label format below:

1. Both ZIP folder and .PDF file shall be assigned file name  
16. “BFAR Bid Reference No. \_\_\_\_\_ (Company Name); Legal & Technical Documents”
2. Both ZIP folder and .PDF file shall be assigned file name  
“BFAR Bid Reference No (Company Name); Financial Documents”

### **III. REGISTRATION FOR ONLINE SUBMISSION**

Step 1: Register through Google Form, a link will be provided upon request to the BAC Secretariat's e-mail address: **bfarbac13@gmail.com** at any time before the closing date and time specified in the Bidding Documents by disclosing the following information:

- a) Email Address
- b) Company Name
- c) Company Address
- d) Authorized Representative
- e) Contact No.
- f) Bid Reference
- g) Bid Title
- h) Official Receipt (OR) No.

Upon verification of the Official Receipt (OR), the BAC Secretariat will send the Public Bidding Documents through the given email or shall provide a hard copy upon request. It may also be downloaded free of charge from the website of the Philippine Government Electronic Procurement System (PhilGEPS) and the website of the Procuring Entity, provided that Bidders shall pay the applicable fee for the Bidding Documents not later than the submission of their bids.

Step 2: The BAC Secretariat will send another Google Form link to the bidder, who already purchased the bidding documents, through the given email directing to the "Online Submission of the Bid"

### **IV. ACCESSING THE GOOGLE FORMS**

Step 1: Upon successful login to your email address account. You will now open the Google Form link sent through BAC Secretariat's e-mail address given above.

Step 2: Click the FILL OUT FORM button. (*See attached "Annex D"*)

### **V. SUBMISSION OF BID**

Step 1: Submit your Bids through Google Form at any time before the closing date and time specified in the Bidding Documents.

Step 2: Upon preparation and finalization of the compressed and password-protected files Eligibility & Technical and Financial Documents, a Google Form link will direct you to the page where they can now upload the said requirements. (*See attached "Annex D, Figure 10.1"*)

Step 3: After submission, a copy of the response will be automatically emailed to the address provided by you which can be saved or printed, as proof of the official time of the submission and receipt of bids. (*See attached "Annex D, Figure 11.2"*)

### **VI. RECEIVING OF THE SUBMITTED BID**

The BAC Secretariat will receive the submitted information through Google Forms and will generate a Bid Receipt page for the official time of submission of all bidders, which can be saved or printed.



Bidders may modify their Bid at any time before the deadline for the submission and receipt of bids. Bidders shall send another Bid equally secured, properly identified, and labelled as a “modification” of the previously submitted. The time indicated in the latest Bid receipt page generated shall be the official time of submission. Bids submitted after the deadline shall not be accepted.

The BAC Secretariat will not be able to access the documents until the day of the Bid Opening.

## VII. **BID OPENING PROCESS**

The BAC, with the assistance of the Secretariat and Technical Working Group (TWG), shall conduct bid opening via Google Meet. Bidders are encouraged to attend the bid opening online. The passwords for the folders (ZIP) and the files (.PDF) shall be disclosed by the bidders only during actual bid opening which may be done via Google Meet.

The Secretariat will ask the bidder, who choose to attend via Google Meet, the corresponding password of their Bid during the bid opening itself. The official representative of the bidder shall respond promptly in the same chat box with the passwords when prompted. Bidders are given within five (5) minutes to respond with the passwords. If the bidder does not provide or respond with the password within five (5) minutes, from prompting, it will result in disqualification and the BAC shall move on to the next bid, if any.

The bidder shall first disclose the password for the compressed folder (ZIP file) containing the Eligibility & Technical documents, second disclose the password for the Eligibility & Technical document (.PDF file). The Secretariat will share the screen via Google Meet during accessing the submitted Bid.




If the bidder passed the Eligibility & Technical requirements, the second password-protected compressed folder containing the Financial Documents and the files contained therein shall be opened in the same manner as the password of the eligibility documents as described above. In no case will a bidder disclose the passwords for the financial folder and the files prior to being declared eligible based on the evaluation of the eligibility documents.

The bidder is given only three (3) attempts to disclose the password per compressed folder (ZIP) and .PDF file to open the documents. If the bidder fails to provide the correct password after the third attempt, their Bid will no longer be considered. The Secretariat shall take and print a screenshot of such inquiries and responses to form part of the records and all incidents should be recorded in the minutes.

In the event that the BAC cannot access the submitted electronic copy of the Bid, the BAC will proceed with the opening of the ORIGINAL HARD COPY.

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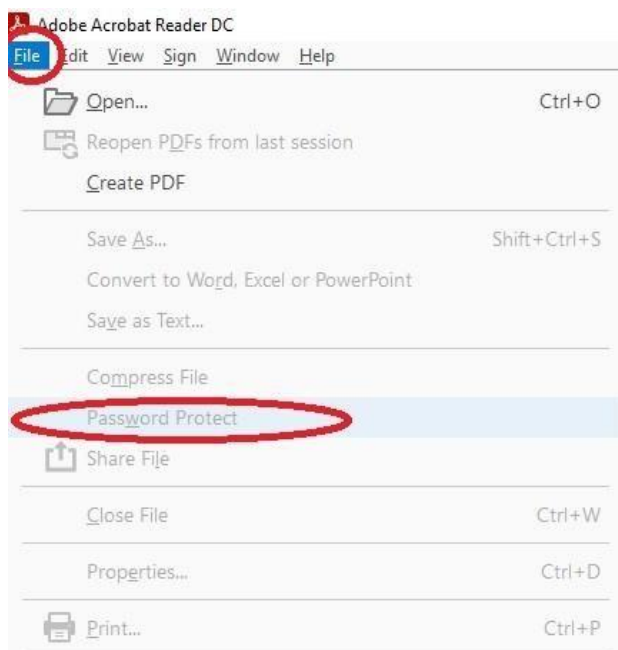
### **Basic House Rules to be observed during BAC Meetings**

1. Kindly place your microphone on mute when not speaking. 
2. Please raise your hand, and wait to be recognized before you speak (remember to toggle off mute). 
3. Turn on video for confirmation of your identity. 

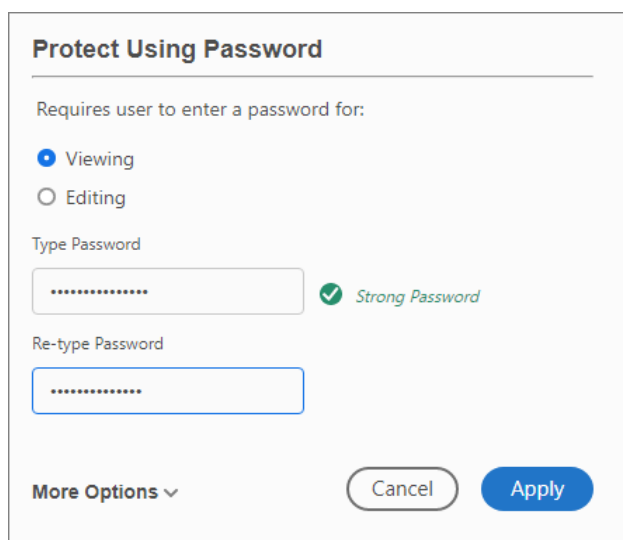
**Adding a password to a .PDF file using Adobe Acrobat Reader DC.**

One-click option to protect a PDF with a password

1. Open the PDF file
2. Choose **File > Protect Using Password.**



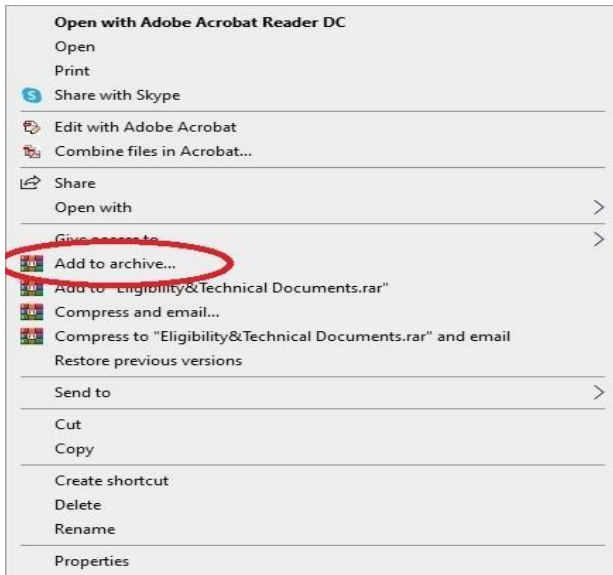
3. Select to set the password for Viewing the PDF.



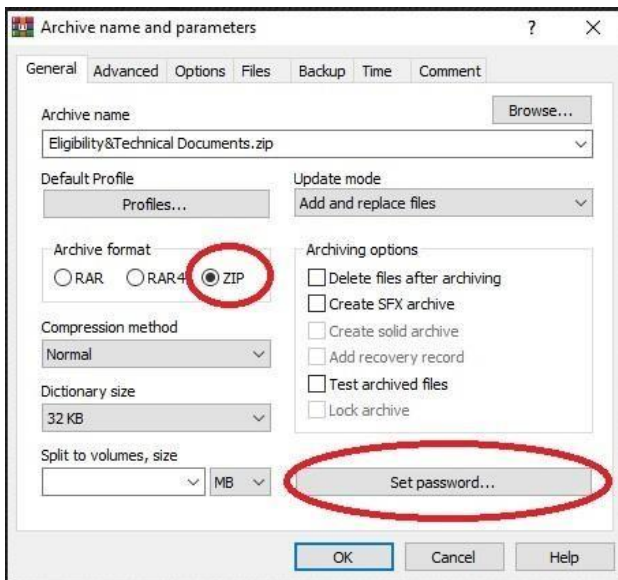
4. Type and retype your password. The password strength is displayed next to your password to indicate whether the chosen password is weak, medium, strong, or best.
5. Click “Apply”.

*File Archiving and Compression using WinRAR application*

1. Right Click the password protected .PDFfile
2. Select **“Add to archive.”**



3. In the Archive name and parameters dialog box, select **“Radio button ZIP”** and click **“Set password”**



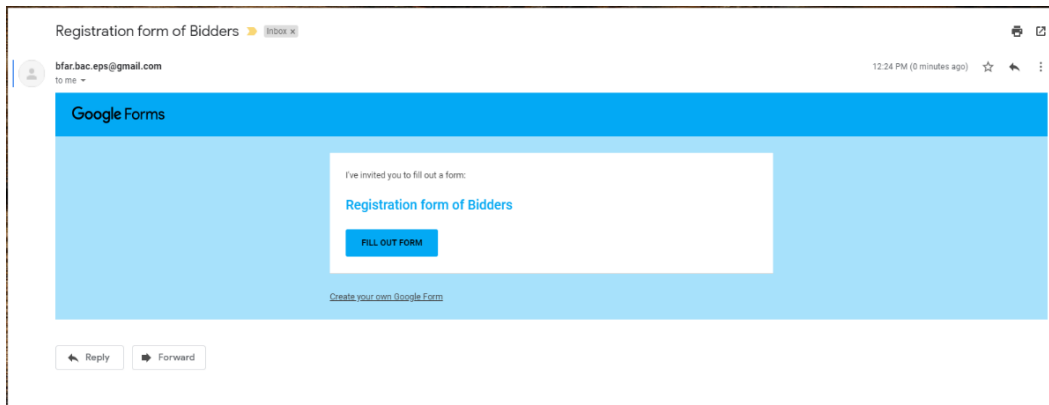
4. Type your password and Click **“OK button.”**



**“ANNEX D”**

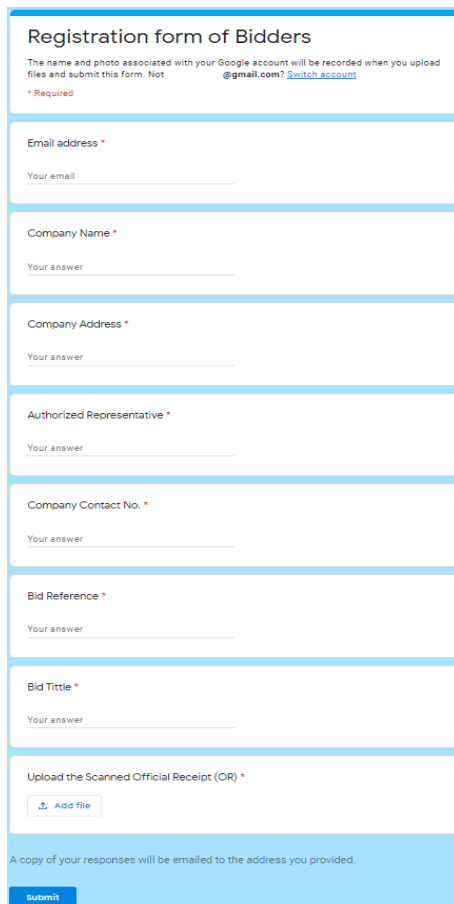
## Procedure of Accessing the BFAR XIII BAC Online Submission of Bidding Documents via Google Forms

**Step 1.** BAC Secretariat will send the Invitation link of Registration Form.



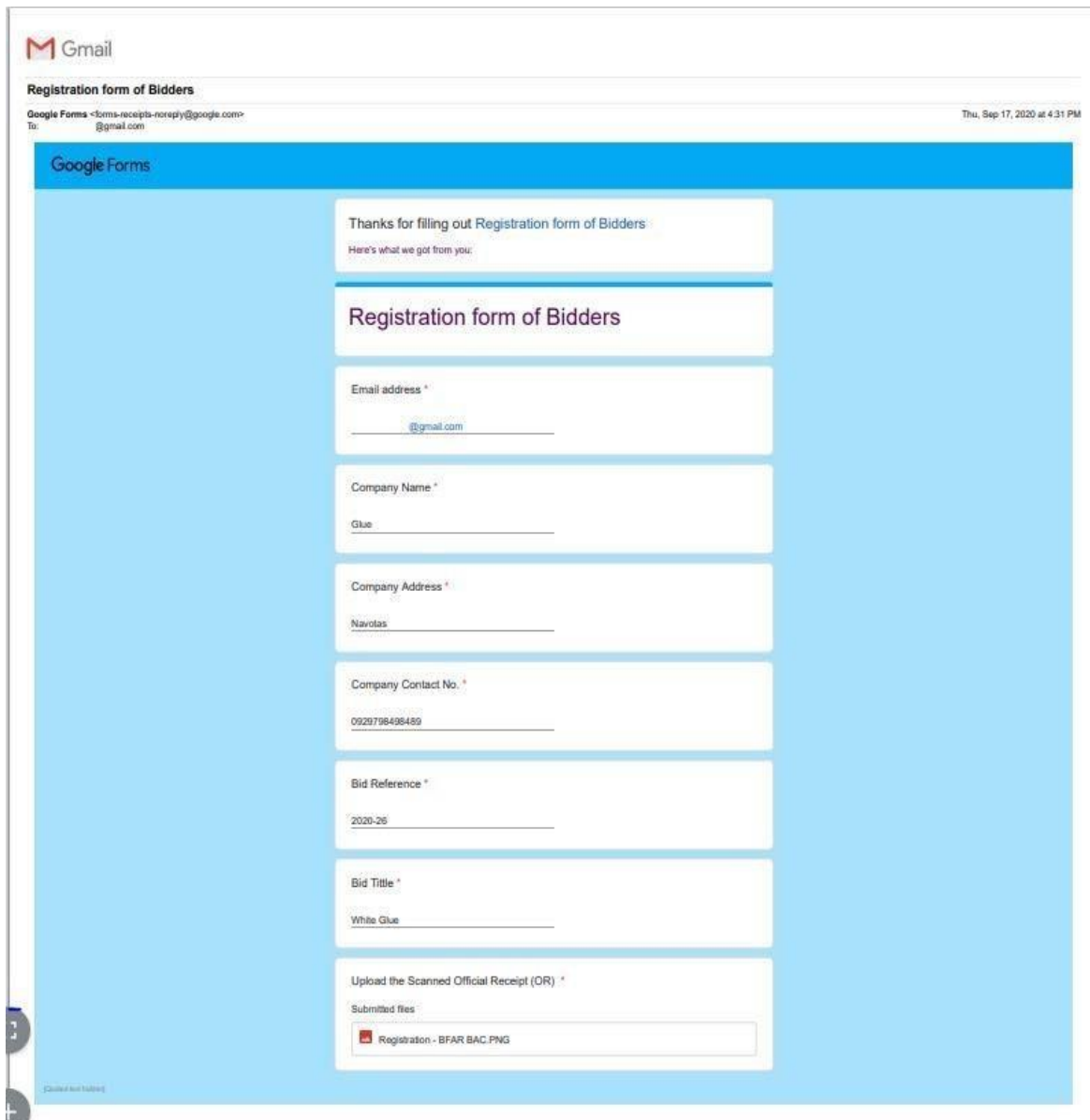
**Step 2.** Upon received, click the **FILL OUT FORM**.

**Step 3.** Bidder must fill in the following required information

A screenshot of the "Registration form of Bidders" Google Form. The form title is "Registration form of Bidders". Below the title, there is a note: "The name and photo associated with your Google account will be recorded when you upload files and submit this form. Not @gmail.com? [Switch account](#)". A red asterisk indicates that the following fields are required. The form contains the following fields: "Email address \*", "Company Name \*", "Company Address \*", "Authorized Representative \*", "Company Contact No. \*", "Bid Reference \*", and "Bid Title \*". Each field has a "Your answer" label and a text input area. At the bottom, there is a section for "Upload the Scanned Official Receipt (OR) \*" with an "Add file" button. A blue bar at the very bottom contains a "Submit" button. A footer note states: "A copy of your responses will be emailed to the address you provided."

**Step 4.** Click the **Add file** to upload Scanned Copy of Official Receipt (OR).

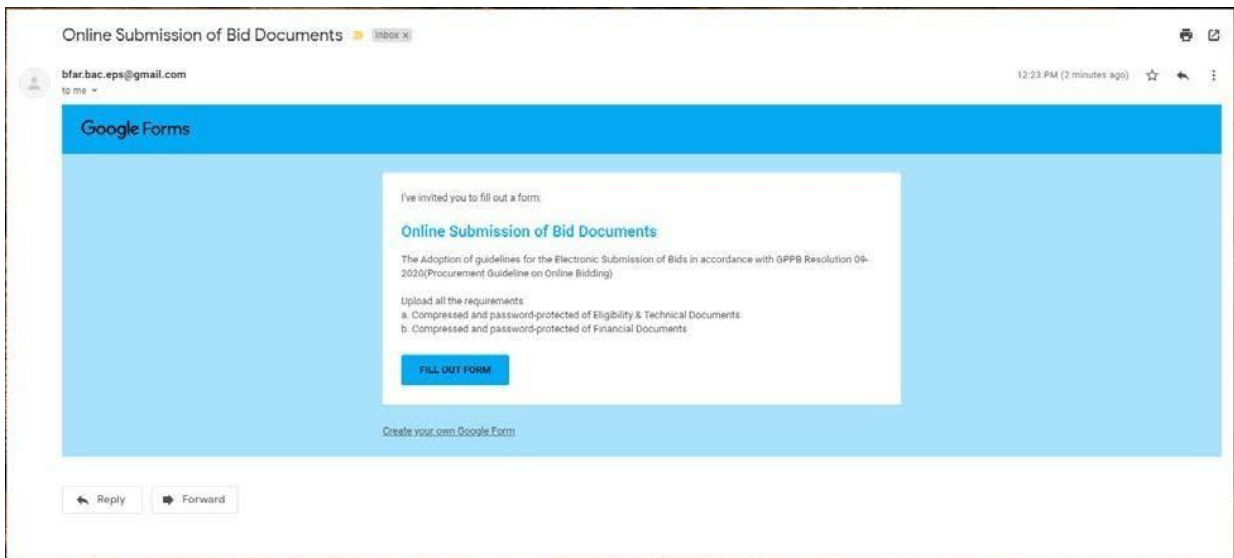
**Step 5.** After uploading of the Scanned Copy of OR, the bidder shall click the **Submit** button to complete the process and BAC Secretariat shall verify the submitted Official Receipt (OR).



**Step 6.** A copy of the response will be automatically emailed to the address provided by the bidders.

**Step 7.** Upon verification of the Official Receipt (OR), the BAC Secretariat shall send the Public Bidding Documents through the given email or shall provide a hard copy upon request. It may also be downloaded free of charge from the website of the Philippine Government Electronic Procurement System (PhilGEPS) and the website of the Procuring Entity, provided that Bidders shall pay the applicable fee for the Bidding Documents not later than the submission of their bids.

**Step 8.** The BAC Secretariat will send another Google Form link to the bidder, who already purchased the bidding documents, through email directing to the "Online Submission of the Bid".



**Step 9.** Upon received, click the **FILL OUT FORM**.

**Step 10.** Click the **Add file** button to upload the compressed and password-protected files of Eligibility & Technical and Financial Documents

A screenshot of the Google Form titled 'Online Submission of Bid Documents'. The form text includes: 'The Adoption of guidelines for the Electronic Submission of Bids in accordance with GPPB Resolution 09-2020(Procurement Guideline on Online Bidding)', 'Upload all the requirements' with sub-points 'a. Compressed and password-protected of Eligibility & Technical Documents' and 'b. Compressed and password-protected of Financial Documents', and 'The name and photo associated with your Google account will be recorded when you upload files and submit this form. Not @gmail.com? [Switch account](#)'. A red asterisk indicates a required field. Below the text are three input fields: 'Email address \*' with a placeholder 'Your email', 'Eligibility & Technical Documents \*' with an 'Add file' button, and 'Financial Documents \*' with an 'Add file' button. At the bottom, there is a 'Submit' button and a note: 'A copy of your responses will be emailed to the address you provided.'

**Step 11.** Click the **Submit** button to complete the process. A copy of the response will be automatically emailed to the address provided by the bidder which can be saved or printed by the bidder, as proof of the official time of the submission and receipt of bids.

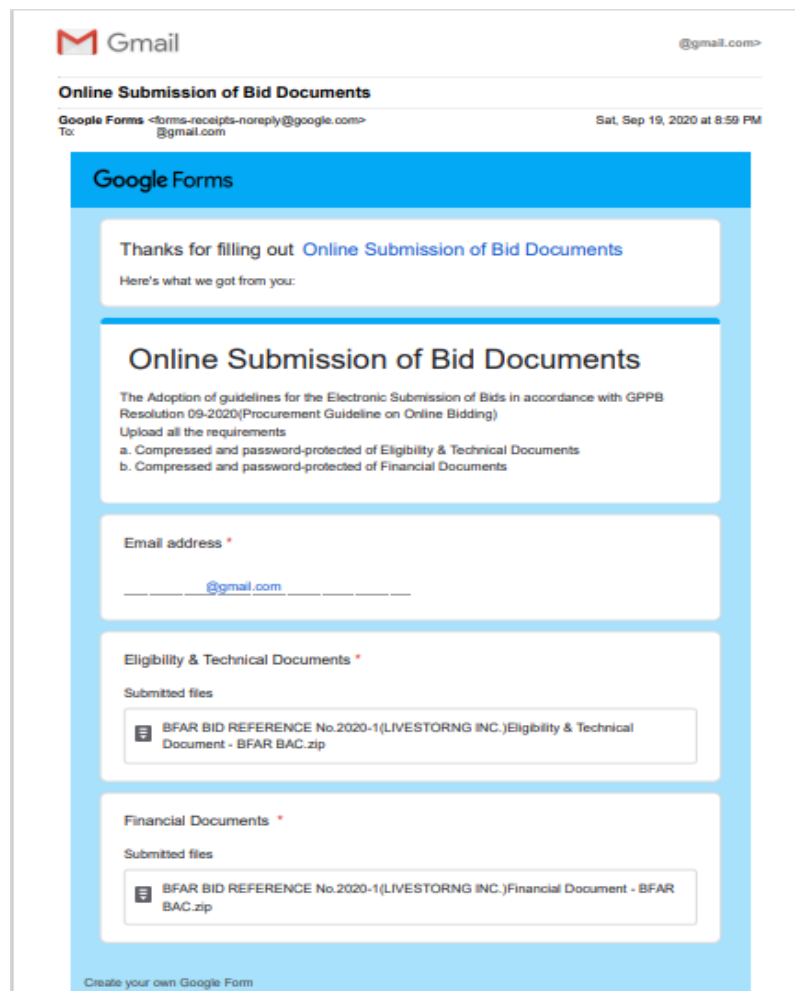


Figure 11.2

