REPUBLIC OF THE PHILIPPINES

NATIONAL POWER CORPORATION

(Pambansang Korporasyon sa Elektrisidad)

BID DOCUMENTS

Name of Project : **SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES**

Location : **VARIOUS AREAS IN PALAWAN**

PR No. : **S1-PWN22-018 / S1-NGL22-001 / S1-BDP22-001 / S1-BAC22-007 / S1-CSN22-001**

Contents:

Design and Development Department

DDD

SECTION I

INVITATION TO BID

National Power Corporation
INVITATION TO BID
PUBLIC BIDDING – BCS 2022-0741

1. The NATIONAL POWER CORPORATION (NPC), through its approved Corporate Budget of CY 2022 intends to apply the sum of **(Please see schedule below)** being the Approved Budget for the Contract (ABC) to payments under the contract. Bids received in excess of the ABC shall be automatically rejected at Bid opening.

PR Nos./PB Ref No. & Description	Similar Contracts	Pre-bid Conference	Bid Submission / Opening	ABC/ Amt. of Bid Docs
HO-PIG22-019 / PB221109-JL00413 (PB2) Design, Supply, Delivery, Installation, Testing and Commissioning of Batan Island Solar PV-Diesel Hybrid System (with ESS)	Design, Supply, Delivery, Installation, Test and Commissioning of Solar PV Plant/Hybrid PV-Diesel of at least 300kWp	02 December 2022 9:30 A.M	14 December 2022 9:30 A.M	₱ 48,493,800.00 / ₱ 25,000.00
S1-PWN22-018, S1-NGL22-001, S1-BDP22-001, S1-BAC22-007, S1-CSN2-001 / PB220823-RM00326 (PB2) Supply, Delivery and Installation of Containerized / Collapsible Office / Staffhouse / Stockroom for various Palawan SPUG Areas in Five (5) Packages	Supply, Delivery and Installation of collapsible, containerized house / office or staff room or other similar collapsible / containerized structures	02 December 2022 9:30 A.M	14 December 2022 9:30 A.M	₱ 6,846,000.00 / ₱ 10,000.00
Package 1: Collapsible / Containerized Office Room for Palawan Operations Division				
Package 2: 20Ft Two Storey Collapsible / Containerized Bunker, Office and Stockroom for Nangalao DPP				
Package 3: Containerized / Collapsible Office & Staffhouse for Bisucay DPP				
Package 4: Containerized / Collapsible Bunker for Bancalaan 1 DPP				
Package 5: Containerized / Collapsible Staffhouse for Casian DPP				
Venue: Kañao Function Room, NPC Bldg. Diliman, Quezon City				

2. The NPC now invites bids for Items listed above. Delivery of the Goods is required **(see table below)** specified in the Technical Specifications. Bidders should have completed, within **(see table below)** from the date of submission and receipt of bids, a contract similar to the Project. The description of an eligible bidder is contained in the Bidding Documents, particularly, in Section II. (Instruction to Bidders).

PR No/s. / PB Ref No/s.	Delivery Period / Contract Duration	Relevant Period of SLCC reckoned from the date of submission & receipt of bids
HO-PIG22-019	Two Hundred Fifteen (215) Calendar Days	Ten (10) Years
S1-PWN22-018 & 4 Others	One Hundred Sixty (160) Calendar Days	Five (5) Years

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

   Bidding is restricted to Filipino citizens/sole proprietorships, partnerships, or organizations with at least sixty percent (60%) interest or outstanding capital stock belonging to citizens of the Philippines, and to citizens or organizations of a country the laws or regulations of which grant similar rights or privileges to Filipino citizens, pursuant to RA 5183.

4. Prospective Bidders may obtain further information from National Power Corporation, Bids and Contracts Services Division and inspect the Bidding Documents at the address given below during office hours (8:00AM to 5:00PM), Monday to Friday.

5. A complete set of Bidding Documents may be acquired by interested Bidders from the given address and website(s) and upon payment of the applicable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB. *Bidding fee may be refunded in accordance with the guidelines based on the grounds provided under Section 41 of R.A. 9184 and its Revised IRR.*

6. The National Power Corporation will hold Pre-Bid Conference **(see table above)** and/or through video conferencing or webcasting which shall be open to prospective bidders.

   Only registered bidder/s shall be allowed to participate for the conduct of virtual pre-bid conference. **Unregistered bidders** may attend the Pre-Bid Conference at the Kañao Room, NPC subject to the following:

   a. Only a maximum of two (2) representatives from each bidder / company shall be allowed to participate during the virtual pre-bid conference.
   b. A "No Face mask / No Entry" policy shall be implemented in the NPC premises. Face mask shall be 3-ply surgical or KN95 mask type.
   c. The requirements herein stated including the medium of submission shall be subject to GPPB Resolution No. 09-2020 dated 07 May 2020
   d. The Guidelines on the Implementation of Early Procurement Activities (EPA) shall be subject to GPPB Circular No. 06-2019 dated 17 July 2019

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 before the specified time stated in the table above for opening of bids. 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 14.

9. Bid opening shall be on Kañao Function Room, NPC Head Office, Diliman, Quezon City and/or via online platform to be announced by NPC. Bids will be opened in the presence of the bidders' representatives who choose to attend the activity.

10. The National Power Corporation 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 R.A. No. 9184, without thereby incurring any liability to the affected bidder or bidders.

11. For further information, please refer to:

    Bids and Contracts Services Division,
    Logistics Department

    BIR Road cor. Quezon Avenue
    Diliman, Quezon City
    Tel Nos.: 8924-5211 and 8921-3541 local 5504/5713
    Fax No.: 8922-1622
    Email: bcsd@napocor.gov.ph / bcsd_napocor@yahoo.com

12. You may visit the following websites:

    For downloading of Bidding Documents: https://www.napocor.gov.ph/bcsd/bids.php

RENE B. BARRUELA
Vice President, Corporate Affairs Group and
Chairman, Bids and Awards Committee

Annex A

SUPPLY, DELIVERY, AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE/ STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES

Package No.	PR No.	Location	Type of Occupancy	Qty	ABC
1	S1-PWN22-018	Palawan Operations Division, Pto Princesa	Office	2	1,602,000.00
2	S1-NGL22-001	Nangalao DPP	Staffhouse, Stockroom & Office	2	1,868,000.00
3	S1-BDP22-001	Bisucay DPP	Office & Staffhouse	2	1,758,000.00
4	S1-BAC22-007	Bancalaan 1 DPP	Staffhouse	1	853,000.00
5	S1-CSN22-001	Casian DPP	Staffhouse	1	765,000.00
TOTAL				**8**	**6,846,000.00**

SECTION II

INSTRUCTIONS TO BIDDERS

SECTION II – INSTRUCTIONS TO BIDDERS

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SECTION II – INSTRUCTIONS TO BIDDERS

1. Scope of Bid

The **National Power Corporation (NPC** or **NAPOCOR)** wishes to receive Bids for the **SUPPLY, DELIVERY, AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE/ STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES**, with identification number **PR NOS. S1-PWN22-018/S1-NGL22-001/S1-BDP22-001/S1-BAC22-007/S1-CSN22-001**.

The Procurement Project (referred to herein as "Project") is composed of one (1) lot and will be awarded to one (1) Bidder in one complete contract, the details of which are described in Section VI (Technical Specifications).

2. Funding Information

2.1. The GOP through the source of funding as indicated below for CY 2022 in the amount specified in the Invitation to Bid.

2.2. The source of funding is the Corporate Operating Budget of the National Power Corporation.

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 Manuals 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 **IB** 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 verified and accepted the general requirements of this Project, including 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, and Coercive Practices

The Procuring Entity, as well as the Bidders and Suppliers, 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. Foreign ownership exceeding those allowed under the rules may participate when citizens, corporations, or associations of a country, included in the list issued by the GPPB, the laws or regulations of which grant reciprocal rights or privileges to citizens, corporations, or associations of the Philippines.

The foreign bidder claiming eligibility by reason of their country's extension of reciprocal rights to Filipinos shall submit a certification from the relevant government office of their country stating that Filipinos are allowed to participate in their government procurement activities for the same item/product. The said certification shall be validated during the post-qualification of bidders.

5.3. Pursuant to Section 23.4.1.3 of the 2016 revised IRR of RA No.9184, the Bidder shall have an SLCC that is at least one (1) contract similar to the Project the value of which, adjusted to current prices using the PSA's CPI, must be at least equivalent to at least fifty percent (50%) of the ABC.

5.4. The Bidders shall comply with the eligibility criteria under Section 23.4.1 of the 2016 IRR of RA No. 9184.

6. Origin of 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, subject to Domestic Preference requirements under **ITB** Clause 18.

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 twenty percent (20%) of the Project.

The portions of Project and the maximum percentage allowed to be subcontracted are indicated in the **BDS**, which shall not exceed twenty percent (20%) of the contracted Goods.

7.2. The Supplier may identify its subcontractor during the contract implementation stage. Subcontractors identified during the bidding may be changed during the implementation of this Contract. Subcontractors must submit the documentary requirements under Section 23.1 of the 2016 revised IRR of RA No. 9184 and comply with the eligibility criteria specified in **ITB** Clause 5 to the implementing or end-user unit.

7.3. Subcontracting of any portion of the Project does not relieve the Supplier 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 Supplier's own acts, defaults, or negligence, or those of its agents, servants, or workmen.

8. Pre-Bid Conference

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

9. Clarification and Amendment of Bidding Documents

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

10. Documents comprising the Bid: Eligibility and Technical Components

10.1. The first envelope shall contain the eligibility and technical documents of the Bid as specified in Section VIII (NPCSF-GOODS-01 - Checklist of Technical and Financial Documents).

10.2. The Bidder's SLCC as indicated in **ITB** Clause 5.3 should have been completed within Five (5) Years prior to the deadline for the submission and receipt of bids.

10.3. 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. Similar to the required authentication above, 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.

10.4. The Statement of the bidder's Single Largest Completed Contract (SLCC) (NPCSF-GOODS-03) and List of all Ongoing Government & Private Contracts Including Contracts Awarded but not yet Started (NPCSF-GOODS-02) shall comply with the documentary requirements specified 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 VIII (NPCSF-GOODS-01 - Checklist of Technical and Financial Documents).

11.2. If the Bidder claims preference as a Domestic Bidder or Domestic Entity, a certification issued by DTI shall be provided by the Bidder in accordance with Section 43.1.3 of the 2016 revised IRR of RA No. 9184.

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

11.4. 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. Bid Prices

12.1. Prices indicated on the Price Schedule shall be entered separately in the following manner:

a. For Goods offered from within the Procuring Entity's country:

i. The price of the Goods quoted EXW (ex-works, ex-factory, ex-warehouse, ex-showroom, or off-the-shelf, as applicable);

ii. The cost of all customs duties and sales and other taxes already paid or payable;

iii. The cost of transportation, insurance, and other costs incidental to delivery of the Goods to their final destination; and

iv. The price of other (incidental) services, if any, listed in the **BDS.**

b. For Goods offered from abroad:

i. Unless otherwise stated in the **BDS**, the price of the Goods shall be quoted delivered duty paid (DDP) with the place of destination in the Philippines as specified in the **BDS**. In quoting the price, the Bidder shall be free to use transportation through carriers registered in any eligible country. Similarly, the Bidder may obtain insurance services from any eligible source country.

ii. The price of other (incidental) services, if any, as listed in the **BDS.**

13. Bid and Payment Currencies

13.1. For Goods that the Bidder will supply from outside the Philippines, the 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.

13.2. Payment of the contract price shall be made in Philippine Pesos.

14. Bid Security

14.1. 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**.

14.2. The Bid and bid security shall be valid for **One Hundred Twenty (120) calendar** days from the date of opening of bids. Any Bid not accompanied by an acceptable bid security shall be rejected by the Procuring Entity as non-responsive.

15. 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 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.

16. Deadline for Submission of Bids

16.1. 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.**

17. Opening and Preliminary Examination of Bids

17.1. 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.

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

18. Domestic Preference

18.1. The Procuring Entity will grant a margin of preference for the purpose of comparison of Bids in accordance with Section 43.1.2 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 the 2016 revised IRR of RA No. 9184.

19.2. If the Project allows partial bids, bidders may submit a proposal on any of the lots or items, and evaluation will be undertaken on a per lot or item basis, as the case maybe. In this case, the Bid Security as required by **ITB** Clause 14 shall be submitted for each lot or item separately.

19.3. The descriptions of the lots or items shall be indicated in **Section VI (Technical Specifications)**, although the ABCs of these lots or items are indicated in the **BDS** for purposes of the NFCC computation pursuant to Section 23.4.2.6 of the 2016 revised IRR of RA No. 9184. The NFCC must be sufficient for the total of the ABCs for all the lots or items participated in by the prospective Bidder.

19.4. The Project shall be awarded to one (1) Bidder in one complete contract.

19.5. Except for bidders submitting a committed Line of Credit from a Universal or Commercial Bank in lieu of its NFCC computation, all Bids must include the NFCC computation pursuant to Section 23.4.1.4 of the 2016 revised IRR of RA No. 9184, which must be sufficient for the total of the ABCs for all the lots or items participated in by the prospective Bidder. For bidders submitting the committed Line of Credit, it must be at least equal to ten percent (10%) of the ABCs for all the lots or items participated in by the prospective Bidder.

20. Post-Qualification

20.1. 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

21.1. 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

SECTION III - BID DATA SHEET

ITB Clause	
5.3	For this purpose, similar contracts shall refer to supply, delivery and installation of collapsible, containerized house/office or staff room or other similar collapsible/containerized structures. The Single Largest Completed Contract (SLCC) as declared by the bidder shall be verified and validated to ascertain such completed contract. Hence, bidders must ensure access to sites of such projects/equipment to NPC representatives for verification and validation purposes during post-qualification process. It shall be a ground for disqualification, if verification and validation cannot be conducted for reasons attributable to the Bidder.
7.1	Subcontracting may be allowed on transport, local/non-skilled labor under the supervision of the Bidder. The Bidder shall not be relieved from any liability or obligation that may arise from the performance of the Subcontractor.
10.4	The list of on-going contracts (Form No. NPCSF-GOODS-02) shall be supported by the following documents for each on-going contract to be submitted during **Post-Qualification**: 1. Contract/Purchase Order and/or Notice of Award 2. Certification coming from the project owner/client that the performance is satisfactory as of the bidding date The bidder shall declare in this form all his on-going government and private contracts including contracts where the bidder (either as individual or as a Joint Venture) is a partner in a Joint Venture agreement other than his current joint venture where he is a partner. Non declaration will be a ground for disqualification of bid.
	The Statement of the bidder's Single Largest Completed Contract (SLCC) similar to the contract to be bid (Form No. NPCSF-GOODS-03) shall be supported by the following documents to be submitted during **Bid Opening:** 1. Contract/Purchase Order 2. Certificate of Acceptance; or Certificate of Completion; or Official Receipt (O.R); or Sales Invoice
	The prospective bidders shall declare its Joint Venture partner during the purchase of bid/tender documents. Any single bidder/s who already procured/secured the bidding documents but want to avail the Joint Venture Agreement (JVA) shall inform the BAC in writing prior to the bid opening for records and documentation purposes. Failure to do so shall be a ground for disqualification/non-acceptance of its bid.

10.5	Bidders shall also submit the following requirements in their first envelope, Eligibility and Technical Component of their bid: 1. Complete eligibility documents of the proposed sub-contractor, if any
12	The price of the Goods shall be quoted DDP Project Site or the applicable International Commercial Terms (INCOTERMS) for this Project.
14.1	The bid security shall be in the form of a Bid Securing Declaration, or any of the following forms and amounts: a) The amount of not less two percent (2%) of ABC, if bid security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit; or b) The amount of not less than five percent (5%) of ABC, if bid security is in Surety Bond.
19.3	The Goods are grouped together in one (1) lot and will be awarded to one (1) Bidder in one complete contract. Partial bid is not allowed. The Goods are grouped in a single lot and the lot shall not be divided into sub-lots for the purpose of bidding, evaluation, and contract award. The Bidders bid offer must be within the ABC of the lot and ABC per PR. Bid offers that exceed the ABC of the lot, ABC per PR or with incomplete price, shall be rejected.
19.5	If the Bidder opted to submit a Committed Line of Credit (CLC), the bidder must submit a granted credit line valid/effective at the date of bidding.
20.1	Additional documents to be submitted during Post-Qualification: a. Contract/Purchase Order and/or Notice of Award for the contracts stated in the List of all Ongoing Government & Private Contracts Including Contracts Awarded but not yet Started (NPCSF-GOODS-02); b. Certification coming from the project owner/client that the performance is satisfactory as of the bidding date for all ongoing contracts stated in Form NPCSF-GOODS-02; c. Drawings and documents to be submitted during post-qualification process as specified in Section VI-Technical Specifications (EW – Electrical Works) Manufacturer's brochures, manuals and other supporting documents (if required) of equipment, materials, hardware and tools proposed by the bidders must comply with the technical specifications of such equipment, materials, hardware and tools. It shall be a ground for disqualification if the submitted brochures, manuals and other supporting documents are

	determined not complying with the specifications during technical evaluation and post-qualification process. Equipment, materials, hardware and tools proposed by the winning bidder to be supplied, which were evaluated to be complying with the technical specifications, shall not be replaced and must be the same items to be delivered/installed/used during the contract implementation. Any proposed changes/replacement of said items may be allowed on meritorious reasons subject to validation and prior approval by NPC.
20.2	The licenses and permits relevant to the Project and the corresponding law requiring it as specified in the Technical Specifications, if any.
21.2	Notice to Proceed.

SECTION IV

GENERAL CONDITIONS OF CONTRACT

SECTION IV – GENERAL CONDITIONS OF CONTRACT

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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.

Additional requirements for the completion of this Contract shall be provided in the **Special Conditions of Contract (SCC).**

2. Advance Payment and Terms of Payment

2.1. Advance payment of the contract amount is provided under Annex "D" of the revised 2016 IRR of RA No. 9184.

2.2. The Procuring Entity is allowed to determine the terms of payment on the partial or staggered delivery of the Goods procured, provided such partial payment shall correspond to the value of the goods delivered and accepted in accordance with prevailing accounting and auditing rules and regulations. The terms of payment are indicated in the **SCC**.

3. Performance Security

3.1. Within ten (10) calendar days from receipt of the Notice of Award by the Bidder 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 of RA No. 9184.

3.2. The performance bond to be posted by the Contractor must also comply with additional requirements specified in the **SCC.**

4. Inspection and Tests

The Procuring Entity or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Project specifications at no extra cost to the Procuring Entity in accordance with the Generic Procurement Manual. In addition to tests in the **SCC**, **Section VI (Technical Specifications)** shall specify what inspections and/or tests the Procuring Entity requires, and where they are to be

conducted. The Procuring Entity shall notify the Supplier in writing, in a timely manner, of the identity of any representatives retained for these purposes.

All reasonable facilities and assistance for the inspection and testing of Goods, including access to drawings and production data, shall be provided by the Supplier to the authorized inspectors at no charge to the Procuring Entity.

5. Warranty

5.1 In order to assure that manufacturing defects shall be corrected by the Supplier, a warranty shall be required from the Supplier as provided under Section 62.1 of the 2016 revised IRR of RA No. 9184.

5.2 The Procuring Entity shall promptly notify the Supplier in writing of any claims arising under this warranty. Upon receipt of such notice, the Supplier shall, repair or replace the defective Goods or parts thereof without cost to the Procuring Entity, pursuant to the Generic Procurement Manual.

6. Liability of the Supplier

The Supplier's liability under this Contract shall be as provided by the laws of the Republic of the Philippines.

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

SECTION V – SPECIAL CONDITIONS OF CONTRACT

GCC Clause	
1	**Delivery and Documents –** The delivery terms applicable to the Contract is DDP delivered to the project site specified in the technical specifications, in accordance with INCOTERMS. Risk and title will pass from the Supplier to the Procuring Entity upon receipt and final acceptance of the Goods at their final destination. Delivery of the Goods shall be made by the Supplier in accordance with the terms specified in Section VI – Technical Specifications. The details of shipping and/or other documents to be furnished by the Supplier are as follows: *For Goods supplied from within the Philippines* Upon delivery of the Goods to the Project Site, the Supplier shall notify the Procuring Entity and present the following documents to the Procuring Entity: (i) Original and four copies of the Supplier's invoice showing Goods' description, quantity, unit price, and total amount; (ii) Original and four copies of Supplier's factory test/inspection report; (iii) Original and four copies of the certificate of origin (for imported Goods); (iv) Delivery receipt detailing number and description of items received signed by the Procuring Entity's representative at the Project Site; (v) Certificate of Completion/Inspection Report signed by the Procuring Entity's representative at the Project Site; (vi) Original and four copies of the Inspection Receiving Report signed by the Procuring Entity's representative at the Project Site; (vii) Original and four copies of the Manufacturer's and/or Supplier's warranty certificate; and (viii) Documents specified in the Technical Specifications, if any. *For Goods supplied from abroad:* Upon shipment, the Supplier shall notify the Procuring Entity and the insurance company by e-mail the full details of the shipment, including Contract Number, description of the Goods, quantity, vessel, bill of lading number and date, port of loading, date of shipment, port of discharge etc. Upon delivery to the Project Site, the Supplier shall notify the Procuring Entity and present the following documents as applicable with the documentary requirements of any letter of credit issued taking precedence:

SECTION V

SPECIAL CONDITIONS OF CONTRACT

	(i) Original and four copies of the Supplier's invoice showing Goods' description, quantity, unit price, and total amount; (ii) Original and four copies of the negotiable, clean shipped on board bill of lading marked "freight pre-paid" and five copies of the non-negotiable bill of lading ; (iii) Original and four copies of Supplier's factory test/inspection report; (iv) Delivery receipt detailing number and description of items received signed by the Procuring Entity's representative at the Project Site; (v) Certificate of Completion/Inspection Report signed by the Procuring Entity's representative at the Project Site; (vi) Original and four copies of the Inspection Receiving Report signed by the Procuring Entity's representative at the Project Site; (vii) Original and four copies of the certificate of origin (for imported Goods); and (viii) Original and four copies of the Manufacturer's and/or Supplier's warranty certificate including all other documents specified in the Technical Specifications, if any. For purposes of this Clause the Procuring Entity's Representative at the Project Site is Vice President - SPUG or duly authorized representative. **Incidental Services –** The Supplier is required to provide all of the following services, including additional services, if any, specified in Section VI. Schedule of Requirements: a. performance or supervision of on-site assembly and/or start-up of the supplied Goods; b. furnishing of tools required for assembly and/or maintenance of the supplied Goods; c. furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied Goods; d. performance or supervision or maintenance and/or repair of the supplied Goods, for a period of time agreed by the parties, provided that this service shall not relieve the Supplier of any warranty obligations under this Contract; and e. training of the Procuring Entity's personnel, at the Supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied Goods.

	f. Additional requirements specified in Section VI – Technical Specifications, if any. The Contract price for the Goods shall include the prices charged by the Supplier for incidental services and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services. **Transportation –** Where the Supplier is required under Contract to deliver the Goods CIF, CIP, or DDP, transport of the Goods to the port of destination or such other named place of destination in the Philippines, as shall be specified in this Contract, shall be arranged and paid for by the Supplier, and the cost thereof shall be included in the Contract Price. Where the Supplier is required under this Contract to transport the Goods to a specified place of destination within the Philippines, defined as the Project Site, transport to such place of destination in the Philippines, including insurance and storage, as shall be specified in this Contract, shall be arranged by the Supplier, and related costs shall be included in the contract price. Where the Supplier is required under Contract to deliver the Goods CIF, CIP or DDP, Goods are to be transported on carriers of Philippine registry. In the event that no carrier of Philippine registry is available, Goods may be shipped by a carrier which is not of Philippine registry provided that the Supplier obtains and presents to the Procuring Entity certification to this effect from the nearest Philippine consulate to the port of dispatch. In the event that carriers of Philippine registry are available but their schedule delays the Supplier in its performance of this Contract the period from when the Goods were first ready for shipment and the actual date of shipment the period of delay will be considered force majeure. The Procuring Entity accepts no liability for the damage of Goods during transit other than those prescribed by INCOTERMS for DDP deliveries. In the case of Goods supplied from within the Philippines or supplied by domestic Suppliers risk and title will not be deemed to have passed to the Procuring Entity until their receipt and final acceptance at the final destination. **Intellectual Property Rights –** The Supplier shall indemnify the Procuring Entity against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the Goods or any part thereof.
2.2	Advance payment not to exceed fifteen percent (15%) of the contract amount shall be allowed and paid within sixty (60) calendar days from effectivity of the contract and upon the submission to and acceptance by the Procuring Entity of an irrevocable letter of credit or bank guarantee issued by a Universal or Commercial Bank. The irrevocable letter of credit or bank guarantee must be for an equivalent amount, shall remain valid until the goods are delivered, and accompanied by a claim for advance payment.

All progress payments shall first be charged against the advance payment until the latter has been fully exhausted.

The terms of payment shall be as follows:

1) For Supply and Delivery Contracts:

(a) On Contract Effectivity: Advance payment of Fifteen percent (15%) of the total Contract Price shall be paid within sixty (60) days from effectivity of the Contract and upon submission of a claim and an irrevocable letter of credit or bank guarantee issued by a Universal or Commercial Bank for the equivalent amount valid until the Goods are delivered and in the form provided in Section VIII- Bidding Forms.

(b) On Delivery: Eighty percent (80%) of the Contract Price of the ***delivered Goods*** shall be considered for payment, less the total amount of advance payment, if any and other deductions. If the amount is sufficient to fully recoup the advance payment, the remainder after deductions shall be paid to the Supplier within sixty (60) days after the date of receipt of the Goods and upon submission of the documents (i) through (vi) specified in the SCC provision on Delivery and Documents. Otherwise, the total delivery payment shall be charged against the advance payment and the remaining advance payment will be fully recouped from the succeeding claims.

(c) On Acceptance: The remaining twenty percent (20%) of the Contract Price of the ***delivered Goods*** shall be paid to the Supplier within sixty (60) days after the date of submission of the acceptance and inspection certificate for the respective delivery issued by the Procuring Entity's authorized representative. In the event that no acceptance certificate is issued by the Procuring Entity's authorized representative within forty five (45) days after successful test and commissioning, if required, the Supplier shall have the right to claim payment of the remaining twenty percent (20%) subject to the Procuring Entity's own verification of the reason(s) for the failure to issue documents (vii) and (viii) as described in the SCC provision on Delivery and Documents.

2) For Supply, Delivery, Installation, Test and Commissioning Contracts:

(a) On Contract Effectivity: Advance payment of Fifteen percent (15%) of the total Contract Price shall be paid within sixty (60) days from effectivity of the Contract and upon submission of a claim and an irrevocable letter of credit or bank guarantee issued by a Universal or Commercial Bank for the equivalent amount valid until the Goods are delivered and in the form provided in Section VIII- Bidding Forms.

(b) On Delivery: Eighty percent (80%) of the price of the **delivered Goods,** excluding price for installation, test and commissioning shall be considered for payment, less the total amount of advance payment, if any and other deductions. If the amount is sufficient to fully recoup the advance payment, the remainder after deductions shall be paid to the

Supplier within sixty (60) days after the date of receipt of the Goods and upon submission of the documents (i) through (vi) specified in the SCC provision on Delivery and Documents. Otherwise, the total delivery payment shall be charged against the advance payment and the remaining advance payment will be fully recouped from the succeeding claims.

(c) On Acceptance: The remaining twenty percent (20%) of the price of the **delivered Goods** plus price for installation, test and commissioning shall be paid to the Supplier within sixty (60) days after the date of submission of the acceptance and inspection certificate for the respective delivery issued by the Procuring Entity's authorized representative. In the event that no acceptance certificate is issued by the Procuring Entity's authorized representative within forty five (45) days after successful test and commissioning, the Supplier shall have the right to claim payment subject to the Procuring Entity's own verification of the reason(s) for the failure to issue documents (vii) and (viii) as described in the SCC provision on Delivery and Documents.

3) For Supply, Delivery, Installation, Test and Commissioning Contracts where Installation, Test and Commissioning prices are included in the supply price:

(a) On Contract Effectivity: Advance payment of Fifteen percent (15%) of the total Contract Price shall be paid within sixty (60) days from effectivity of the Contract and upon submission of a claim and an irrevocable letter of credit or bank guarantee issued by a Universal or Commercial Bank for the equivalent amount valid until the Goods are delivered and in the form provided in Section VIII- Bidding Forms.

(b) On Delivery: Sixty percent (60%) of the price of the **delivered Goods** shall be considered for payment, less the total amount of advance payment, if any and other deductions. If the amount is sufficient to fully recoup the advance payment, the remainder after deductions shall be paid to the Supplier within sixty (60) days after the date of receipt of the Goods and upon submission of the documents (i) through (vi) specified in the SCC provision on Delivery and Documents. Otherwise, the total delivery payment shall be charged against the advance payment and the remaining advance payment will be fully recouped from the succeeding claims.

(c) On Acceptance: The remaining forty percent (40%) of the price of the **delivered Goods** shall be paid to the Supplier within sixty (60) days after the date of submission of the acceptance and inspection certificate for the respective delivery issued by the Procuring Entity's authorized representative. In the event that no acceptance certificate is issued by the Procuring Entity's authorized representative within forty five (45) days after successful test and commissioning, the Supplier shall have the right to claim payment subject to the Procuring Entity's own verification of the reason(s) for the failure to issue

	documents (vii) and (viii) as described in the SCC provision on Delivery and Documents
3.2	1. The following must be indicated in the performance bond to be posted by the Contractor: i. Company Name ii. Correct amount of the Bond iii. Contract/Purchase Order Reference Number iv. Purpose of the Bond: "To guarantee the faithful performance of the Principal's obligation to undertake *(Contract/Purchase Order Description)* in accordance with the terms and conditions of *(Contract No. & Schedule/Purchase Order No.)* entered into by the parties." 2. The bond shall remain valid and effective until the duration of the contract *(should be specific date reckoned from the contract effectivity)* plus sixty (60) days after NPC's acceptance of the last delivery/final acceptance of the project. 3. In case of surety bond, any extension of the contract duration or delivery period granted to the CONTRACTOR shall be considered as given, and any modification of the contract shall be considered as authorized, as if with the expressed consent of the surety, provided that such extension or modifications falls within the effective period of the said surety bond. However, in the event that the extension of the contract duration or delivery schedule would be beyond the effective period of the surety bond first posted, it shall be the sole obligation of the CONTRACTOR to post an acceptable Performance Security within ten (10) calendar days after the contract duration/delivery period extension has been granted by NPC. 4. Other required conditions in addition to the standard policy terms issued by the Bonding Company: i. The bond is a penal bond, callable on demand and the entire amount thereof shall be forfeited in favor of the Obligee upon default of the Principal without the need to prove or to show grounds or reasons for demand for the sum specified therein; ii. The amount claimed by the Obligee under this bond shall be paid in full and shall never be subject to any adjustment by the Surety; iii. In case of claim, the Surety shall pay such claim within sixty (60) days from receipt by the Surety of the Obligee's notice of claim/demand letter notwithstanding any objection thereto by the Principal.
4	The inspections and tests that will be conducted are specified in the Technical Specifications.

SECTION VI

TECHNICAL SPECIFICATIONS

SECTION VI

TECHNICAL SPECIFICATIONS

PROJECT HIGHLIGHTS

SECTION VI - TECHNICAL SPECIFICATIONS

PH – PROJECT HIGHLIGHTS

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SECTION VI - TECHNICAL SPECIFICATIONS

PH – PROJECT HIGHLIGHTS

PH-1.0 PROJECT HIGHLIGHTS

PH-1.1 General

This section covers the general technical requirements for furnishing all supervision, labor, materials, supplies, tools and equipment in accordance with specifications contained herein and as shown on the accompanying drawings to complete the **SUPPLY, DELIVERY, AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR PALAWAN DIESEL POWER PLANTS IN FIVE (5) PACKAGES.**

CONTAINERIZED / COLLAPSIBLE FACILITIES TO BE SUPPLIED/INSTALLED BY SUPPLIER				
PACKAGE NO.	Plant Sites	Type of Occupancy	PR NO.	No. of Containerized / Collapsible to be Installed (Set)
1	Palawan Operations Division	Office	S1-PWN22-018	2
2	Nangalao DPP	Staffhouse, Stockroom & Office	S1-NGL22-001	2
3	Bisucay DPP	Office & Staffhouse	S1-BDP22-001	2
4	Bancalaan 1 DPP	Staffhouse	S1-BAC22-007	1
5	Casian DPP	Staffhouse	S1-CSN22-001	1
Total No. of Containerized / Collapsible to be Installed				8

Package 1 – PR No. S1-PWN22-018 (Supply, Delivery & Installation Of Collapsible/ Containerized Office Room For Palawan Operations Division)

Package 2 – PR No. S1-NGL22-001 (Supply, Delivery & Installation Of 20 Ft Two Storey Collapsible / Containerized Bunker, Office And Stockroom For Nangalao DPP)

Package 3 – PR No. S1-BDP22-001 (Supply, Delivery & Installation Of Containerized/Collapsible Office And Staffhouse For Bisucay DPP)

Package 4 – PR No. S1-BAC22-001 (Supply, Delivery & Installation Of Collapsible/ Containerized Bunker For Bancalaan 1 DPP)

Package 5 – PR No. S1-CSN22-001 (Supply, Delivery &Installation Of Containerized / Collapsible Staffhouse For Casian DPP)

PH-1.2 Project Location

The projects are located at the following Palawan DPPs:
Package 1 - Palawan Operations Division, Puerto Princesa, Palawan
Package 2 - Nangalao DPP, Linapakan, Palawan
Package 3 – Bisucay DPP, Cuyo, Palawan
Package 4 – Bancalaan 1 DPP, Balabac, Palawan
Package 5 – Casian DPP, Taytay, Palawan

PH-1.3 Scope of Work

The works and services to be performed under this Contract shall essentially consist of, but not limited to the following:

Architectural Works

a) Supply and installation of eight (8) units twenty (20) feet Prefabricated Containerized Office, Bunker and Storage Room;
b) Application of touch up paint for scratch during installation
c) Removal/clearing of all debris and waste/excess materials prior to demobilization.
d) All other works and services required to complete the project.

Civil Works

a) Moving-in including furnishing, supervision, construction, operation and maintenance of general construction facilities and moving-out thereof after completion and acceptance;
b) Construction of reinforced concrete foundation including all required structural excavation, backfill and proper disposal of all excess excavated materials
c) Complete construction of drainage connections, septic tank and appurtenances; and
d) Complete construction of concrete walkway; and
e) All other works and services required to complete the project.

Electrical Works

a) Supply, installation and test of complete lighting and power system of the new containerized/collapsible office and storage room;
b) All other works and services including those not specifically detailed herein but are required to fully complete the project.

Mechanical Works

a) One (1) lot of Domestic Water Supply System consisting of pipes, valves, pipe fittings, gaskets, flanges, bolts and nuts, pipe supports including the required excavation and backfilling of embedded pipes and other incidentals to complete the domestic water supply piping system;
b) Seven (7) units of Air conditioning unit, 11,500 kJ/hr minimum cooling capacity, inverter-window type, complete with necessary mounting accessories and controls (infrared remote) and other necessary accessories as described in the technical specifications;
c) Seven (7) units of Wall Mounted Exhaust Fan, 100 m^3/hr minimum capacity for Comfort Room, complete with its mounting accessories and control;
d) One (1) unit of Wall Mounted Exhaust Fan, 200 m^3/hr minimum capacity for Stock Room, complete with its mounting accessories and control;
e) Nine (9) units of Portable Type Fire Extinguisher, Clean Agent (HCFC or Halotron I Type), 7.1 kg. (15.5 lbs), non-expiry, multi-shots, wall-hung type and PS/ICC and/or BFP approved; and
f) All other works and services required to complete the project.

PH-1.4 Contract Period

The Supplier shall complete the works as herein specified within One Hundred Sixty (160) calendar days. The contract period is inclusive of seven (7) unworkable days considered unfavorable for the execution of the works. The total contract duration shall be reckoned from the date of contract effectivity as specified in the **Notice to Proceed.**

PH-1.5 Minimum Required Personnel

During implementation, the Contractor/ Supplier shall provide a project/ technical coordinator with whom NPC can interface throughout the contract duration.

SECTION VI

TECHNICAL SPECIFICATIONS FOR ARCHITECTURAL WORKS

PART I - TECHNICAL SPECIFICATIONS

AW – ARCHITECTURAL WORKS

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AW- ARCHITECTURAL WORKS

AW-1.0 GENERAL ARCHITECTURAL REQUIREMENTS

AW-1.1 General

The work to be done under this section shall include the furnishing of all labor, materials, equipment, tools, storage, and stockyards of the pertinent materials and structural components and other incidentals for all architectural works enumerated hereunder, as shown on the accompanying drawings or as otherwise directed.

The work shall be performed and completed with high-quality workmanship, in accordance with generally accepted modern practice in carpentry fenestrations, tinsmithing, plumbing, painting, landscaping and masonry work, etc. notwithstanding any omission from these Specifications or drawings.

Materials and structural parts that the Supplier shall supply and install and which will be incorporated in the structure shall be new and unused. They shall be suitable for their intended purpose and appropriately matched to each other complying with all applicable regulations, quality and dimensions standards. Defective work is not acceptable.

AW-1.2 Submission of Samples

At least one (1) month before the start of any installation or application of materials, the Supplier shall submit samples of materials for all sections for evaluation and approval. No work shall be done until after samples are approved by the NPC Representative in writing. All work must strictly conform to approved samples as to quality, texture, color, and finish.

Failure of the Supplier to comply with the preceding stipulation shall not entitle them of any extension of time nor any claim whatsoever for any delay in the work after rectification due to disapproval of work.

To avoid unnecessary delay, it is suggested that the orders and/or purchase of imported or local materials shall be made within a sufficient period in order that adequate supply is available at any time when needed.

AW-1.3 Substitution of Materials

The Supplier shall submit a written request for substitution of materials in lieu of those specified when deemed very necessary and urgent. Such a request shall indicate the reasons for substitution. No substitute material shall be used without written authorization from the NPC Representative.

The Supplier shall submit a written request for substitution at least one (1) month before such materials are actually needed. Such a request shall be accompanied by samples to be substituted and corresponding certification.

No price increase will be allowed for a better kind of material.

AW-1.4 Certification of Materials

The Supplier shall submit to the NPC Representative signed certificates from the manufacturer or sole distributor of equipment and materials to be furnished and installed by the Supplier/Contactor, certifying as to the kind, quality, rated capacity, quantity, performance and other descriptions of the equipment and materials delivered under a receipt number and date. No equipment or materials shall be erected, installed or applied such as electrical fixtures and accessories, concrete reinforcing steel, cement, G.I. and C.I. pipes, valves and fittings, plumbing and sanitary fixtures, building materials and finishes, paint and waterproofing, etc., without the required certificates.

AW-1.5 Other works which even if not specifically mentioned in the Section and Schedule of Requirements shall be included:

- The measurements for the execution and payment of the Works, including provisions of the measuring equipment and the engagement of labor
- Connecting up of water, gas, and electricity from the mains of the site indicated by the NPC Representative to the points of use
- Provision of small equipment and tools
- Safeguarding the Works against surface water, which shall normally be reckoned with, and its possible necessary removal
- Protecting the Works from heat, wind, and rain
- Protection and safety measures required
- Protecting the executed works and the items handed over the execution of same from damage and theft up to the time of acceptance
- Supplying of the operational materials
- Supplying of consumable stores
- Supplying of fitting dowels
- Supplying of simple type pipe covering, e.g., in the shape of pipe sheathings with corrugated cardboard and the like
- Supplying and fitting pipe fastening elements, e.g., pipe clips, hangers, etc.
- installing and dismantling as well as providing all framework and scaffolds
- Making blackouts on concrete
- Chemical preservation of timber
- Instructing the operating and maintenance personnel

NOTE: The above provisions are general for all types of buildings. The Supplier shall be guided accordingly by the applicable provisions in the specifications and what is shown in the drawings for each type.

AW-1.6 Measurement and Payment

Measurement for payment for different items in **Architectural Works** will be based on the areas, lengths, volumes, and quantity placed and accepted by the NPC Representative.

Unless otherwise specified, no separate measurement and payment will be made for each architectural item. Payment will be made at the corresponding pertinent pay items under Architectural Works in the Schedule of Requirements.

Payment shall constitute full compensation for all labor, materials, equipment, tools, and incidentals necessary for the completion of each work.

AW-2.0 PREFABRICATED CONTAINER HOUSE

AW-2.1 General

The specification covers the features and technical requirements for the supply, delivery and erection/installation of eight (8) units, 20ft. Prefabricated Container House. Other parts and accessories which are not specifically mentioned herein but are necessary for the proper assembly and erection of the staff house shall be included to be furnished.

All materials to be used and incorporated into the staff house shall be new and unused. They shall be suitable for the intended purpose and shall comply with all applicable regulations, quality, and standards.

The Supplier shall accept full responsibility for his work including design, performance qualifications, specifications, documentation, reports, fabrication, assembly, corrosion protection, shop testing, preparation for shipment, field testing, warranty provisions and compliance with the applicable codes and standards and the requirements of this Specification.

AW-2.2 Work Scope

The works and services to be performed by the successful bidder shall cover the supply, delivery, and complete erection/installation of eight (8) units, 20ft. Prefabricated Container House which shall essentially consist of but not limited to the following:

1. Moving-in including furnishing, installation, construction, operation and maintenance of general construction facilities.
2. Clearing and grading of the project site and disposal of all excess materials to designated areas.
3. Construction of reinforced concrete foundation including all required structural excavation, backfill and proper disposal of all excess excavated materials as per detailed drawings.
4. Supply and installation of eight (8) units twenty (20) feet Prefabricated Container House with the following specifications and fixtures:

A. Palawan Operations Division (PR NO. S1-PWN22-018)

Occupancy		2 units of Prefabricated Container House for Office Area
Dimensions		6.0 meters length by 3.0 meters width by 2.7m height
Container Frame		Galvanized with painting
Wall Panels		50mm Polystyrene insulation with double-sided 0.45mm pre-painted GI sheet
Roof Panels		50mm Glasswool insulation with pre-painted GI sheet roof and interior ceiling
Flooring		MGO board with linoleum tiles
Windows (8 sets - 1.0mx 1.0m)		Aluminum sliding windows
Door (2 sets - 0.80m x 2.1m)		Steel Door
Toilet & Bath (Office Areas) (2 sets – 1.20m x 1.20m)		Complete with fixtures & fittings, including ceramic floor and wall tiles, 0.60m x 2.1m PVC door, 0.50m x 0.50m aluminum awning window and plumbing

B. Nangalao DPP (PR NO. S1-NGL22-001)

Occupancy		2 units of Prefabricated Container House for Staffhouse and Office with Stockroom
Dimensions		6.0 meters length by 3.0 meters width by 2.7m height
Container Frame		Galvanized with painting
Wall Panels		50mm Polystyrene insulation with double-sided 0.45mm pre-painted GI sheet
Roof Panels		50mm Glasswool insulation with pre-painted GI sheet roof and interior ceiling
Flooring		MGO board with linoleum tiles
Windows (7 sets - 1.0mx 1.0m)		Aluminum sliding windows
Door (3 sets - 0.80m x 2.1m)		Steel Door
Toilet & Bath (Office Area) (1 set – 1.20m x 1.20m)		Complete with fixtures & fittings, including ceramic floor and wall tiles, 0.60m x 2.1m PVC door, 0.50m x 0.50m aluminum awning window and plumbing

C. Bisucay DPP (PR NO. S1-BDP22-001)

Occupancy		2 units of Prefabricated Container House for Office and Staffhouse
Dimensions		6.0 meters length by 3.0 meters width by 2.7m height
Container Frame		Galvanized with painting
Wall Panels		50mm Polystyrene insulation with double-sided 0.45mm pre-painted GI sheet
Roof Panels		50mm Glasswool insulation with pre-painted GI sheet roof and interior ceiling
Flooring		MGO board with linoleum tiles
Windows (8 sets - 1.0mx 1.0m)		Aluminum sliding windows
Door (2 sets - 0.80m x 2.1m)		Steel Door
Toilet & Bath (Office and Staffhouse) (2 sets – 1.20m x 1.20m)		Complete with fixtures & fittings, including ceramic floor and wall tiles, 0.60m x 2.1m PVC door, 0.50m x 0.50m aluminum awning window and plumbing

D. Bancalaan DPP (PR NO. S1-BAC22-007)

Occupancy		1 unit of Prefabricated Container House for Staffhouse
Dimensions		6.0 meters length by 3.0 meters width by 2.7m height
Container Frame		Galvanized with painting
Wall Panels		50mm Polystyrene insulation with double-sided 0.45mm pre-painted GI sheet
Roof Panels		50mm Glasswool insulation with pre-painted GI sheet roof and interior ceiling
Flooring		MGO board with linoleum tiles
Windows (4 sets - 1.0mx 1.0m)		Aluminum sliding windows
Door (1 set - 0.80m x 2.1m)		Steel Door
Toilet & Bath (Staffhouse) (1 set – 1.20m x 1.20m)		Complete with fixtures & fittings, including ceramic floor and wall tiles, 0.60m x 2.1m PVC door, 0.50m x 0.50m aluminum awning window and plumbing

E. Casian DPP (PR NO. S1-CSN22-001)

Occupancy		1 unit of Prefabricated Container House for Staffhouse
Dimensions		6.0 meters length by 3.0 meters width by 2.7m height
Container Frame		Galvanized with painting
Wall Panels		50mm Polystyrene insulation with double-sided 0.45mm pre-painted GI sheet
Roof Panels		50mm Glasswool insulation with pre-painted GI sheet roof and interior ceiling
Flooring		MGO board with linoleum tiles
Windows (4 sets - 1.0mx 1.0m)		Aluminum sliding windows
Door (1 set - 0.80m x 2.1m)		Steel Door
Toilet & Bath (Staffhouse) (1 set – 1.20m x 1.20m)		Complete with fixtures & fittings, including ceramic floor and wall tiles, 0.60m x 2.1m PVC door, 0.50m x 0.50m aluminum awning window and plumbing

5. Application of touch up paint for scratch during installation.
6. Removal/clearing of all debris and waste/excess materials prior to demobilization.

AW-2.3 Design Criteria for Prefabricated Container House

The prefabricated container house shall be designed for the erection on the concrete foundation. All materials under these specifications shall be designed, constructed and erected in accordance with the requirement of the specification and codes of AISC, ASTM and other such regular published and accepted codes except were modified or supplemented by these specifications.

Wind load

The wind load shall be based on the latest edition of NSCP.

AW-2.4 Measurement and Payment

Measurement and payment for prefabricated container house will be based on the corresponding contract unit price (set) under the architectural work's Schedule of Requirements.

Payment shall be made at the contract unit price, which payment shall cover costs of furnishing all materials and labor including equipment and tools required to complete the work and all associated costs for site grading, foundation/ slab construction including transport to site.

AW-3.0 PLUMBING FIXTURES AND FITTINGS

AW-3.1 General

The work covered by this section of the Specifications consists in furnishing all plant, labor, equipment and tools, articles, appliances and materials and in performing all operations in connections with the installation of all plumbing fixtures, fittings and accessories, complete, in strict accord with this section of the Specifications or indicated on the drawings, are included in this work.

AW-3.2 Make

The model numbers herein given intended to illustrate the quality and design of fixtures that will be required. American standard fixtures specified herein and any substitution made to any item of fixtures specified must first be approved by the NPC Representative.

AW-3.3 Trade Marks

All plumbing fixtures and fittings must bear the trademarks of the manufacturer.

Maintenance Manual shall be submitted including complete instructions for replacing valve washers and strainers and give manufacturer's recommendations as to cleaning finish fixture surfaces.

Submit samples of valves, faucets, trims, and others for approval of the NPC Representative.

AW-3.4 Fixtures

Water Closet – as shown in the drawings or as specified in the Schedule of Requirements

a) Bibbs - Nickel Plated Copper or Brass Alloy
b) Floor Drain - Stainless or Brass Alloy
c) Clean-outs - Brass alloy

AW-3.5 Installation

Plumbing fixtures shall be installed free and open in a manner to afford access for cleaning. All brackets, cleat, plates, and anchors required to support the fixtures shall be furnished in a rigid manner. Water closets shall be sat on Boll-Wax.

Installed plumbing fixtures shall be kept clean and in working order for adequate protection so as not be used by anybody until issuance of Certificate of Completion.

All fixtures shall be provided with individual control stop so that each fixture may be separately controlled without affecting any other fixture.

All flush valves shall be equipped with vacuum breaking devices.

AW-3.6 Toilet Accessories

a) Soap Holders – colored, vitreous China to match fixtures quality, brand and wainscoting color.

b) Tissue Paper Holder - colored, to follow Water Closet brand and quality. Provide and fit, ready for use, on the most convenient side of the wall inside each water closet compartment, 750mm (30") above the finish floor.

c) Liquid Soap Dispenser

AW-3.7 Measurement and Payment

Measurement and payment for **Plumbing Fixtures** will be based on the number of sets/pieces installed and accepted by the NPC Representative.

Unless otherwise specified, no separate measurement and payment will be made for plumbing fixtures. Payment will be made at the corresponding pertinent pay items under Architectural Works in the Schedule of Requirements.

Payment shall constitute full compensation for all labor, materials, equipment, tools, and incidentals necessary for the completion of this work.

SECTION VI

TECHNICAL SPECIFICATIONS FOR CIVIL WORKS

PART I - TECHNICAL SPECIFICATIONS

CW – CIVIL WORKS

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SECTION VI – TECHNICAL SPECIFICATIONS

CW – CIVIL WORKS

CW-1.0 GENERAL CONSTRUCTION FACILITIES

CW-1.1 Scope

This section covers the construction and/or maintenance of access roads, the drainage system and other appurtenant structures, moving-in of the Supplier's construction equipment, setting up of the Supplier's camp and the disposition of the Supplier's various facilities at the end of the Contract.

CW-1.2 Moving-in Supplier's Camp Facilities

The Supplier shall bring to the site all his necessary construction equipment and plant and install all stationary construction equipment and plant at the location and in the manner approved by the NPC. The Supplier shall submit sufficient detailed plans showing the proposed location of such stationary equipment and plant and other pertinent data. No installation of such stationary equipment shall be undertaken unless the corresponding plans have been approved by the NPC.

CW-1.3 Supplier's Camp Facilities

The Supplier shall provide and grade his campsite, construct his camp, employee housing, warehouse, machine and repair shops, fuel storage tanks and provide such related facilities and sanitary conveniences that the Supplier deems necessary for maintaining health, peace, and order in the camp and work areas. The areas that may be used by the Supplier within the plant site shall be designated by the NPC.

The Supplier shall provide, maintain and operate, under competent direction, such as camps and facilities as are necessary for the housing, feeding, and accommodation of his employees.

CW-1.4 Water Supply

The Supplier shall, at his own expense, be responsible for the supply, installation, operation, and maintenance of a safe and adequate supply of drinking and domestic water. Whenever there is a possibility of contamination of the water supply for drinking and domestic purposes, chlorination or some other approved methods of sterilization shall be carried out. The installation and maintenance of these services shall be subject to the approval of the NPC.

CW-1.5 Sewerage Disposal and Sanitation

The Supplier shall, at his own expense, be responsible for the installation operation and maintenance of adequate sewerage disposal and sanitation system and shall provide adequate toilet and wash-up facilities for his employees at his camp and in the areas where work is being carried out.

The Supplier shall execute the work with due regard to adequate sanitary provisions and applicable codes and shall take all necessary steps to prevent the pollution of water in any spring, river, or other sources of water supply. All toilets or wash-up facilities shall be subject to the prior and continuing approval of the NPC.

CW-1.6 Fire Protection

The Supplier shall observe all necessary precautions against fire, shall provide and maintain at his own expense, portable fire-fighting equipment he may deem necessary, and shall comply with all applicable laws of the Philippines relating thereto.

In the event of an uncontrollable fire occurring in the area of the Supplier's operation, the Supplier shall have to extinguish the fire immediately at his own expense, to the full extent of the manpower and equipment employed under the contract at the time of the fire.

The Supplier shall indemnify NPC against all liabilities, claims, damages and/or lawsuits arising thereto.

CW-1.7 Construction Power

The Supplier shall be responsible for providing his own electric power supply required for construction and erection/installation. If power is available from NPC and should the Supplier elect to utilize the NPC's power supply, he shall make an arrangement with NPC concerned group as to the billing rates and other requirements needed for direct connection to NPC.

CW-1.8 Camp Security

The Supplier shall provide his own security force to the extent that he deems necessary for maintaining peace and order in the camp and work areas and to safeguard materials and equipment. Nothing under the provisions of this paragraph shall relieve the Supplier from full responsibility for the maintenance of peace and order and protection of life and property in all areas where he operates.

CW-1.9 Construction Material Storage

The Supplier is required to put up a warehouse(s) with capacities sufficient to store the construction materials required in the work. The warehouse(s) shall be specifically for this contract, notwithstanding his other facilities in the site that may serve the purpose.

CW-1.10 Removal of Camp and Construction Facilities

After the completion of the work covered by the contract and prior to acceptance of the completed work, the entire camp facilities of the Supplier, including its water supply system, electric distribution system, quarters, warehouses, shops, dining halls, commissaries, temporary shed and other facilities therein shall be removed by the Supplier. The site shall be cleared and cleaned as directed by the NPC.

CW-1.11 Measurement and Payment

No separate measurement and payment will be made for the Supplier's Construction Facilities. The entire cost thereof shall be included in the various pay items in the Schedule of Requirements.

CW-2.0 CARE OF WATER DURING CONSTRUCTION

CW-2.1 Scope

In accordance with the specifications contained in this section or otherwise directed, the Supplier shall construct and maintain all necessary temporary drainage ditches and other temporary protective works and he shall also furnish, install, maintain and operate necessary pumping equipment and other devices to protect construction operations free from water coming from any source, including rain.

CW-2.2 Drainage and Dewatering

The Supplier shall be responsible for dewatering foundation areas so that work can be carried out on a suitably dry condition. The Supplier shall construct drainage ditches, holes, culverts, furnish, maintain and operate at his own expense all necessary pumps and other dewatering devices to keep all work areas free from water.

After the work is completed and before it is accepted by the NPC, the Supplier shall remove all pumping equipment and shall remove, fill or plug all temporary drainage structures as directed, all at his expense.

CW-2.3 Measurement and Payment

No separate measurement and payment will be made for the Care of Water During Construction operations. The cost of furnishing, constructing, maintaining, operating and removing temporary drainage structures, pumping system and other dewatering devices necessary to keep construction operations free from water, shall be included in the various pay items in the Schedule of Requirements for structures where such care of water is required.

CW-3.0 ENVIRONMENTAL REQUIREMENTS FOR CIVIL WORKS

CW-3.1 Scope

This section pertains to the environmental and safety provisions, requirements and conditions that shall govern during the execution of all civil works under this project.

CW-3.2 General Conditions

The Supplier shall ensure compliance with the applicable environmental and safety regulations, as well as ECC conditions, during installation/construction of this project through the implementation of measures that include, but not limited to, the following:

a) Designate a Safety Officer and a Pollution Control Officer who shall respectively handle all safety and environmental concerns of the project.

b) Prepare and submit the Construction Safety and Health Plan (CSHP).

c) Properly manage debris and various waste generated during installation/construction, such as the following:

- Dispose of demolition and construction debris in a designated or NPC approved disposal area(s);
- Stockpile (and cover if possible) or haul to the designated and/or pre-developed dump sites (spoil disposal areas) that shall be provided with suitable drainage – equipped with sediment traps, striped topsoil, spoils from quarry/borrow sites and excavated materials;
- Segregate solid wastes, such as empty cement sacks, scraps of tin or wood, used wires and other domestic garbage, for recycling or storage in NPC-approved temporary storage areas and further disposal to LGU-designated disposal sites.
- Properly handle, store and dispose of, through DENR-accredited transporter/treater, hazardous wastes i.e. used oils, paints, thinner, etc.

d) Limit construction activities that generate excessive noise to daytime works only to prevent nuisance to nearby residents during rest hours.

e) As far as practicable, undertake site stripping, grading, and excavations during dry weather.

f) Construction/Installation shall be carried out in a manner where landslides and erosions are minimized.

g) Avoid unnecessary opening/clearing of areas outside construction sites or destruction of vegetative cover, especially cutting of existing trees; and to re-vegetate disturbed areas.

h) Implement biological control measures such as maintenance of vegetation buffers (i.e. sodding of grass, planting of creeping vines, herbs, shrubs and trees) to shield streams/rivers from sedimentation; planting of vegetative cover over erodible surfaces; and planting of exposed sloping areas with shallow-rooted species like grasses, herbs or creepers.

i) Locate fill slopes and spoil heaps away from drainage routes and properly remove/dispose of the same as soon as practicable.

j) Preserve or replace, if practicable, natural drainage patterns (when disturbed by civil works) with appropriate drainage channels.

k) Convey oil-contaminated wastewater from workshops, garages, or gas filling stations through an oil trap (i.e. improvised oil-water separator) prior to discharge.

l) Spray water, wherever and whenever necessary, to minimize dust generation.

m) Provide PPEs and other safety provisions required by DOLE, for its project/site works.

n) Take all necessary steps to prevent the pollution of groundwater and/or water bodies in the vicinity of the project site.

CW-3.3 Measurement and Payment

No separate measurement and payment will be made for the Supplier's compliance with the foregoing. The entire cost thereof shall be included in the various pay items in the Schedule of Requirements.

CW-4.0 SITE GRADING

CW-4.1 Scope

In accordance with the specifications contained herein and in conformance with the lines, slopes, grades, and extent shown on the plans or otherwise directed by the NPC, the Supplier shall furnish all equipment, labor, and materials and shall perform the required grading work.

CW-4.2 Clearing, Grubbing, and Miscellaneous Work

CW-4.2.1 Clearing and Grubbing

The Supplier shall perform clearing and grubbing on the project site. The site shall be cleared and grubbed of all trees and brush except particular trees, which may be retained by the NPC for preservation. Particular trees to be left in place shall be protected from scarring and/or other injuries during clearing and grubbing work and other construction operations.

All stumps, roots, and brush shall be removed to a depth of thirty (30) cm below the original ground surface and disposed of in a place designated by the NPC. Downed timber, which may be ordered saved by the NPC for future use, shall be cut into logs as directed and neatly piled in a place designated by the NPC, otherwise they shall be disposed of same as above.

CW-4.2.2 Miscellaneous Work

Where shown on the drawings or if not shown but directed by the NPC, the Supplier shall perform miscellaneous work like demolition, removal, chipping, replacement or transfer of existing structures and other miscellaneous work. All demolished structures shall be disposed of as directed by NPC.

CW-4.3 Grading

CW-4.3.1 General

The word "grading" as defined herein means bringing to required grades all areas in accordance with the lines, slopes, elevations and grades shown on the drawings or as directed by the NPC.

CW-4.3.2 Classification of Materials

All materials in grading work shall be unclassified regardless of the nature of materials encountered during grading excavation and of materials used in grading fill. It is on the basis of unclassified material that the Supplier shall determine his unit bid price for grading excavation and grading fill.

CW-4.3.3 Stripping

Fill areas to be brought to grade shall first be stripped of their topsoil as directed but in no case less than twenty (20) centimeters in-depth and disposed of properly in spoil areas designated by the NPC. Only materials from grading excavation and intended to be used for filling or backfilling purposes shall be stripped of topsoil in the same manner as above.

CW-4.3.4 Excavation and Fill

Areas required to be brought to grade shall be excavated or filled as the case may be. Grading work shall be carried out in such a manner that the free drainage is maintained at all times and nowhere shall bondage be found in any part of the work.

The NPC may require the modification of slopes and grades according to the conditions actually encountered during excavation, but such change or modification shall not be construed to mean by the Supplier as a basis for additional compensation over and above the contract unit prices.

Any over-excavation performed by the Supplier for any purpose or reason, except as may be ordered by the NPC, shall be at the Supplier's expense and any excess of excavation shall be refilled, where required, with approved materials that shall be furnished, place and properly compacted at the expense of the Supplier.

Unsuitable materials, as determined by the NPC, which may be encountered below established grade, shall be removed to a depth as directed and accordingly replaced with suitable materials approved by the NPC. The removal and proper disposal of such unsuitable materials shall be paid for at the contract unit price for the item, Grading Excavation, and payment for placing and compacting suitable material be made at the contract unit price for the item, Grading Fill, in the Schedule of Requirements.

Fill work shall not be started until the area has been inspected and approved by the NPC after stripping. Grading fill shall be spread and compacted in layers of 15 cm. loose volume and compacted with approved roller weighing not less than 10 tons. Each layer shall be moistened or dried as directed for maximum compaction. No succeeding layer shall be placed thereon unless the preceding layer has been tested for compaction and approved by the NPC.
In the event that construction of concrete footing or other concrete foundations is on fill, the fill shall be compacted efficiently and thoroughly so that when they fill is tested for compaction at the required foundation elevation for the structure, the required bearing capacity is attained but in no case less than 144 KPa. In no case shall filling and compaction work to be done without the presence of NPC's inspectors. The Supplier shall be held liable for any structural instability or damage that might result in consequence to non-compliance with this requirement. The Supplier shall institute corrective measures to bring the foundation base to a condition or state that will conform to the required bearing capacity; and also to repair and make good any damage on the structure to the satisfaction and at no cost to NPC.

CW-4.3.5 Slides

In the event that slides occur along excavated slopes during grading operations or after completion of grading but prior to acceptance of the work, the Supplier shall remove and dispose the slide materials and also to trim the slopes as directed to leave the slopes in a safe and neat condition all at no additional cost to NPC, unless occurrence of such slides is occasioned by causes beyond control of the Supplier. In such event, payment for the satisfactory removal and proper disposal of slide material and finishing and rounding of slopes will be paid for at the equivalent of thirty percent (30%) of the contract unit price per cubic meter for the item Grading Excavation.

CW-4.3.6 Slip-outs

In the event of slip-outs in any part of the grading fill prior to final acceptance of the work, the Supplier shall rebuild such a portion of the fill. In the case it is determined that the slip-outs was caused through the fault of the Supplier, the rebuilding of the fill shall be performed by the Supplier at no extra cost to NPC; otherwise, the reconstruction of the fill will be paid for thirty percent (30%) of the contract unit for the item, Grading Fill.

CW-4.4 Disposal

All excess materials from grading work (including excess materials in structural excavation and miscellaneous work) shall be disposed of by the Supplier. The acquisition of the right-of-way for the area of disposal including the access thereto, permits, and other requirements, shall be the responsibility of the Supplier at no cost to NPC. The Supplier shall be held solely liable for any claim by third parties that may arise from improper transport and disposal of excess materials. The cost of acquisition of the above-mentioned right-of-way shall be included in the unit bid price for excavation.

CW-4.5 Sources of Fill Materials

When suitable materials from grading excavation are deficient to meet the quantity required for grading fill, additional fill materials shall be obtained from other sources proposed by the Supplier and approved by the NPC. Cost of excavating, hauling, placing and compacting additional materials from borrow sources shall be included in the unit price bid for the item, Grading Fill. The acquisition of right-of-way to these sources shall be the responsibility and account of the Supplier.

CW-4.6 Environmental Requirements

All construction activities to be performed by the Supplier shall be in accordance with the restrictions stated in the approved Environmental Clearance Certificate (ECC) and the conditions set forth in Clause 3.0 – Environmental Requirements for Civil Works.

CW-4.7 Measurement and Payment

CW-4.7.1 Clearing and Grubbing

Unless otherwise specified in the Schedule of Requirements, no separate measurement and payment will be made for Clearing and Grubbing. Corresponding cost hereof shall be included in the unit bid price of the relevant item(s) in the Schedule of Requirements.

CW-4.7.2 Miscellaneous Works

Measurement for payment for miscellaneous work such as demolition, restoration, etc., shall be made on a lot basis unless otherwise specified in the Schedule of Requirements. Payment will be made at the contract unit price for the item under Miscellaneous Works, which payment shall cover all costs for furnishing labor, equipment, and incidentals necessary for demolition and restoration, disposal, and other related works required to complete the item.

CW-4.7.3 Stripping

Unless otherwise specified in the Schedule of Requirements, no separate measurement and payment will be made for Stripping. Corresponding cost hereof shall be included in the unit bid price of the relevant item(s) in the Schedule of Requirements.

CW-4.7.4 Grading Excavation

Measurement for payment for Grading Excavation shall be based on the number of cubic meters excavated and properly disposed of. Volume shall be computed by the average end area method which shall be the volume between the original ground (as determined by a survey to be made by representatives of both NPC and the Supplier) and graded surface on the drawings or as established by NPC. To this volume shall be added, for purpose of payment, all authorized excavations below grade.

Payment will be made at the contract unit price for the item Grading Excavation in the Schedule of Requirements, which payment shall constitute full compensation for furnishing of all labor, construction equipment, and incidentals necessary excavate, dispose and other related work required to complete the work item.

CW-4.7.5 Grading Fill

Measurement for payment for Grading Fill shall be based on the number of cubic meters of the materials placed, graded, compacted and accepted. Volume shall be computed by the average end area method which shall be the volume between the ground surface after stripping and the finished grade surfaces on the drawings or as established by NPC.

Payment will be made at the contract unit price for the item Grading Fill in the Schedule of Requirements, which payment shall constitute full compensation for furnishing of all materials, labor, construction equipment and incidentals necessary to complete the work item.

CW-5.0 STRUCTURAL EXCAVATION, FILL, AND BACKFILL

CW-5.1 Scope

In accordance with the specifications contained herein and as shown on the drawings and otherwise directed, the Supplier shall perform all the required structural excavation, fill and backfill for the entire project, including the proper disposal of excess excavated materials.

CW-5.2 Materials

CW-5.2.1 Structural Excavation

No classification will be made on the materials excavated. The Supplier shall determine his unit bid price for structural excavation based on unclassified material regardless of the nature of the materials actually encountered and excavated.

CW-5.2.2 Structural Fill

a. Sand and Gravel Fill

The material shall be of the same classification as the sand and gravel base consisting of river sand and gravel as approved by the NPC. The composite material shall be free from vegetable matter and lumps or balls of clay, and shall be uniformly graded from coarse to fine in accordance with the grading requirements shown below:

Sieve Designation (Square Mesh Sieves)	Percentage by Weight Passing
50.0 mm (2")	100
25.4 mm (1")	55-85
9.5 mm (3/8")	35-60
4.76 mm (No. 4)	25-50
2.08 mm (No. 10)	20-40
0.42 mm (No. 40)	8-20
0.074 mm (No. 200)	2-8

b. Structural Earth Fill

Structural earth fill shall consist of filling with suitable materials obtained from grading excavation or from borrow areas approved by the NPC.

CW-5.2.3 Special Foundation, if any

The NPC shall have the option to use one or both of the following materials for special foundations, whether or not shown on the drawings:
a. Lean Concrete

The strength of lean concrete shall be 13.79MPa or as designated by the NPC.

b. Selected Materials

Selected materials shall consist of compactable material which, when compacted, shall attain the required bearing capacity. The material could be a combination of earth and rock particles not greater than 8 cm including sandy clay, gravelly clay, or shale, all approved by the NPC.

Bed materials for water pipes and/or drainage culverts shall use sand fills,

CW-5.2.4 Structural Backfill

Backfill for Structures Other Than Pipes – Material for backfill shall consist of compactable and approved material taken from grading and structural excavations. Any additional material needed shall be obtained from borrow areas proposed by the Supplier and approved by the NPC.

Backfill for Sewerage and Drainage Pipes – The layer of backfill materials immediately above, up to 60 cm. from the top of the pipe, and on the sides of the pipe shall consist of selected material consisting of clay soil and/or other fine materials that are free from stone particles, roots, debris. The upper layer shall consist of compactable materials taken from pipe trench and other structural excavation.

Backfill for Water Supply Pipes – Backfill for water supply pipes shall consist of compactable materials taken from trench excavation and approved by the NPC.

CW-5.3 Construction

CW-5.3.1 Excavation

a. General

The Supplier shall notify the NPC sufficiently in advance before the beginning of any excavation so that a joint survey for baseline data and cross-sectional measurements can be undertaken on the undisturbed/natural ground surface. All excavation shall be carried out according to the lines, slopes, and grades are shown on the drawings. In case an increase or decrease in quantities occurs as a result of changes made by the NPC to such lines, slopes, and grades, the provisions on Variation Orders under the General Conditions of Contract (GCC) shall apply.

After each excavation is completed or where replacement of unsuitable material below required foundation grade has been undertaken, the Supplier shall notify the NPC so that proper inspection and confirmatory test on the bearing capacity of the foundation material can be made. In no case, that concrete, sewer, drainage or water supply pipe can be placed unless written approval has been issued by the NPC.

Over-excavation performed by the Supplier due to his carelessness shall be filled and properly compacted with the suitable material approved by NPC, at no additional cost to NPC.

b. Structural Excavation, Structure Other Than Pipes

The Supplier shall excavate the foundations to the specified side slopes and depths shown on the drawings, after which the NPC will conduct tests on the underlying material below foundation grade to determine the actual bearing capacity at such depth. If the required bearing capacity is not attained, the NPC shall instruct the Supplier to excavate further down until, in the opinion of the NPC, the bearing capacity is adequate to sustain the applied load on the foundation.

Compliance with such instruction shall not entitle the Supplier for additional compensation over and above the unit prices for excavation regardless of the nature of material excavated. For purposes of measurement, the applicable pay lines for the excavation under this condition or situation shall be as shown on the drawings that show the pay lines for excavation and special foundation materials.

c. Drainage and Sewerage Pipes and Cable Trench

The width of trench excavation for drainage and sewerage pipes and cable trench shall be as indicated on the drawings. All trench bottoms shall be excavated to the foundation grade indicated, regardless of the foundation material classification.

d. Water Supply Pipes

Trenches for main or feeder lines shall be excavated to the depth of no less than 0.25 meter on open ground and 0.60 meter under roadways and parking areas, both depths measured from the finished grade surface.

Service pipes shall be buried to a depth of at least 0.15 meter below grade line.

CW-5.3.2 Structural Foundation Fill

No fill materials shall be placed in any part of the fill foundation unless the foundations have been inspected and approved by the NPC. Fill materials shall be placed and spread in layer covering the entire length and breadth of the section under construction, each layer not to exceed 15 cm. in loose volume thickness and compacted thoroughly to the desired compaction as determined by the NPC. No succeeding layer shall be placed until the previous layer has been tested and approved, as to compaction, by the NPC.

CW-5.3.3 Special Foundations

If unsuitable material is encountered or if the foundation material is unsuitable such that the required bearing capacity of the foundation cannot be attained at the required elevation, further excavation shall be performed by the Supplier as stated in CW-5.3.1b.

Excavated materials below foundation grade shall be replaced at the direction of the NPC, either by lean concrete or by selected materials as mentioned in CW-5.2.3.

Selected materials shall be placed in 15-cm layers and compacted until the required bearing capacity is attained.

CW-5.3.4 Backfill

1. Structures, Other Than Pipes

Excavated areas around structures for backfilling shall be backfilled with approved materials in horizontal layers, each not exceeding 15cm. (6") in loose volume thickness. Each layer shall either be moistened or dried as directed and thoroughly tamped with tampers having no less than 160 $cm^2$of tamping area and weighing not less than 20 kg. The last layer shall be neatly brought up to the level of the adjoining finished grade surface.

In no case shall backfill be placed around concrete structures until after fourteen (14) days from placement of the concrete.

2. Drainage and Sewerage Pipes

After the pipes have been installed and grouted joints sufficiently cured, but in no case less than seven (7) days allowed for curing as specified in NSCP and the whole pipeline inspected, backfill materials specified herein shall be placed in layers as directed, each layer either dried or moistened as directed and thoroughly tamped. The backfill shall be brought up evenly on both sides of the pipe up to the top of the pipe and finally up to the finished grade surface.

3. Water Supply Pipes

After the pipeline has been installed and tested it shall be backfilled in layers as directed and compacted to the satisfaction of the NPC.

CW-5.4 Measurement and Payment

CW-5.4.1 Structural Excavation

Measurement for payment for structural excavation performed by the Supplier for structures (except drainage, sewerage and water supply pipes, and appurtenances of which cost of excavation and backfill is included in the cost of installed pipe and constructed appurtenances) will be based on the number of cubic meters of materials excavated.

For purpose of payment, all authorized excavation below foundation grade (like in the case of unsuitable materials encountered) shall be included in the measurement.

Unless otherwise specified in the Schedule of Requirements, no separate measurement and payment will be made for structural excavation. Payment will be made at the corresponding pertinent pay items with Structural Excavation in the Schedule of Requirements, which payment shall constitute full compensation for furnishing all labor and equipment necessary for excavation work and proper disposal of excess material excavated.

CW-5.4.2 Structural Foundation Fill

Measurement for payment for Structural Foundation Fill will be based on the number of cubic meters of fill materials placed within the neat lines as shown on the drawings.

Unless otherwise specified in the Schedule of Requirements, no separate measurement and payment will be made for structural foundation fill. Payment will be made at the corresponding pertinent pay items with Sand and Gravel Fill/Base shown in the Schedule of Requirements, which payment shall constitute full compensation for furnishing, placing and compacting fill materials; labor which include spreading, compacting, etc., equipment and other incidentals necessary to complete the item.

CW-5.4.3 Special Foundations

Measurement for payment for lean concrete and/or selected materials placed within the pay lines for excavation will be based on the number of cubic meters in-place and accepted.

Unless otherwise specified in the Schedule of Requirements, no separate measurement and payment will be made for special foundations. Payment will be made at the various pertinent pay items shown in the Schedule of Requirements, which payment shall cover all costs for furnishing all labor, materials, equipment and tools necessary to complete the item.

CW-5.4.4 Structural Backfill

Measurement for payment for Structural Backfill (except backfill for drainage and sewerage pipes, appurtenances and other structures of which cost of backfill is included in the cost of installed pipes and appurtenances) will be based on the number of cubic meters of approved materials, backfilled, satisfactorily compacted and accepted. Any backfill material placed outside the pay lines for excavation to replace slides or over-excavation will not be paid.

Unless otherwise specified in the Schedule of Requirements, no separate measurement and payment will be made for structural backfill. Payment will be made at the corresponding pertinent pay items with Structural Backfill, in the Schedule of Requirements, which payment shall constitute full compensation for furnishing all labor, materials and equipment necessary for backfilling work.

CW-5.4.5 Trench Excavation and Backfill for Sewerage, Drainage and Water Supply Pipes and Cable Trench

No separate measurement and payment will be made for trench excavation and backfill for all sewerage, drainage and water supply pipes. Payment for trench excavation and backfill for pipes shall be included in the payment pertaining to pipes as shown in the Schedule of Requirements.

CW-6.0 CONCRETE

CW-6.1 Scope

In accordance with the specifications contained in this section, the Supplier shall furnish all materials, labor, equipment and tools and perform all concreting works in accordance with the drawings, or as otherwise directed.

CW-6.2 Class of Concrete

Class of concrete or strength shall be as indicated on the drawings, which shall conform to the minimum requirement for compressive strength indicated on the provision of NSCP for Concrete and, in no case, shall not be less than 20.7 MPa.

CW-6.3 Materials

CW-6.3.1 Cement

Cement for concrete works shall be furnished by the Supplier and shall conform to the requirements of the latest edition of the Standard Specifications for Portland Cement (ASTMC150).

Unless otherwise specified, cement shall be ordinary Portland Cement. Type I or Type 1P for general construction which concrete is not in contact with soils or ground water and Type II for concrete in contact with soil or ground water.

Changing of brand or type of cement within the same structure will not be permitted unless with prior permission and approval obtained from the NPC.

CW-6.3.2 Reinforcing Steel

The Supplier shall furnish all reinforcing steel of the sizes shown on the drawings and in accordance with the herein specifications for reinforcing steel.

CW-6.3.3 Water

Water for use in concrete shall be subject to the approval of the NPC. It shall not be salty and shall be reasonably clear and free from oil, acid, injurious alkali or vegetable matter.

CW-6.3.4 Aggregates

All coarse and fine aggregates shall consist of hard, tough, durable and clean, uncoated particles. All foreign materials and dust shall be removed by processing. Aggregates shall generally be rounded and reasonably free from thin, flat and elongated particles in all sizes and well graded from coarse to fine.

CW-6.4 Storage of Materials

CW-6.4.1 Cement and Aggregates

All cement shall be stored, immediately upon delivery at the Site, in weatherproof building that will protect the cement from dampness. The floor shall be adequately raised from the ground and in buildings placed in the locations approved by NPC. Provisions for storage shall be ample, and the shipments of cement as received shall be separately stored in such a manner that allows the earliest deliveries to be used first and to provide easy access for identification and inspection of each shipment. Storage buildings shall have capacity for storage of sufficient quantity of cement to allow sampling at least twelve (12) days before the cement is to be used. Bulk cement, if used, shall be transferred to elevated air tight and weatherproof bins. Stored cement shall meet the test requirements at any time after storage when NPC orders retest. At the time of use, all cement shall be free flowing and free of lumps.

Handling and storing of concrete aggregates shall be such that segregation or inclusion of foreign materials is sufficiently prevented. NPC may require that aggregates be stored on separate platforms at satisfactory locations.

In order to secure greater uniformity of concrete mix, NPC may require that the coarse aggregate be separated into two or more sizes. Different sizes of aggregates shall be stored in separate bins or in separate stockpiles and relatively away from each other to prevent the material at the edges of the piles from intermixing.

CW-6.4.2 Reinforcing Steel

Reinforcing steel shall be stored in accordance with the herein specifications for reinforcing steel.

CW-6.5 Concreting

CW-6.5.1 General

The written approval of the NPC shall be secured prior to any concreting work. All concrete shall be poured on dry and cleaned surfaces.

CW-6.5.2 Placing Reinforcement

Reinforcing steel and embedded items shall be properly and securely installed prior to the placing of concrete.

In no case shall concreting start without prior inspection and approval by the NPC of the placed reinforcement and other embedded items.

CW-6.5.3 Mixing Concrete

Mixing of concrete shall conform to the requirements of ACI Code for Concrete Construction.

CW-6.5.4 Placing Concrete

Concrete shall be conveyed from mixers to the forms or to the place of deposit as rapidly as possible and by methods that will prevent segregation or loss of ingredients. There shall be no vertical drop greater than 1.5 meters except where suitable equipment like metal pipe or tremie is used. The pipe or tremie shall be kept full of concrete and its end shall be kept buried in the newly placed concrete. Chutes through which concrete is delivered to the structure in a thin, continuously exposed flow will not be permitted except for very limited or isolated sections of the work.
Earth surfaces, upon which concrete shall be placed, shall be cleaned, dry and thoroughly compacted before placing the concrete.

Rock surface, upon which concrete shall be placed, shall be thoroughly cleaned of loose or semi-detached or unsound rock particles. Before placing concrete, all surfaces shall be wetted thoroughly to keep them in a completely moist condition, after which leveling mortar of the same cement ratio as the concrete mix complete contact between concrete and the leveled surface.

CW-6.5.5 Finishing Concrete

After the concrete has been deposited, distributed and vibrated, the concrete shall be struck off and screened by mechanical means approved by the NPC. The finishing machine shall be of the screening and troweling type designed and operated both to strike off and to consolidate. Hand finishing may be employed when suitable finishing machines are not available. Finishing of concrete shall be done, as directed, to the satisfaction of the NPC.

All finished surfaces shall be tested with 3 meters straight edge and any variation of the surface from the desired crown or cross section shall be properly corrected.

CW-6.5.6 Removal of Forms

Forms shall be removed as soon as practicable in order to avoid delay in curing and to make possible earliest practicable repair of surface imperfections, but in no case shall they be removed without approval. Any needed repair or treatment shall be performed at once and shall be followed immediately by the specified curing. Forms shall be removed with care so as to avoid injury to the concrete and any concrete so damaged shall be repaired as directed.

CW-6.5.7 Curing and Protection

Concrete shall be cured for a period of not less than fourteen (14) consecutive days by keeping the surfaces of concrete continuously (not periodically) wet. Where tongue and groove forms were used and left in place of curing, they shall be kept wet at all times prevent opening at the joints and drying out of the concrete.

CW-6.5.8 Sampling and Testing of Concrete

The Supplier shall furnish all materials, either separately or mixed, as required by NPC. Selection of materials and the making of test specimens shall be made under the supervision of NPC and delivered to NPC laboratory or any NPC-accredited testing agency at the Supplier's expense.

The expense of making and curing all concrete specimens including the materials comprising the concrete specimens shall be borne by the Supplier. The cost of shipping and testing the concrete shall likewise be at the expense of the Supplier.

No concreting work on the project will be permitted to be done until NPC signifies in writing that, following the performance of the necessary tests, he gives his approval to the use of all materials involve in making the concrete.

Test cylinders shall be prepared from the concrete samples and tested. At least one set of four (4) cylinder samples shall be made for each major structural member. Two (2) cylinders shall be tested at 28 days for specification compliance and one shall be tested at 7 and 14 days respectively for information. The acceptance test result shall be the average of the strength of the two cylinders tested at 28 days.

The compressive strength of the concrete shall be deemed acceptable if the averages of the three consecutive strength test results is equal to or exceeds the specified strength and no individual test falls below the specified strength by more than 3.50 MPa.

The compressive strength of the concrete shall be deemed acceptable if the averages of the three consecutive strength test results is equal to or exceeds the specified strength and no individual test falls below the specified strength by more than 3.50 MPa.

Concrete deemed to be not acceptable using the above criteria maybe rejected unless the Supplier can provide evidence, by means of core tests, that the quality of concrete represented by the failed test result is acceptable in place. Three (3) cores shall be taken in accordance with ASTM C42 and soaked for 24 hours prior to testing. Concrete in the area represented by the cores will be deemed acceptable if the average strength of the cores is equal to at least 85% of and no single core is less than 75% of the specified strength.

CW-6.5.9 Tolerances and Repair for Concrete Construction

Concrete structures shall be constructed to the lines shown on the drawings or where so required to suit actual field requirements. Any structure that does not conform to such lines shall be repaired or removed and made anew by the Supplier at no additional cost to the Corporation.

Repairs shall be made at surface imperfections due to faulty placing of concrete and cuts on the structures due to the removal of excess concrete on the lines shown on the drawings. Such repairs shall be made immediately after early stripping of the forms, after the imperfections have been identified and the methods of repair appropriately established.

CW-6.5.10 Second Stage Concrete

The second stage of concrete finishing shall be done only after the final installation of all pertinent equipment, anchorages, piping, conduits and other embedded items as may be required for all electromechanical works.

CW-6.6 Measurement and Payment

Measurement for payment for Concrete (except concrete which shall be measured for separate payment) will be based on the volume of concrete placed and accepted within the neat lines of the structure as shown on the drawings or in accordance with the manner of measurement set forth in the various sections of the Technical Provisions. No deduction will be made for rounded or beveled edges or space occupied by the metal items 10 sq. cm. or less in cross section, embedded in concrete.

Unless otherwise specified, no separate measurement and payment will be made for concrete. Payment will be made at the corresponding pertinent items in the Schedule of Requirements. Payment shall cover all costs for furnishing all labor, materials, including equipment and tools required for concreting work.

CW-7.0 REINFORCING STEEL

CW-7.1 Description

This work shall consist of furnishing, fabricating, and placing of steel reinforcement of the type, size, shape and grade required in accordance with these specifications and in conformity with the requirements shown on the Drawings or as directed by the NPC.

CW-7.2 Material Requirement

All material shall conform to the requirements hereinafter given. Certified test reports (mill test or other) shall be submitted to the NPC for all reinforcement steel used. These tests shall show the results of all chemical and physical tests made.

CW-7.2.1 Bar Reinforcement

Reinforcement bars for concrete shall be hot-rolled, weld able, deformed billet-steel bars conforming to the requirements specified in ASTM A615 and PNS 49 unless shown on the Drawings or as required by the NPC. The use of the cold twisted bars is not permitted. Bar reinforcement shall be shipped in standard bundles, tagged and marked in accordance with the Code of Standard Practice of the Concrete Reinforcement Steel Institute.

CW-7.2.2 Sampling

The NPC's Representative will sample reinforcement bars at the source of supply or at the point of distribution, and the Supplier shall notify the NPC in sufficient time in advance to permit sampling and testing before shipment is made. Three (3) samples from each size shall be taken at random representing five (5) tons or fraction thereof of each size.

CW-7.3 Construction Requirement

CW-7.3.1 Order List for Bent Bars

Before materials are ordered, the Supplier shall furnish all order lists and bending diagrams for the approval of the NPC. The approval of order lists and bending diagrams by the NPC shall in no way relieve the Supplier of responsibility for the correctness of such lists and such lists and diagrams. Any expenses incident to the revisions of materials furnished in accordance with such lists and diagrams to make them comply with the drawings shall be borne by the Supplier.

Shop Drawings for Reinforcing Steel (ACI 315): Indicate bending diagrams, assembly diagrams, splicing and laps of bars, shapes, dimensions and details of bar reinforcing, accessories and concrete cover. Do not scale dimensions from structural drawings to determine lengths of reinforcing steel.

CW-7.3.2 Fabrication

Bent bar reinforcement shall be cold bent as shown on the drawings or as required by the NPC. Bars shall be bent around circular pin having the following diameters (D) in relation to the diameter of the bar (d):

Bars 6mmΦ to 20mmΦ inclusive	D=6d
Bars 25mmΦ and 28mmΦ	D=8d
Bars 32mmΦ and greater	D=10d

Bends and hooks in stirrups and lateral ties may be bent to the diameter of the principal bar enclosed therein.

CW-7.3.3 Protection of Material

Steel reinforcement shall be protected at all times from injury. When placed in the work, it shall be free from dirt, detrimental scale, paint, oil or other foreign matter. However, when steel has on its surface easily removable and detrimental rust, loose scale or dust, it shall be cleaned by a satisfactory method, approved by the NPC.

Store reinforcement of the different sizes in racks raised above the ground with accurate identification. Protect reinforcing steel from contaminants such as grease, oil and dirt.

CW-7.3.4 Placing and Fastening Reinforcement & Miscellaneous Material (ACI-301)

All reinforcement bars, stirrups, hanger bars, wire fabric, spirals and other reinforcing materials shall be provided as indicated in the drawing or required by the specification, together with all necessary wire ties, chairs, screws, supports, and other devices necessary to install and secure the reinforcement properly. All reinforcement, when placed, shall be free from rust, scale, oil, grease, clay, and other coatings, and foreign substances that would reduce or destroy the bond. Rusting of reinforcement shall not reduce the effective cross sectional area of the reinforcement to the extent that the strength is reduced beyond specified values. Heavy, thick rust or loose, flaky rust shall be removed by rubbing with burlap or other approved method, prior to placing. Reinforcement that has bends not shown on the project drawings or on approved shop drawings, or is reduced in section by rusting such that its weight is not within permissible ASTM tolerances, shall not be used. All reinforcement shall be supported and wired together to prevent displacement by construction loads or by the placing of concrete. Unless directed otherwise by the NPC, reinforcement shall not be bent after being partially embedded in hardened concrete. Detailing of reinforcing shall conform to ACI 315. Where cover over reinforcing steel is not specified or indicated, it shall be in accordance with ACI 318.

All steel reinforcement shall be accurately placed in position shown on the drawings or as required by the NPC and firmly held there during the placing and setting of the concrete. Bars shall be tied at all intersections except where spacing is less than 30 mm in each direction, when alternate intersections shall be tied. Ties shall fasten on the inside.

Distance from the forms shall be maintained by means of stays, blocks, hangers or other approved supports. Blocks for holding reinforcement from contact with the forms shall be pre-cast mortar blocks of approved shape and dimensions or approved chairs. Layers of bars shall, be separated by pre-cast mortar blocks or by other equally suitable devices. The use of pebbles, pieces of broken stone or brick, metal pipe and wooden blocks or metal chairs shall not be permitted. Unless otherwise shown on the Drawings or required by the NPC, the minimum distance between bars shall be 40mm. Reinforcement in any member shall be placed and then inspected and approved by the NPC before the placing of concrete commences. Bundled bars shall be tied together at not more than 1.80 meters intervals.
Reinforcement shall be placed accurately and secured. It shall be supported by suitable chairs and spaces or by metal hangers. On the ground, and where otherwise subject to corrosion, concrete or other suitable non-corrodible material shall be used for supporting reinforcement. Where the concrete surface will be exposed to the weather in the finished structure or where rust would impair the appearance or finish of the structure, all reinforcement supports, within specified concrete cover, shall be galvanized or made of a suitable non-corrodible material.

All placement or movement of reinforcing steel after placement, to positions other than indicated or specified, shall be subject to the approval of the NPC.

Concrete protection for reinforcement shall be as indicated, or if not indicated, in accordance with ACI 318.

The minimum concrete cover for reinforcement specified in the bid documents shall takes precedence over all permissible reinforcement placement variations; nothing in the variations listed below is to be constructed as permitting violation or compromise thereof:

a.	Height of bottom bars	±6mm above form
b.	Lengthwise positioning	±50mm of bars
c.	Spacing bars in walls and solid slabs	±25mm
d.	Spacing bars in beams and footings	±6mm
e.	Height of top bars	±6mm
f.	Stirrup spacing:	
	(1) For anyone stirrup	±25mm
	(2) For over-all group	±25mm of stirrup

Anchors and bolts; including but not limited to those for the machine and equipment bases: frames or edgings, hangers and inserts, door bucks, pipe supports, pipe sleeves, pipe passing through walls, metal ties, conduits, flashing reflects, drains and all other materials in connection with the concrete construction shall, where practicable be placed and secured in position when the concrete is placed. Anchor bolts for machines shall be set to templates, shall be plumbed carefully and checked for location and elevation with an instrument, and shall be held in position rigidly to prevent displacement while concrete is being placed.

CW-7.3.5 Splicing

Splicing of reinforcement shall be in accordance with ACI 318, except as indicated otherwise or modified herein. Where splices in addition to those indicated on the drawings are necessary, they shall be approved by the NPC prior to their use. Splices shall not be made in beams, girders, and slabs at points of maximum stress. Butt Splicing shall preferably be used overlapping for bar sizes larger than 32 mmΦ. Splices to be welded shall conform to AWS D1.4; certification of weldability of the reinforcement by the manufacturer shall be submitted to the NPC. If the Supplier elects to use butt splicing of reinforcing, he shall submit complete details of the process to be used by the NPC. If the butt splices are used the Supplier shall ensure that the splice meets the requirements specified herein by performing at least three splices that shall be submitted for tests to a testing laboratory that has been approved for such testing by the NPC. The cost of these shall be borne by the Supplier.

All reinforcement shall be furnished in the full-lengths indicated on the Drawings. Splicing of bars, except where shown on the Drawings will not be permitted without the written approval of the NPC. When allowed, splices shall be staggered as far as possible and with a minimum separation of not less than 40 bar diameters. Not more than one-third of the bars may be spliced in the same cross-section, except where shown on the Drawings.
Unless otherwise shown on the Drawings, bars shall be lapped a minimum distance of:

Splice Type	Grade 40 Min. Lap	But Not Less Than
Tension	24d	300mm
Compression	20d	300mm

Where d is the diameter of the bar. In lapped splices, the bars shall be placed in contact and wired together. Lapped splices will not be permitted at locations where the concrete section is insufficient to provide a minimum clear distance of one and one-third the maximum size of coarse aggregate between the splice and the nearest adjacent bar. Welding of reinforcing steel shall only be done if detailed on the Drawings or if authorized by the NPC in writing. Spiral reinforcement shall be spliced by lapping at least one and a half (11/2) turns or by butt-welding unless otherwise shown on the drawings.

CW-7.4 Measurement and Payment

The quantity to be paid for shall be the calculated theoretical number of kilograms of reinforcement steel bars as determined from the net length of the steel shown on the drawings, incorporated in the concrete and accepted.
The weight of deformed bars will be computed from the theoretical weight of the same nominal size as shown in the following tabulation:

Designation	Size (mm)	Weight (kg/m)
#2	6	0.222
#3	10	0.616
#4	12	0.888
#5	16	1.579
#6	20	2.468
#8	25	3.854
#9	28	4.833
#10	32	6.313
#11	36	7.991

Clips, ties, separators and other and related materials used for positioning and fastening the reinforcement in place as required by the NPC shall not be included in the weight-calculated payment under this item. If bars are substituted upon the Supplier's request and as a result, more steel is used than specified – only the amount specified shall be included.

When laps are made for splices, other than those shown on the drawings or required by the NPC and for the convenience of the Supplier, the extra steel shall not be measured nor paid for.

Unless otherwise stated in the Schedule of Requirements, no separate measurement and payment will be made for the reinforcing steel. The entire cost of furnishing of all materials, labor, equipment and tools shall be included in the pertinent pay items in the Schedule of Requirements.

CW-8.0 DRAINAGE SYSTEM AND APPURTENANT STRUCTURES

CW-8.1 Scope

In accordance with the specifications contained herein, the Supplier shall furnish all materials, labor, equipment and tools, perform all required excavation and backfill, install all pipes and construct canals and ditches, as the case may be, where indicated on the drawings or where directed conforming with the lines and grades as established in the field by the NPC. The Supplier shall also construct or install, where required, appurtenant structures like street inlet, street inlet-catch basin combination, manhole, catch basin for downspouts, catch basin for intersecting perforated PVC pipes, septic tank, drainage outlets, etc. as well as joints and connections as may be required to complete the system.

CW-8.2 Materials

CW-8.2.1 Non-reinforced Concrete Drainage Pipes

Non-reinforced concrete drainage pipes shall meet the requirements of ASTM C14.

One pipe length shall be taken at random representing a group of fifty (50) pipes or fraction thereof of the same size and shall be submitted for test. Any group represented by corresponding test specimens that do not meet the strength and other test requirements shall not be used in the work.

CW-8.2.2 Reinforced Concrete Drainage Pipes

Reinforced concrete drainage pipes shall meet the design and test requirements for Class II Reinforced Concrete Pipes in accordance with ASTM C76 and ASTM C497.
One (1) pipe length shall be taken at random representing a group of fifty (50) pipes or fraction thereof of the same size and shall be submitted for test. Any group represented by corresponding test specimens that do not meet the strength and other requirements shall not be used in the work.

CW-8.2.3 PVC Pipes

Polyvinyl Chloride (PVC) Pipes shall be unplasticized conforming to ISO4435 or equivalent. Details/scheme of perforation shall be as indicated in the bid drawing or as directed by NPC.

CW-8.2.4 Concrete Covered Rectangular Ditch

Cement, reinforcing steel, aggregate, and water to be used for the construction of concrete covered rectangular ditch and open rectangular canal shall conform to the requirements set forth in Section CW-6.0 – Concrete. Foundation base material for concrete canal shall be sand and gravel as described in Section CW-5.0.

CW-8.2.5 Bedding Material

A. For Stable Soil and Rock Foundation

Bedding material for sewerage and drainage pipes unstable soil and rock foundation, as determined by NPC, shall consist of sand or natural sandy soil in which all the materials pass a 9.5 mm (3/8") sieve but not more than 10% passes a 0.074 mm (No. 200) sieve.

B. For Unstable Foundation

Bedding for sewerage and drainage pipes in the soft and unstable foundation as determined by the NPC shall consist of 13.79MPa concrete cradle in conformity with the dimensions shown on the drawings, or as determined by the NPC.

C. Foundation under Roadways and Parking Areas

Bedding for sewerage and drainage pipes crossing under roadways and parking areas with pipe cover (excluding concrete or asphalt pavement) of 60.9 cm (2 ft.) or less shall consist of 13.79MPa concrete cradle in conformity with the dimensions shown on the drawings, or as determined by the NPC.

CW-8.3 Construction

CW-8.3.1 Trench Excavation and Backfill

Trench excavation and backfill work shall be done in accordance with the pertinent provisions of Section CW-5.0.

CW-8.3.2 Concrete Canal

Concrete canal, open or covered, shall be constructed in accordance with the lines and grades shown on the drawings. The class of concrete shall be as indicated on the drawings or directed by the NPC.

CW-8.3.3 Appurtenant Structures

Appurtenant structures like street inlet, street inlet-catch basin combination, manhole, catch basin for downspouts, catch basin for intersecting perforated PVC pipes, septic tank, drainage outlets, etc. shall be constructed at locations indicated on the plans or at the other convenient locations designated by the NPC. All appurtenant structures shall be of 20.7 MPa concrete unless otherwise shown on the drawings.

CW-8.4 Pipe Installation

CW-8.4.1 General

Before any drain pipe is installed, the sand or concrete bedding shall have been prepared and approved in accordance with the grade, shape, and dimensions shown on the drawings, or as directed by the NPC. No pipe over 45.7 cm (18") in diameter shall be laid on concrete bedding until seven (7) days have been elapsed after placing the concrete bedding. Pipes under 45.7 cm (18") in diameter may be laid after five (5) days elapsed after placing the concrete bedding.

All drain pipes shall be laid carefully, hubs upgraded, ends fully and closely jointed, and true to the lines and grades are given. Succeeding pipe shall be joined to the previously laid pipe, correct in alignment and grade. Any pipe, which has been damaged during installation or before acceptance of the work, shall be replaced and laid by the Supplier at his expense.

CW-8.4.2 Non-reinforced and Reinforced Concrete Drainage Pipes

Whenever possible, concrete pipes shall be handled and installed with the aid of mechanical equipment and not just rolled or pushed into the trench from the bank. For small pipes, rope slings may be placed at both ends of the pipes and the rope slowly paved out until the pipe rests on the trench bed. Proper and careful handling and laying should be observed at all times to prevent unnecessary structural damage to the pipe, especially at the pipe ends.

For pipes on sand bedding, before joining the next pipe length to the last pipe already laid, the bottom of the trench shall be excavated to the shape, size, and location of the collar below the joint. The next pipe section shall then be securely attached to the previously laid pipe seeing to it the correct alignment and grade is always attained. The same procedures shall be observed for the remaining pipes.

All pipe joints shall be filled with stiff mortar composed of one (1) part cement and two (2) parts clean sand and enough water. The inside part of the joint shall be plastered properly to bring the inside surfaces of the jointed pipe ends flush even. Sufficient mortar shall be placed on the outside surface of joint to form a bead around the joint. Plastering work shall be as directed and approved by the NPC. After initial set, the mortar on the outside surface shall be protected from air and sunlight with a cover thoroughly wetted earth or burlap. Curing of the joint shall be done for a period of at least seven (7) days within which no backfill shall be placed on the installed pipeline.

CW-8.5 Measurement and Payment

CW-8.5.1 Concrete Rectangular Ditch

Measurement for payment for the rectangular ditch and other channels will be based on the number of linear meters of canal constructed and accepted.

Unless otherwise specified, no separate measurement and payment will be made for concrete rectangular ditch. Payment will be made at the corresponding pertinent items shown in the Schedule of Requirements. Payment shall constitute full compensation for furnishing all labor, materials, equipment, and tools necessary for the construction of the concrete canal including attendant excavation and backfill.

CW-8.5.2 Concrete Drainage Pipes and PVC Pipes

Non-reinforced and reinforced concrete drain pipes, and perforated PVC pipes in place and accepted will be measured by the linear meter along the centerline of the pipeline.

Unless otherwise specified, no separate measurement and payment will be made for concrete drainage pipes and PVC pipes. The quantities measured as provided above, completely installed and accepted, will be paid at the corresponding pertinent items for each size and kind of pipe. Payment shall constitute full compensation for furnishing all labor, material, equipment, and tools for fabricating, hauling, installing and jointing of pipes. Payment shall also include the cost of attendant excavation, bedding and backfilling.

CW-8.5.3 Appurtenant Structures

Measurement for payment of appurtenant structures like street inlet, street inlet-catch basin combination, manhole, catch basin for downspouts, catch basin for intersecting perforated PVC pipes, septic tank, drainage outlets, etc. will be based on the number of structures constructed/installed and accepted.

The Supplier will be paid at the contract unit price for the pertinent item for each appurtenant structure shown in the Schedule of Requirements. Such payment shall cover all costs for furnishing all equipment, labor, materials, and tools necessary to complete the construction of the aforementioned appurtenant structures. Payment also includes the cost of attendant excavation and backfill, furnishing, scheduling, cutting, bending and placing of reinforcing steel.

CW-8.5.4 Bedding

Unless otherwise specified in the Schedule of Requirements, no separate measurement and payment will be made for Bedding. Corresponding cost hereof shall be included in the unit bid price of relevant item(s) in the Schedule of Requirements which payment shall constitute full compensation for furnishing all labor, materials, equipment and tools necessary to complete the items.

CW-9.0 CONCRETE WALK

CW-9.1 Scope

In accordance with the plans and these specifications, the Supplier shall furnish all materials; labor, equipment, tools and construct complete the combination concrete walk.

CW-9.2 Materials

CW-9.2.1 Bedding

Aggregate bedding material for the concrete walk shall consist of pit run gravel, talus rock, disintegrated granite, sand, shale, cinders, coral or other similar materials, including additional filler for blending, selected under the direction of the NPC. The maximum dimensions of any particles shall not be greater than two-thirds of the required thickness of the layer in which it is to be placed.

Oversized material, if present, shall be removed at the pit by screens, grizzliest, or by handpicking. When necessary to obtain proper uniformity, additional filler shall be blended by mixing on the roadway. The fraction of the aggregate bedding material, including any additional filler passing the No. 40 sieve, shall not be more than two-thirds (2/3) of that passing the No. 40, sieve shall have a liquid limit not greater than 25 and a plasticity index of not more than 6.

CW-9.2.2 Concrete

Concrete shall be 20.7MPa or as indicated on the drawings.

CW-9.2.3 Reinforcing Steel

Reinforcing Steel Bars shall conform to the latest requirements of PNS for Grade DSB-275.

CW-9.3 Construction

CW-9.3.1 Foundation Preparation

Prior to placing the bedding for the concrete curb, gutter, parking, and sidewalk, the foundation shall be prepared by compacting and bringing it to unyielding or firm surface. Compaction shall be attended by either wetting or drying, as the case may be, to attain satisfactory compaction of the foundation.

CW-9.3.2 Bedding

The bedding upon which the concrete walk rest, shall be compacted to a firm, even surface.

CW-9.3.3 Placing Concrete

Mixing, placing, finishing and curing concrete shall conform to the requirements of the ACI Code for Concrete Construction.

The concrete walk shall be constructed to the section and dimensions shown on the drawings. The concrete walk shall be constructed in uniform sections and, unless otherwise directed, each section shall not be more than five (5) meters in length except where shorter sections are required for closure, but no section shall be less than two (2) meters long. The sections shall be separated by sheet templates set perpendicular to the face and top of the concrete walk. The templates shall be approximately 3 mm in thickness, of the same.

CW-9.4 Measurement and payment

CW-9.4.1 Concrete

Measurement for payment will be based on the cubic meters of the concrete walk, completed and accepted. Payment will be made at the contract unit price for the item, Concrete walk, in the Schedule of Requirements.

CW-9.4.2 Bedding

Measurement for payment will be based on the number of cubic meters of bedding materials, placed, compacted and accepted. Payment will be made at the corresponding pertinent pay item in the Schedule of Requirements.

CW-9.4.3 Reinforcing Bars for Concrete walk

Measurement for payment for Reinforcing Steel (except reinforcing steel, which shall not be measured for separate payment) will be based on the number of kilograms placed and accepted.

Payment will be made at the corresponding contract unit price for the various items of Reinforcing Steel in the Schedule of Requirements, which payment shall constitute full compensation for furnishing, scheduling, cleaning, cutting, bending and placing reinforcing steel.

SECTION VI

TECHNICAL SPECIFICATIONS FOR ELECTRICAL WORKS

PART I - TECHNICAL SPECIFICATIONS

EW - ELECTRICAL WORKS

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EW - ELECTRICAL WORKS

EW-1.0 GENERAL

This section covers the technical and associated requirements for the complete lighting and power system for the Supply, Delivery, and Installation of Containerized / Collapsible Office / Staff House / Stockroom for Various Palawan SPUG Areas in Five (5) Packages.

All electrical equipment shall be installed in accordance with the relevant sections of this specification. The Supplier shall submit all related drawings and document deemed necessary, prior to the execution of the work, subject to the approval of NPC.

The works shall be performed and completed in a satisfactory manner in accordance with generally accepted modern engineering practice.

EW-2.0 SCOPE OF WORK

The scope of electrical work covers the furnishing of all labor, materials, equipment, tools and other necessary incidentals required for each project site which shall essentially consist of all electrical equipment and materials enumerated herein:

Palawan Operations Division

1. Supply, Installation and Test of Lighting and Power System of Collapsible / Containerized Office Room; and

2. All other works and services including those not specifically detailed herein but are required to fully complete the project.

Nangalao Diesel Power Plant

1. Supply, Installation and Test of Lighting and Power System of the Two Storey Collapsible / Containerized Bunker, Office and Stockroom; and

2. All other works and services including those not specifically detailed herein but are required to fully complete the project.

Bisucay Diesel Power Plant

1. Supply, Installation and Test of 15 kVA, 7.97 kV / 240V, 1-Phase, 60 Hz Station Service Transformer;

2. Supply, Installation and Test of 15 kV Fuse Disconnect Switch with Lightning Arrester Combination;

3. Supply, Installation and Test of Kilowatt-hour Demand Meter and its accessories;

4. Supply, Laying and Test of Power, Control and Instrumentation Cables including appurtenances required for the interfacing of supplied equipment;

5. Supply, Installation and Test of Lighting and Power System of the Containerized/Collapsible Office and Staff House; and

6. All other works and services including those not specifically detailed herein but are required to fully complete the project.

Bancalaan Diesel Power Plant

1. Supply, Installation and Test of Lighting and Power System of the Collapsible/Containerized Bunker; and

2. All other works and services including those not specifically detailed herein but are required to fully complete the project.

Casian Diesel Power Plant

1. Supply, Installation and Test of Lighting and Power System of the Collapsible Staff House; and

2. All other works and services including those not specifically detailed herein but are required to fully complete the project.

In addition, the following shall be provided by the Supplier:

1. Provision of services of a highly qualified and competent Electrical Engineer with experience in the implementation of electrical works to perform/direct supervision during installation and test of all supplied devices, including cabling works; and

2. Conduct of inspection to verify and assess the extent of the related and incidental works needed to implement the project competently and efficiently.

The Supplier shall bear full responsibility that the materials have been designed and fabricated in accordance with all codes, standards, and applicable governmental regulations and performs under the conditions and to the standards specified herein.

EW-3.0 STANDARD OF MATERIALS

All materials to be used in the work shall be new, of high quality, free from all defects and of proven acceptability for the purpose of intended. Unless otherwise specified, materials shall conform to the latest applicable standard issued by the following authorities:

1. American National Standards Institute (ANSI)

2. Institute of Electrical and Electronic Engineers (IEEE)

3. Underwriter's Laboratory (UL)
4. National Electrical Manufacturer's Association (NEMA)
5. National Electrical Code (NEC)
6. Philippine Electrical Code (PEC)

Other recognized national standards maybe accepted if, in the opinion of NPC representatives, such will guarantee a quality not inferior to that guaranteed by the above standards.

In case of conflicting requirements between authorities cited above and those specified, such disagreement shall be resolved by representative of which his decision shall be final.

EW-4.0 STATION SERVICE TRANSFORMER

EW-4.1 General

This specification covers the technical and associated requirements for station service transformer including accessories for use in the power plant.

The equipment furnished shall be in accordance with, but not limited to, the latest issues of the Applicable Codes and Standards, including all addenda, in effect at time of purchase order unless otherwise stated in this specification.

The equipment to be furnished shall be complete, with all parts in excellent working conditions, of new and high-grade materials and produced with first class workmanship. All materials though not expressly called for in this Specifications but which are necessary for the complete and proper operation of the station service transformer shall be furnished by the Supplier at no additional cost to NPC.

EW-4.2 Technical Description

The transformer covered by this specification is for use in an electric generating station. The application details are stated in the Technical Data Sheets.

EW-4.3 Design Requirements

Rating

The transformer rating shall be the basis of the Supplier's guarantee as to performance and temperature rise.

Short Circuit Withstand Capability

The transformer shall be capable of withstanding, without damage, the effects of external short circuit, on either the high or low voltage terminals with rated voltage opposite terminals.

The transformer shall withstand the thermal effects of such short circuit current for three (3) seconds.

Overload Capacity

The transformer/s shall be designed and manufactured with overload capacity in accordance with applicable ANSI/IEC/IEEE standards.

Electrical Insulating Oil

The Supplier shall furnish oil with quality suitable as an insulant and coolant for transformers. The oil shall be new naphthenic based mineral oil. It shall be free from moisture, acid, alkali and sulfur compounds and shall not form a deposit at normal operating temperatures. Except for inhibitor no additives are permitted. It shall meet the requirements of ASTM standard.

The Supplier shall state the commercial name and specifications of the oil to be furnished. NPC reserves the right in the future to use any oil which meets the above specifications and the use of such oil shall not affect the Supplier's guarantee.

Impedance and Reactance

The impedance and reactance shall be stated in the Proposal.

Corona Level

The station service transformer shall be free from corona when energized at 110% rated capacity.

EW-4.4 Design and Construction Features

General

All transformers of the same design and rating shall be electrical duplicates, shall be mechanically interchangeable parts and shall be operable in parallel.

The transformer design, manufacture and assembly shall minimize vibration and shall prevent damage by inherent vibration and stress during operation, transportation and short circuits. Transformer construction shall include attached primary arrester, primary fuse and appropriate secondary over-load and short circuit protection.

Cores

Cores for the transformers shall be constructed of the highest quality, non-aging high permeability grain-oriented silicon steel. The steel shall be in thin laminations, annealed after cutting and rolled to ensure smooth surface at the edges.

The laminations must be free from impurities and must receive stress relief treatment after punching. The laminations shall be accurately flattened, especially at the edges and insulated by suitable procedures with long life heat resistant insulating coat.

Both sides of each sheet shall be insulated with a durable, heat resistant insulation. The cores shall be held firmly by core clamp and brace to ensure adequate mechanical strength to support the winding and to withstand without damage or deformation, the forces, caused by short circuit stresses, transportation or handling to prevent shifting of the core laminations.

Windings

Windings for transformer shall be of constant cross-section and uniform insulation or graded insulation as required. The coils shall be wound and supported in a manner to provide sufficient oil ducts which will be maintained without constriction.

End coils shall have extra insulation. Coils shall be made up, shaped and braced to provide for expansion and contraction due to temperature changes in order to avoid abrasion of insulation and provide rigidity to resist movement and distortion caused by abnormal operating conditions.

Adequate barriers shall be provided between windings and core and between high and low voltage windings. End coils shall have extra protection against abnormal line disturbances. Permanent current-carrying joint for splices shall be welded or brazed, properly formed and finished, and insulated to conform to the basic insulation.

The assembled core and coils shall be vacuum-dried, immediately impregnated and immersed in dry oil. They shall be adequately braced to withstand ocean shipment, short-circuit forces and earthquakes.

Bushings

All porcelain used in bushing shall be wet process, homogenous and free from cavities or other flaws. The glazing shall be uniform in color free from blisters, burrs and other defects. All porcelain parts shall be one piece.

The bushings of the same rating shall be interchangeable. Bushing up to 110 kV shall be porcelain bulk. Bushing shall have the continuous current-carrying capacity necessary to carry the full 65°C temperature rise current and shall be in accordance with ANSI standard.

Tanks

The transformers shall be housed in a steel tank with all permanent joints molded, backed up by a sturdy steel structure as required to obtain the desired rigidity and strength. The material shall be of high grade steel plate having good welding qualities. All seams, flanges, lifting and jacking lugs, braces and other parts attached to the tank shall be welded. No rivets shall be used. The cover shall be bolted type. The tank shall be able to withstand an internal pressure with oil at operating level.

All openings such as joint between the case and cover, bushings insulation mountings, etc., shall have welded on flanges to provide gaskets surfaces and allow for bolt holes. No bolts shall pass to the inside of the case and cover. Flanges shall have gaskets which will remain oil-tight and will not deteriorate under service conditions.

The transformer tank shall have solder-less type ground connector suitable for No. 8 to No. 2 AWG stranded conductor.

EW-4.5 Tolerances

The transformer/s shall be designed and manufactured with tolerances in accordance with applicable ANSI/IEC/IEEE standards.

EW-4.6 Accessories

Lifting Lugs

Lugs shall be provided to lift the complete transformer by crane hooks. In addition, separate lugs shall be provided on all items which can be individually removed. Jacking lugs shall be provided to allow removal and rotation of wheels using the lifting jacks.

Gaskets

Gaskets shall be rubberized cork of ¼" thick. A complete set of spare gaskets for every transformer shall be supplied.

EW-4.7 Equipment and Marking

A stainless-steel rating plate shall be supplied for each transformer and shall be in accordance with ANSI standard. The diagram of connections shall show the tapping and polarity marking for instantaneous induced voltages for each transformer.

The minimum recommended dielectric strength of insulation oil for the transformer shall also be engraved on this plate. The rating plate and any other instructions or designations shall be in the English language.

EW-4.8 Test Requirements

The station service transformer shall be completely assembled and adjusted at the factory after all the standard and routine shop tests, such as temperature rise test, impulse test and other supplemental tests as required by ANSI and/or IEC standards are performed.

Test report on design and routine tests performed shall be submitted to NPC for evaluation and approval.

The Supplier shall submit for approval the brochures and/or catalogues with complete technical specification of the station service transformer to be supplied prior to fabrication and/or delivery at site.

EW-5.0 Fuse Cut-out with Lightning Arrester Combination

This specification covers the supply and delivery of fuse cutout with lightning arrester combination for use in the plant.

The materials furnished shall be in accordance with, but not limited to, the latest issues of the Applicable Codes and Standards, including all addenda, in effect at time of purchase order unless otherwise stated herein.

EW-5.1 Technical Characteristics and Requirements

Fuse Cut-Out

Fuse cut-outs shall be satisfactory used in a tropical climate with high relative humidity. The cut-outs will be mounted by means of steel brackets on steel poles cross arms.

The cut-outs are intended for use with button head type fuse links and must be able to accommodate fuse links meeting the interchangeability requirements of ANSI standard.

The cut-outs to be supplied shall include the following:

1. Fuse Support Assembly
2. Fuse Holder Assembly
3. Mounting Bracket
4. Lock Washers

Fuse Link

The fuse link to be supplied shall be universal button head type with tin fuse element suitable for 15 kV open type fuse cutout to be used in the overcurrent protection of circuits and are intended to coordinate with automatic circuit recloser and transformer protection equipment. The fuse link shall meet the electrical and mechanical interchangeability requirement in accordance with ANSI standard.

Lightning Arrester

Gapless arresters shall have elements fabricated from non-linear resistance metal oxide materials to perform both the surge discharge and power frequency reseal functions. Arresters of this type shall be protected in a hermetically sealed wet-process porcelain jacket, which shall have a high creepage distance and a high dielectric strength.

Both line lead and isolator terminals shall accommodate 2/0 AWG.

The arrester shall be supplied with a cross-arm-mounting bracket that conforms with the requirements of NEMA or with appropriate bracket as a cutout arrester combination on it.

All mounting bolts and conductor connection requires lock washer. Lock washers shall be fabricated from material that complies with the requirements as per ANSI standard.

All exposed steel or iron part of the arrester shall be hot-dipped galvanized in accordance with ASTM standard.

EW-5.2 Test Requirements

Test report on design and routine tests performed in accordance with ANSI and/or IEC standard shall be submitted to NPC for evaluation and approval.

EW-6.0 Kilowatt-Hour Demand Meter

This specification covers the technical and associated requirements for the kilowatt-hour meter including instrument transformer and accessories required for the electric generating plants.

EW-6.1 Technical Characteristics and Requirements

The kilowatt-hour meter shall be furnished and installed by the Supplier as shown on the bid drawings complete with housing and associated metering instruments transformers (current and potential transformers) of appropriate burden and accuracy and other accessories for outdoor metering purposes. It shall be capable to measure the power generated by the plant and feedback power. It shall be designed to operate continuously for the normal life of the meter in an outdoor tropical location exposed to various elements which might affect the meter accuracy and reliability.

The Kilowatt-hour meter shall have the following features:

1. Pilferage Proof
2. Tamper Proof
3. Wrong Wiring Alarm
4. Current Flow display
5. Can withstand the temperature of -20°C to +70°C and Humidity of up to 95% non-condensing
6. With back light display
7. With built-in battery for LCD display and back-up battery
8. TOU Programmable Ready
9. Measure display (True RMS voltage, Current, Calendar, Time, etc.)

The kilowatt-hour meter and the required metering instruments shall be pole mounted and to be supplied complete with stainless steel bracket, bolts, etc. required for mounting onto flat-faced pole where pole drilling is permitted.

The Supplier shall submit for approval the brochures and/or catalogues with complete technical specification of the kilowatt-hour meter including instrument transformers and accessories to be supplied prior to delivery at site.

EW-7.0 POWER CABLES

This specification covers the technical and associated requirements of power, control and instrumentation cables for use in switchyards.

All cables shall be designed to withstand the short-circuit condition and voltage drop of 3% (maximum).

EW-7.1 Technical Characteristics and Requirements

EW-7.1.1 Stranded Aluminum Conductors

All wires of the stranded conductor shall be concentrically stranded. The wires in each layer shall be evenly and closely stranded around the underlying wire(s). The tension in individual wires in a layer shall be sufficient to hold each wire firmly in place with only enough strand separation to prevent crowding at the time of stranding and during installation. All steel and aluminum wires shall lie naturally in their position in the stranded conductor and, when the core and/or the aluminum wires are cut, the wire ends shall remain in position or be readily replaced by hand and then remain approximately in position.

The aluminum shall be of the higher purity commercially obtainable which shall not be less than 99.5%. The type of conductor to be supplied shall be stated in the Technical Data Sheets and shall be manufactured according to the applicable ASTM or equivalent IEC standards.

The completed conductor shall be smooth, free from nick, burrs, aluminum or steel particles, dirt and excessive die grease. The conductor shall be absolutely free of copper dust and copper particles.

EW-7.1.2 Insulated Copper Conductors

The cables to be supplied shall have insulation levels able to withstand any voltage surges which are normally expected to occur in the power system in which the cable is to be used, due to switching operations, sudden load variations, faults, etc. The medium voltage XLPE power cable and the 600V power, control and instrumentation cable to be supplied shall be compliant to ICEA S-66-524 or IEC 60502-2 and UL 83, PNS 35, ICEA S-73-532 specification and requirements of PEC respectively.

The cables shall be selected to withstand without distress any short-circuit currents in the conductor and sheath related to the existing fault levels.

The cables and its accessories shall be manufactured to fulfill the requirements when operating with full load or at any load factor.

Insulation

Insulation shall be of the type specified in the Technical Data Sheets.

Jacket

A tough, ozone, low chlorine, heat, flame and moisture-resistant PVC or Nylon jacket capable of providing protection against sunlight, acids, alkalis and oils shall be furnished for all cables.

Assembly

All multi-conductor cables shall be bundled together with non-hygroscopic fillers to assure a smooth circular assembly. A lapped core binding tape shall be applied over the assembly.

Application

All cables shall be suitable for installation in cable tray, conduit, trench, underground duct in wet and dry locations, and above ground raceway in damp and dry locations.

EW-8.0 LIGHTING AND POWER SYSTEM

The lighting and power system covered by this specification includes transformer, fuse disconnect switch with lightning arrester combination, lighting and power panelboard, luminaires, outlets, switches and associated conduits, conductors, fittings, etc.

The devices/materials furnished shall be in accordance with, but not limited to, the latest issues of the Applicable Codes and Standards, including all addenda, in effect at time of purchase order unless otherwise stated in this specification.

All materials and parts which are not specifically mentioned herein but are necessary for the proper installation and safe operation of the lighting system shall be identified by the Supplier and shall be furnished at no additional cost to NPC.

EW-8.1 Technical Requirements and Characteristics

Circuits shall be wired separately for lighting and outlets. Luminaires shall be controlled and switched locally approximately as shown on the drawings.

Replacement of fixture bulbs or tubes shall be possible without disconnecting any part of the power supply and risk of touching live parts of the installation.

EW-8.2 Lighting and Power Panelboard

The lighting and power panelboard shall be flush mounted and properly grounded.

The main and branch circuit breakers of the lighting and power panelboard for the containerized/collapsible office/staff house/stockroom shall be quick-make quick break, thermal magnetic trip with rating as required by the connected load.

Nameplate shall be black plastic with engraved white letter.

EW-8.3 Luminaires (Lighting Fixtures) and Accessories

All luminaires when installed shall be free of leaks, warps, dents and other irregularities.

The hangers and brackets of all kinds for safety and proper installation of lighting fixtures shall be furnished and installed by the Supplier at his own expense.

The housings shall be fabricated of steel sheet, corrosion resistant, good ventilation and easy installation.

Samples and catalogues of all luminaires to be supplied shall be submitted for NPC's review and approval prior to the order. No luminaire shall be installed without approval of NPC.

Luminaires shall be wired with approved fixture wire, 90°C insulation. Each fixture shall be wired to a single point with an adequate slack for proper connection. All luminaires shall be protected from damage during installation. Any broken luminaire, receptacles, stems and the like, shall be replaced with new parts, at no cost to NPC.

Types of luminaires to be supplied, delivered, installed and tested are as follows:

1. Surface Mounted Type Luminaire

    a. IP20 Ceiling Mounted Luminaire with Mirror Finish Aluminum Reflector, 1200mm long Zinc Phosphate Steel Sheet Housing and 2 x 16 Watts, Cool White, LED Linear Tube

    b. IP20 Round Ceiling Mounted Luminaire, 350mm Diameter, White Steel Base, White Opal Glass Diffuser and Complete with 2 x 18 Watts, E27 Base, Frosted Finish Compact LED Bulb

    c. IP20 Round Ceiling Mounted Luminaire, 350mm Diameter, White Steel Base, White Opal Glass Diffuser and Complete with 2 x 12 Watts, E27 Base, Frosted Finish Compact LED Bulb

    d. IP44 Wall Mounted Luminaire, 230V, 60Hz, Steel Base, White Satin Glass Diffuser and complete with 12 Watts LED Lamp

    e. IP20 Ceiling Mounted 9 Watts, Cool White Classic Globe Shape Frosted Finish LED Bulb with E27 Base

2. Emergency Light

    a. Portable Emergency Lighting Fixture, 2 X 2 Watts LED Warm White with Built-In Sealed Lead Acid Battery; Charging Time < 20 Hours; Usage Time >= 4 Hours

EW-8.4 Conductors

Conductors shall be stranded annealed copper conductor suitable for continuous temperature of 90°C when used in wet or dry location and 75°C when exposed to oil or coolant. The minimum size of conductor to be used shall be 3.5mm^2.

Insulation shall be suitable for wet and dry location, fungi resistant and ultra violet stable.

All conductors shall be moisture and heat resistant, flame retardant polyvinyl chloride insulation, chemical and abrasion resistant nylon sheath.

The conductor specification shall meet ASTM specification, PNS 35, UL standard 83 and requirements of PEC.

The Supplier shall submit catalogues and/or brochures showing details of insulation and ampacity ratings of all types of conductors to be supplied for approval of NPC.

EW-8.4.1 Conductor Installation

Conductors pulled through conduits shall be supported in an approved manner so as to avoid damage to the insulation. Grease or oily substances shall not be used to facilitate the passage of the conductor in conduits.
The pull shall be applied only by means of approved grips and the end portion, which has been marked or deformed by the grip, shall be cut-off by the Supplier.

All cable runs shall be continuous and all termination shall be at the terminal boards, equipment, etc. No splices are allowed in conduit or cable tray.

Prior to installation of conductors, conduits and cable trays shall be thoroughly cleaned to prevent damage to conductors during installation. After conductors have been installed, it shall be tested for continuity and insulation resistance and shall be tagged with respective conductor number.

EW-8.5 Conduit

All embedded and concealed in ceiling conduits, boxes and fitting required for the power and control conductors including all necessary hardware and accessories such as screws, bolts, concrete inserts, clamps, locknuts, couplings shall be furnished by the Supplier. The required quantities of various items of conduits and associated materials shall be furnished in accordance with the installation requirements.

During installation, due precaution shall be taken to protect the conduit and threads from mechanical injury. The ends of the conduit shall be sealed in an approved manner. Conduit runs shall be sealed by the use of caps and discs or plugs. The seals shall be maintained, except during inspection and tests, until the conductor is pulled in. Conduit shall be check to be free from obstructions by pulling a wooden mandrel of appropriate size through the conduit.

Conduits running in floors and terminating at equipment mounted on concrete bases shall be brought up to the equipment within the concrete bases, wherever possible.

All joints between lengths of conduits and threaded connection to boxes, fittings and equipment enclosures shall be made watertight.

Conduits installed outdoors running underground shall be buried to a minimum of 0.6 m.

Non-Metallic Conduits

Non-metallic conduit shall be made of un-plasticized polyvinyl chloride (uPVC) smooth walled inside and outside, colored red-orange, schedule 40.

The uPVC conduits shall be non-corrosive and weatherproof, resistant to the attacks of acids and alkalis and must have a self-extinguishing property hence shall not support combustion. It shall resist corrosion, rust and scale.

Metallic Conduits

Metallic conduit shall be made of Electrical Metallic Tubing (EMT), galvanized on the outside for corrosion protection and shall have an approved corrosion-resistant organic coating on the inside. EMT shall be installed by the use of set-screw or compression-type couplings and connectors.

EW-8.6 Junction / Utility and Pull Boxes

Junction / Utility Boxes

All junction/utility boxes for concealed work shall be of hot dip galvanized steel or un-plasticized polyvinyl Chloride. All wall boxes on exposed work shall be of aluminum blasted cast iron.

Utility boxes shall be firmly anchored in place and where required provided with fixture supports. The Supplier shall provide special supports for recessed lighting fixtures, etc. Suitable expansion screws shall be used for securing boxes to solid masonry and approved type toggles for securing to hallow masonry units.

Pull Boxes

Pull boxes shall be installed at all necessary points, to prevent damage to the insulation or other damage that might result from pulling resistance or for other reasons related to improper installation. All pull boxes shall be made of galvanized sheet steel not less than 2mm or un-plasticized polyvinyl chloride. Where pull boxes are used in connection with exposed conduits, plain covers attached to the pull box with a suitable number of countersunk flathead machine screws may be used.

EW-9.0 DATA AND DOCUMENTATION REQUIREMENTS

Contractor-furnished data and information shall be guaranteed performance data, predicted performance, interface requirements and construction features of all Contractor's furnished equipment. The accuracy of such information and its compatibility with overall performance requirements specified by NPC are the sole responsibility of the Contractor.

All information submitted as part of Proposal Data would become part of contract data for successful bidder. Any deviation from such data requires NPC's approval.

EW-9.1 Data and Information to be Submitted During Post Qualification

Contractor shall furnish during the post qualification the filled-in Sections E-1.0 to E-4.0 of the Technical Data Sheets.

Filled-out data by the Contractor shall only serve as reference by NPC for the review and approval of brochures/drawings during implementation stage.

EW-9.2 Data and Information to be Submitted During Implementation

The following shall be the full technical data requirement of equipment indicated in Sections E-1.0 to E-4.0 of the Technical Data Sheets which shall be submitted by the Contractor together with Manufacturer's brochure/drawings during the Implementation stage.

E-1.0 Station Service Transformer

ITEM	DESCRIPTION	NPC REQUIREMENTS	SUPPLIER'S DATA
E-1.1	Manufacturer	By Supplier	
E-1.2	Class (indoor, outdoor)	Outdoor (Pole-mounted)	
E-1.3	Minimum Rated Capacity, kVA	15	
E-1.4	No. of Phase	One (1)	
E-1.5	Frequency, Hz	60	
E-1.6	Rated Voltage		
	a. Primary, kV	7.97	
	b. Secondary, kV	0.24	
E-1.7	Type of Cooling	ONAN	
E-1.8	Type of Oil	Mineral Oil with its electrical & chemical characteristics in compliance with IEC and is Polychlorinated Biphenyls (PCB) free	
E-1.9	Type (specify 3-winding, 2-winding, auto-transformer)	2-winding	
E-1.10	Temperature		
	a. Ambient Temperature	40°C	
	b. Temperature Rise	65 °C	
E-1.11	Insulation Level		
	Nominal Voltage Level (kV)		
	i. H-Winding	7.97	
	ii. X-Winding	0.24	

ITEM	DESCRIPTION	NPC REQUIREMENTS	SUPPLIER'S DATA
	Highest Voltage Level (kV)		
	i. H-Winding	15	
	ii. X-Winding	1.2	
E-1.12	Basic Impulse Level (kV)		
	a. H-Winding	110	
	b. X-Winding	30	
E-1.13	Polarity	Additive	
E-1.14	Winding Material	Copper	
E-1.15	No. of Bushing	One (1)	
E-1.16	Bushing Material	Porcelain	
E-1.17	% Impedance at Rated kVA	Accdg. to ANSI Std.	
E-1.18	Tap Changer	No-Load	
E-1.19	Taps		
	i. HV Winding	7.97 kV ± 2 x 2.5%	
	ii. LV Winding	N/A	
E-1.20	Efficiency	97%	
E-1.21	Audible Sound Level	Accdg. to ANSI Std.	
E-1.22	Weight of oil, kg	Manufacturer's Data	
E-1.23	Total Weight, kg	Manufacturer's Data	
E-1.24	Transformer mounting brackets including bolts, nuts, etc.	Included	
E-1.25	Test Requirements		
	a. Routine Test to be performed	Yes	
	b. Certified Routine Test Reports to be submitted	Yes	

E-2.0 Fuse Cutout with Lightning Arrester Combination

ITEM	DESCRIPTION	NPC REQUIREMENTS	SUPPLIER'S DATA
E-2.1	Manufacturer	By Supplier	
E-2.2	Type	Open drop out and expulsion fuse cutout	
E-2.3	Class (indoor, outdoor)	Outdoor	
E-2.4	Rated voltage, kV	15	
E-2.5	Nominal system voltage, kV	13.8	
E-2.6	Frequency, Hz	60	
E-2.7	BIL, kV	110	
E-2.8	Ampere Frame	100	
E-2.9	Interrupting Capacity, kA	10	
E-2.10	Fuse Link		
	a. Type	Universal buttonhead design	
	b. Current Rating, A	3	
E-2.11	Lightning Arrester		
	a. Type	Metal Oxide Varistor (MOV), gapless	
	b. Nominal system voltage, kV	13.8	
	c. Duty cycle voltage (rating), kVrms	12	
	d. Maximum Continuous Operating Voltage (MCOV), for the arresters having the following duty cycle voltage, kV rms	10.2	

ITEM	DESCRIPTION	NPC REQUIREMENTS	SUPPLIER'S DATA
	e. Nominal discharge current, kA	10	
	f. Creepage distance, mm	465	
	g. Supporting brackets, bolts, nuts, etc.	Yes	

3.0 Kilowatt-Hour Demand Meter

ITEM	DESCRIPTION	NPC REQUIREMENTS	SUPPLIER'S DATA
E-3.1	Manufacturer	By Supplier	
E-3.2	Accuracy Class	Class 0.3 or better	
E-3.3	Number of Phase	1	
E-3.4	Wire	2	
E-3.5	Voltage, V	240	
E-3.6	Current Range	Class 200	
E-3.7	Frequency, Hz	60	
E-3.8	Register Type	LCD	
E-3.9	TOU (Time of Use)	Programmable Ready	
E-3.10	Soft Switches	Available	
E-3.11	LCD Display	Programmable	
E-3.12	Power Consumption	By Supplier	
E-3.13	The Kilowatt-hour meter to be provided is certified and approved by ERC	Yes	

4.0 Power, Control & Instrumentation Cable

ITEM	DESCRIPTION	NPC REQUIREMENTS	SUPPLIER'S DATA
15 kV Stranded Aluminum Conductor			
E-4.1	Manufacturer	By Supplier	
E-4.2	Type designation	Aluminum Conductor	
E-4.3	Code Name	By Supplier	
E-4.4	Conductor size	2/0 AWG	
E-4.5	Voltage Rating, kV	15	
E-4.6	Ampacity, A	Manufacturer's Data	
E-4.7	Outer Layers		
	a. Material	Aluminum	
	b. Stranding No.	6	
	c. Calculated Cross-sectional Area, mm^2	Manufacturer's Data	
	d. Coefficient of Elongation	Manufacturer's Data	
E-4.8	Core		
	a. Material	Aluminum Clad Steel	
	b. Stranding No.	1	
	c. Calculated Cross-sectional Area, mm^2	Manufacturer's Data	
	d. Coefficient of Elongation	Manufacturer's Data	
E-4.9	Conductor Coefficient of	Manufacturer's Data	

ITEM	DESCRIPTION	NPC REQUIREMENTS	SUPPLIER'S DATA
15 kV Insulated Copper Conductor			
E-4.10	Manufacturer	By Supplier	
E-4.11	Continuous current carrying capacity of conductor at 90°C Operating Temperature	Manufacturer's Data	
E-4.12	Conductor Cross-Section, mm^2	30	
E-4.13	Type of cable	Single Core	
E-4.14	Conductor Material	Annealed Copper	
E-4.15	Max. Outside Diameter, mm	Manufacturer's Data	
E-4.16	Conductor Shape	Circular Stranded Wire	
E-4.17	Conductor Material	Annealed Copper	
E-4.18	Insulation		
E-4.19	a. Material	Cross-linked polyethylene (XLPE)	
E-4.20	b. Thickness, mm	≥ 4.0	
E-4.21	Outer covering/Jacket		
E-4.22	a. Material	PVC Sheath Jacketing	
E-4.23	b. Thickness, mm	Manufacturer's Data	
E-4.24	c. Termite Protection Required	Yes	
E-4.25	Shielded (yes, no)	Yes	
E-4.26	a. Type of Shielding	Copper Tape Screen	
E-4.27	Provided with Filler and Binder Tape	Yes	
600 V Power Cable			
E-4.28	Manufacturer	By Supplier	
E-4.29	Type	THHN/THWN-2	
E-4.30	Conductor Cross-Section	Refer to Bid Drawings	
E-4.31	Conductor Material	Annealed Copper	
E-4.32	Conductor Shape	Circular Stranded Conductors	
E-4.33	Type of Insulation	Lead Free, UL-listed PVC	
E-4.34	Outer covering/Jacket	Oil, Chemical and Abrasion Resistant Tough Polyamide (Nylon)	
E-4.35	Meets ASTM, UL 83 & 1063, and PNS 35 Specifications and requirements of PEC	Yes	

EW-10.0 MEASUREMENT OF PAYMENT

Measurement of payment for all electrical works shall be based on the bid price of each item as shown in the Schedule of Requirements – Electrical Works, Section VII of the Bid Documents. The cost of each item shall cover all works required and described in the pertinent provisions of the specifications and bid drawings.

PART II – TECHNICAL DATA SHEETS

EW- ELECTRICAL WORKS

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PART II - TECHNICAL DATA SHEETS

EW – Electrical Works

SECTIONS E-1.0 – E-4.0

Documents to be Submitted during the Post Qualification as Reference for the Approval of Manufacturer's Brochures/Drawings

1. The following shall be filled-out and to be submitted during the post qualification.

2. Filled-out data by the Contractor shall only serve as reference for the review and approval of brochures/drawings during implementation stage.

3. Full technical data of the equipment are indicated in the Technical Specifications (EW-9.2) which will be submitted during the implementation stage for review and approval.

4. Non-submission of the documents and non-compliance to the requirements shall be ground for disqualification.

Name of Firm	Name & Signature of Representative	Designation

E-1.0 STATION SERVICE TRANSFORMER

ITEM	DESCRIPTION	NPC REQUIREMENTS	SUPPLIER'S DATA
E-1.1	Manufacturer	By Supplier	
E-1.2	Type	Completely Self-Protected	
E-1.3	Class (indoor, outdoor)	Outdoor (Pole-mounted)	
E-1.4	Minimum Rated Capacity, kVA	15	
E-1.5	No. of Phase	One (1)	
E-1.6	Frequency, Hz	60	
E-1.7	Rated Voltage		
	a. Primary, kV	7.97	
	b. Secondary, kV	0.24	
E-1.8	Type of Cooling	ONAN	

E-2.0 FUSE DISCONNECT SWITCH WITH LIGHTNING ARRESTER COMBINATION

ITEM	DESCRIPTION	NPC REQUIREMENTS	SUPPLIER'S DATA
E-2.1	**Manufacturer**	**By Supplier**	
E-2.2	Class (indoor, outdoor)	Outdoor	
E-2.3	Rated voltage, kV	15	
E-2.4	Frequency, Hz	60	
E-2.5	BIL, kV	110	
E-2.6	Ampere Frame	100	
E-2.7	Interrupting Capacity, kA	10	
E-2.8	Fuse Link		
	a. Type	Universal buttonhead design	
	b. Current Rating, A	3	
E-2.9	Lightning Arrester		
	a. Type	Metal Oxide Varistor (MOV), gapless	

Name of Firm | Name & Signature of Representative | Designation

E-3.0 KILOWATT-HOUR DEMAND METER

ITEM	DESCRIPTION	NPC REQUIREMENTS	SUPPLIER'S DATA
240V Single Phase, Digital Kilowatt-Hour Demand Meter			
E-3.1	Manufacturer	By Supplier	
E-3.2	Accuracy Class	Class 0.3 or better	
E-3.3	Wire	2	
E-3.4	Current Range	Class 200	
E-3.5	Frequency, Hz	60	
E-3.6	The Kilowatt-hour meter to be provided is certified and approved by ERC	Yes	

E-4.0 POWER CABLES

ITEM	DESCRIPTION	NPC REQUIREMENTS	SUPPLIER'S DATA
15 kV Stranded Aluminum Conductor			
E-3.1	Manufacturer	By Supplier	
E-3.2	Type designation	Aluminum Conductor Steel Reinforced (ACSR)	
E-3.3	Conductor size	2/0 AWG	
E-3.4	Ampacity, A	Manufacturer's Data	
15 kV Insulated Copper Conductor			
E-3.5	Manufacturer	By Supplier	
E-3.6	Continuous current carrying capacity of conductor at 90°C Operating Temperature	Manufacturer's Data	
E-3.7	Conductor Cross-Section, mm^2	30	
E-3.8	Conductor Material	Annealed Copper	
E-3.9	Insulation Material	Cross-linked polyethylene (XLPE)	
600 V Power Cable			
E-3.10	Manufacturer	By Supplier	
E-3.11	Type	THHN/THWN-2	
E-3.12	Continuous current carrying capacity of conductor at 90°C Operating Temperature, A	Refer to Bid Drawings	
E-3.13	Conductor Material	Annealed Copper	

Name of Firm | Name & Signature of Representative | Designation

SECTION VI

TECHNICAL SPECIFICATIONS FOR MECHANICAL WORKS

PART 1 - TECHNICAL SPECIFICATIONS

MW - MECHANICAL WORKS

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MW - MECHANICAL WORKS

MW-1.0 GENERAL

The work to be done under this section shall include the furnishing of all labor, materials, equipment, tools and other incidentals for all mechanical works enumerated hereunder or as shown on the accompanying drawings and installation manuals or as otherwise directed by NPC.

The work shall be performed and completed with high quality workmanship, in accordance with generally accepted modern practice in installation/erection works of Mechanical Equipment for the Supply, Delivery and Installation of Containerized/ Collapsible Office/ Staffhouse/ Stockroom for Palawan Diesel Power Plants in Five (5) Packages:

- Package 1 – Palawan Operations Division
- Package 2 – Nangalao DPP
- Package 3 – Bisucay DPP
- Package 4 – Bancalaan I DPP
- Package 5 – Casian DPP

All equipment and materials which the Supplier shall supply and install shall be new and unused. They shall be suitable for their intended purpose and shall comply with all applicable regulations, quality and dimension standards.

The Supplier shall closely coordinate with other disciplines to avoid interference with other works specified in the relevant sections of this specification.

MW-2.0 SCOPE OF WORK

It is not the intent of this specification to specify all technical requirements or to set forth those requirements covered by applicable codes and standards. The Supplier shall furnish high quality work, materials and equipment meeting the requirements of this specification and industry standards.

The Supplier shall also be responsible to assess and determine all and every work and service although not specifically detailed but are deemed required to fully complete the work and smooth execution of the project. Relative costs of any additional works or materials which the Supplier deemed required or necessary to complete the works shall be included in the bid proposal.

The work to be done under this section shall comprise the furnishing of all labor, tools, equipment, supply of appurtenant materials and other incidentals including installation/erection and test of all mechanical works enumerated hereunder in accordance with the Specifications contained herein and as shown in the drawings or otherwise directed by the NPC, which shall consist of but not limited to the following:

Package 1 – Palawan Operations Division

a) One (1) lot of Domestic Water Supply System consisting of pipes, valves, pipe fittings, gaskets, flanges, bolts and nuts, pipe supports including the required excavation and backfilling of embedded pipes and other incidentals to complete the domestic water supply piping system;

b) Two (2) units of Inverter-Window Type Air Conditioner of 11,500 kJ/hr minimum cooling capacity for Office Areas, complete with its mounting accessories and controls;

c) Two (2) units of Wall Mounted Exhaust Fan, 100 m^3/hr minimum capacity for Comfort Rooms, complete with its mounting accessories and control;

d) Two (2) units of Portable Type Fire Extinguisher, Clean Agent (HCFC or Halotron I Type), 7.1 kg. (15.5 lbs), non-expiry, multi-shots, wall-hung type and UL/FM approved; and

e) All other works and services required to complete the project.

Package 2 – Nangalao DPP

a) One (1) lot of Domestic Water Supply System consisting of pipes, valves, pipe fittings, gaskets, flanges, bolts and nuts, pipe supports including the required excavation and backfilling of embedded pipes and other incidentals to complete the domestic water supply piping system;

b) One (1) unit of Inverter-Window Type Air Conditioner of 8,000 kJ/hr minimum cooling capacity for Office, complete with its mounting accessories and controls;

c) One (1) unit of Inverter-Window Type Air Conditioner of 11,500 kJ/hr minimum cooling capacity for Personnel's Quarters, complete with its mounting accessories and controls;

d) One (1) unit of Wall Mounted Exhaust Fan, 200 m^3/hr minimum capacity for Stock Room, complete with its mounting accessories and control;

e) One (1) unit of Wall Mounted Exhaust Fan, 100 m^3/hr minimum capacity for Comfort Room, complete with its mounting accessories and control;

f) Three (3) units of Portable Type Fire Extinguisher, Clean Agent (HCFC or Halotron I Type), 7.1 kg. (15.5 lbs), non-expiry, multi-shots, wall-hung type and PS/ICC and/or BFP approved; and

g) All other works and services required to complete the project.

Package 3 – Bisucay DPP

a) One (1) lot of Domestic Water Supply System consisting of pipes, valves, pipe fittings, gaskets, flanges, bolts and nuts, pipe supports including the required excavation and backfilling of embedded pipes and other incidentals to complete the domestic water supply piping system;

b) Two (2) units of Inverter-Window Type Air Conditioner of 11,500 kJ/hr minimum cooling capacity, complete with its mounting accessories and controls;

c) Two (2) units of Wall Mounted Exhaust Fan, 100 m^3/hr minimum capacity for Comfort Room, complete with its mounting accessories and control;

d) Two (2) units of Portable Type Fire Extinguisher, Clean Agent (HCFC or Halotron I Type), 7.1 kg. (15.5 lbs), non-expiry, multi-shots, wall-hung type PS/ICC and/or BFP approved; and

e) All other works and services required to complete the project.

Package 4 – Bancalaan I DPP

a) One (1) lot of Domestic Water Supply System consisting of pipes, valves, pipe fittings, gaskets, flanges, bolts and nuts, pipe supports including the required excavation and backfilling of embedded pipes and other incidentals to complete the domestic water supply piping system;

b) One (1) unit of Inverter-Window Type Air Conditioner of 11,500 kJ/hr minimum cooling capacity for Bedrooms, complete with its mounting accessories and controls;

c) One (1) unit of Wall Mounted Exhaust Fan, 100 m^3/hr minimum capacity for Comfort Rooms, complete with its mounting accessories and control;

d) One (1) unit of Portable Type Fire Extinguisher, Clean Agent (HCFC or Halotron I Type), 7.1 kg. (15.5 lbs), non-expiry, multi-shots, wall-hung type and UL/FM approved; and

e) All other works and services required to complete the project.

Package 5 – Casian DPP

a) One (1) lot of Domestic Water Supply System consisting of pipes, valves, pipe fittings, gaskets, flanges, bolts and nuts, pipe supports including the required excavation and backfilling of embedded pipes and other incidentals to complete the domestic water supply piping system;

b) One (1) unit of Inverter-Window Type Air Conditioner of 11,500 kJ/hr minimum cooling capacity, complete with its mounting accessories and controls;

c) One (1) unit of Wall Mounted Exhaust Fan, 100 m^3/hr minimum capacity for Comfort Room, complete with its mounting accessories and control;

d) One (1) unit of Portable Type Fire Extinguisher, Clean Agent (HCFC or Halotron I Type), 7.1 kg. (15.5 lbs), non-expiry, multi-shots, wall-hung type PS/ICC and/or BFP approved; and

e) All other works and services required to complete the project.

MW-3.0 MATERIALS AND EQUIPMENT

MW-3.1 General

All materials, equipment, devices and accessories shall be new and unused, free from all defects and imperfections, and best suited for the purpose intended. Materials used in the manufacture and installation of all equipment to be furnished shall be of the required quality used in commercial products of reputable manufacturers. All equipment or substitute materials to be used shall conform to the latest specifications and provisions of approved standards of engineering societies or other equivalent standards approved by NPC.

All materials, parts and assemblies to be used shall be tested conforming to the latest specifications and provisions of approved Standards of Testing Materials. Results of the test shall be made to provide means of determining compliance with the applicable specifications. When requested, all tests or trials shall be made in the presence of NPC's duly authorized representative.

If the equipment fails to meet the guaranteed performance as determined by the test, the Supplier shall promptly make the necessary modifications at no cost to NPC.

Brochures, catalogs and other related technical data of materials and equipment to be supplied by the Supplier under this contract shall be submitted by the Supplier for NPC's review and approval prior to fabrication. Equipment or articles installed or used without such approval shall be at the Supplier's risk of subsequent rejections.

MW-3.2 Applicable Codes and Standards

The design, materials, equipment, manufacturing, construction, installation, and testing of all works under this contract shall be in strict accordance with the latest edition of all applicable codes and standards, national and local laws, codes and regulations, statutes and ordinances.

The latest edition of each standard shall mean the latest edition available at the date of contract signing.

All units, dimensions and calculations shall be in metric system.

MW-3.3 Test of Materials

All materials, parts and assemblies to be used shall be tested conforming to the latest specifications and provisions of approved Standards of Testing Materials. Results of the test shall be made to provide means of determining compliance with the applicable specifications. When requested, all tests or trials shall be made in the presence of NPC's duly authorized representative.

If the equipment fails to meet the guaranteed performance as determined by the test, the Supplier shall promptly make the necessary modifications at no cost to NPC.

MW-3.4 Submittals

The Supplier shall submit the technical specifications/data and brochures/catalogs of all equipment and materials to be supplied for NPC's review and approval prior to purchase and/or implementation including other necessary documents as required or specified in the relevant sections of this specification. Equipment or materials installed or used without such approval shall be at the Supplier's risk of subsequent rejections.

MW-4.0 DOMESTIC WATER SUPPLY SYSTEM

MW-4.1 General

This section provides the essential information for the design, supply, installation, construction and test of the Domestic Water Supply System to provide the water requirements of the proposed Collapsible/Containerized Office Room for Palawan Operations Division including all required excavation and backfilling works for the piping system.

The water supply shall be sourced and interconnected from the existing water supply line. Interconnection point shall be as directed by NPC representative/s.

MW-4.2 Domestic Water Supply Piping System

The Supplier shall supply, install and test the Domestic Water Supply and Distribution Piping System including piping supports, fittings, all required excavation and backfill of pipe trenches.

The work shall include the installation of valves, valve boxes if necessary, and other accessories to complete and make ready for safe and reliable operation of the system, but not limited to the following:

Package 1 – Palawan Operations Division

a) Two (2) units of 15 mm Ø Gate Valve;

b) One (1) unit of 20 mm Ø Gate Valve;

c) One (1) unit of 20 mm Ø Hose Bibb;

d) One (1) lot of domestic water piping, pipe fittings and other necessary accessories.

Package 2 – Nangalao DPP

a) One (1) unit of 20 mm Ø Gate Valve;

b) One (1) unit of 20 mm Ø Hose Bibb;

c) One (1) lot of domestic water piping, pipe fittings and other necessary accessories.

Package 3 – Bisucay DPP

a) One (1) unit of 20 mm Ø Gate Valve;

b) Two (2) units of 20 mm Ø Hosebibb;

c) One (1) lot of domestic water piping, pipe fittings and other necessary accessories.

Package 4 – Bancalaan I

a) One (1) unit of 15 mm Ø Gate Valve;

b) One (1) unit of 20 mm Ø Gate Valve;

c) One (1) unit of 20 mm Ø Hose Bibb;

d) One (1) lot of domestic water piping, pipe fittings and other necessary accessories.

Package 5 – Casian DPP

a) One (1) unit of 20 mm Ø Gate Valve;

b) One (1) unit of 20 mm Ø Hose Bibb;

c) One (1) lot of domestic water piping, pipe fittings and other necessary accessories.

MW-4.2.1 Pipe, Fittings and Accessories

Domestic water piping shall be constructed from Unplasticized Polyvinyl Chloride (*uPVC*) pipe schedule 80 or class 150, conforming to ASTM D-1784 or approved equivalent.

Unplasticized PVC pipe connection joints 80 mm (3") Ø and above shall be joined by rubber ring or solvent cement type connection. Smaller sizes shall be of solvent cement type connection.

Flanged connections may be used for connecting to flanged surfaces and shall be of the same material with the connected pipe with a rating of class 150 or ANSI 150. Flanged joints may use flat gaskets with serrated flange faces or 0-rings with corresponding grooves. Gaskets and 0-rings shall not be fabricated from plasticized PVC.

Union joints shall not be used with pipe diameters of more than 63 mm O.D. (2"). Joints between metal pipes and PVC pipes should be flanged type using a PVC flange on the PVC pipe and full face gasket.

Flange bolts shall be hexagonal head machine bolts with heavy semi-finished head nuts having dimensions in accordance with ANSI B18.2.

PVC pipe installed aboveground shall be properly supported to avoid pipe sagging. Pipe covering made of steel or metal shall be provided in case there is high risk of damaging the pipe during normal operation and maintenance.

All trench excavation and backfill works shall be done in accordance with pertinent provisions specified in the Civil Works Specifications.

MW-4.2.2 Valves and Accessories

All gate and globe valves, 65mm and over shall be of OS & Y with rising stem, solid wedge type disc for gate valves and plug type disc for globe valves, bolted, bonnet, bolted gland and have flanged ends with the following materials of components:

a)	Body & bonnet	-	Cast iron
b)	Stem	-	Bronze or brass
c)	Seat ring & seat	-	Bronze or bronze faced
d)	Wedge or disc	-	Bronze or bronze faced

Gate and globe valves, 50mm and smaller shall be made of bronze material, rising stem, union bonnet, inside screw, solid wedge or plug type disc, and screwed ends. Valves installed in valve boxes shall have flanged ends for easy replacement or if valves with screwed ends are used, appropriate unions shall be installed.

Valves of all sizes shall have a rating of not less than Class 150.

Garden hose connection valves or hose bibbs shall be of bronze material, 20mm size and outfitted with male thread hose connections.

Strainers, if required, shall be of Y-type with cast iron or PVC body material and flanged or screwed ends. Screen elements shall be of stainless steel construction with minimum of 40-mesh size.

MW-4.3 Installation

The Supplier shall install the piping system in a thorough manner and with good workmanship in accordance with the construction drawings and specification or as directed by NPC. No installation work for underground pipe shall commence unless trench excavation has been approved by NPC.

All pipes, fittings, valves and appurtenances shall be free from dirt or other foreign matters before laying. In the installation of the pipes, care shall be taken to prevent the pipes from becoming clogged during the progress of the work. Should any pipe become either partially or wholly clogged before final completion of the work, it shall be cleaned out by the Supplier in a manner satisfactory to NPC or shall be replaced by and at the expense of the Supplier. Open ends shall be temporarily plugged, otherwise suitably closed when necessary.

Special care shall be taken in carrying out the installation of joints, branches, valves and other fittings.

All piping works shall be coordinated with any other work at site and with existing installation so that interference between piping and other structural features will be avoided. In case interferences occur, NPC will decide which work is to be relocated.

Where pipeline are laid, the trench shall be provided with a cushion pad of at least 100 mm sand and sandy soil bedding materials.

Embedded water supply pipes in open areas shall be laid not less than 300mm from the ground surface to the bottom of pipe.

All pipeline excavation shall be backfilled up to the level of the finished grade surface in layers of 150 mm and thoroughly compacted. Backfill materials shall be compactable soil taken from trench excavation and approved by NPC. Trench excavation and backfilling works shall be done in accordance with the pertinent provisions of the Civil Works Technical Specifications.

PVC pipe installed aboveground shall be properly supported to avoid pipe sagging. Pipe covering made of steel or metal shall be provided in case there is high risk of damaging the pipe during normal operation and maintenance.

All existing facilities affected and damaged during the installation of piping shall be replaced and/or restored to its original appearance by the Supplier at his own expense.

Transportation, storage and erection shall be in strict accordance with manufacturer's recommendations. Erection shall be such as to prevent stress in the piping.

All trench excavation and backfill works shall be done in accordance with pertinent provisions specified in the Civil Works Specifications.

MW-4.4 Testing, Cleaning and Disinfection

The piping system shall be hydrostatically tested at a pressure 1.5 times the design pressure or maximum working pressure of the system for a period of not less than 30 minutes.

Before any test is made, the Supplier shall notify NPC in advance so that such test may be witnessed. All expenses that may be incurred during the tests shall be borne by the Supplier.

If applicable, test shall also include visual check on joints or welded parts, as applicable, during actual operation of each system to ensure that no leakage is observed on the joints.

Before starting the test procedure, the piping shall be flushed and cleaned thoroughly. When filling the line with water, all air shall be removed.

Tests may be applied to sections or the entire system. The test shall be made between valves and sections of not more than 305m (1000 ft) in accordance with the American Water Works Association (AWWA).

There shall be no leakage whatsoever from the pipes, fittings and connections for each section tested while the system is under the test pressure for the period of not less than thirty (30) minutes of the total time to inspect all portions of the waterline under test, whichever is longer.

During the test, valves shall be opened and closed. Any leakage or any defect disclosed by the tests prior to the acceptance shall be corrected and repaired by the Supplier at his own expense to the satisfaction of NPC.

The water piping system shall be disinfected after testing and before being put into use. Before disinfections, the piping should be drained, flushed, re-drained and refilled. In refilling, care must be taken to avoid entraining or entrapping air in the piping. The Supplier may use any of the methods of disinfections as recommended by the American Water Works Association (AWWA) or any of the following kinds of treatment:

a) Chlorine Gas-Water Mixture;

b) Calcium-Hypochlorite or equal; or

c) Dry Calcium Hypochlorite or Chlorinated Lime and Water Mixture.

Retention period shall be at least 24 hours and shall produce not less than 10 ppm at extreme end of the lines at the end of the retention period. After flushing, residual chlorine must be reduced to less than 1 ppm.

The Supplier shall submit the following for review and/or approval by NPC:

a) Test procedures prior to test; and

b) Test and inspection reports.

MW-4.5 Submittal

The following documents shall be submitted by the Supplier for NPC's review and approval prior to procurement and installation:

a) Complete data, specifications and catalogues;
b) Outline and assembly drawings;
c) Test procedures;
d) Field test reports; and
e) Operation and Maintenance Manuals.

MW-5.0 AIRCONDITIONING AND VENTILATION SYSTEM

MW-5.1 General

This section provides the essential information for the Air Conditioning and Ventilation System equipment to be supplied, installed and tested by the Supplier.

All air-conditioning equipment and Ventilation System shall preferably have one Brand name and shall be the standard product of a reputable A/C manufacturer. In case other brand of A/C and Ventilation equipment are to be used to meet with the specific requirements in the bid document, catalogues and other supporting documents shall be submitted for NPC's review and approval.

Power supply for the ventilation and air-conditioning equipment shall be 230V, single phase, 60 hz.

Refrigerant to be used shall be environment-friendly.

All necessary transformers and electrical materials shall be included in the Supplier's supply if power ratings provided are other than the one's specified above.

MW-5.2 Design Conditions

a) Outdoor Conditions:

Dry Bulb Temperature	:	35°C
Wet Bulb Temperature	:	27°C
Relative Humidity	:	80% to 100%

b) Indoor Conditions (for air-conditioned areas):

Dry Bulb Temperature	:	24°C ± 3°C
Relative Humidity	:	50% ± 5%

c) Area to be air-conditioned shall be:

c.1) Office Areas

d) Area to be ventilated shall be:

d.1) Comfort Room - 10 changes per hour

MW-5.3 Schedule of Equipment

a) Air-Conditioning Unit

Location	Quantity	Cooling Load/Unit	Type
Package 1 – Palawan Operations Division			
a.1) Office Areas	Two (2) unit	13,000 kJ/hr	Inverter Window Type
Package 2 – Nangalao DPP			
a.2) Office	One (1) unit	8,500 kJ/hr	Inverter Window Type
a.3) Personnel's Quarters	One (1) unit	13,000 kJ/hr	Inverter Window Type
Package 3 – Bisucay DPP			
a.4) Office	One (1) unit	13,000 kJ/hr	Inverter Window Type
a.5) Staffhouse	One (1) unit	13,000 kJ/hr	Inverter Window Type
Package 4 – Bancalaan I DPP			
a.6) Bedroom	One (1) unit	13,000 kJ/hr	Inverter Window Type
Package 5 – Casian DPP			
a.7) Bedroom	One (1) unit	13,000 kJ/hr	Inverter Window Type

b) Ventilation Unit

Location	Quantity	Cooling Load/Unit	Type
Package 1 – Palawan Operations Division			
b.1) Comfort Rooms (CR)	Two (2) units	100 m^3/hr	Wall Mounted Exhaust Fan
Package 2 – Nangalao DPP			
b.2) Stock Room	One (1) unit	200 m^3/hr	Wall Mounted Exhaust Fan

b.3) Comfort Room of Office	One (1) unit	100 m^3/hr	Wall Mounted Exhaust Fan
Package 3 – Bisucay DPP			
b.6) Comfort Room of Staffhouse	One (1) unit	100 m^3/hr	Wall Mounted Exhaust Fan
b.5) Comfort Room of Office	One (1) unit	100 m^3/hr	Wall Mounted Exhaust Fan
Package 4 – Bancalaan I DPP			
b.7) Comfort Rooms	One (1) unit	100 m^3/hr	Wall Mounted Exhaust Fan
Package 5 – Casian DPP			
b.4) Comfort Room	One (1) unit	100 m^3/hr	Wall Mounted Exhaust Fan

MW-5.4 Air-Conditioning System

MW-5.4.1 Scope of Works

The Work called for in this specification includes the design, furnishing, delivering, installing and testing of window type air conditioners (inverter type) to provide a fully ventilated and air conditioned rooms. The work shall include other accessories even though not specifically mentioned in this specification but are necessary to obtain a complete set for the safe and reliable operation of the system as a whole.

All electrical materials such as circuit breakers, automatic controls, including all power and control wires, supervision, electrical outlets and fittings shall be included and provided by the Supplier including complete system of automatic temperature controls.

The type and quantity of air conditioning equipment to be supplied shall be as specified in Clause 5.3 (Schedule of Equipment) or shown on the drawings.

All air conditioning units (window type) to be supplied and installed shall have the following features/accessories but not limited to:

- With Remote Controller and Holder
- With automatic and manual swing louver control
- With control switch
- Cool Mode
- Fan Mode
- Automatic Mode

MW-5.4.2 Window Type Air-Conditioning Systems

The Window Type Air Conditioning Units to be supplied and installed for specific areas in the building are as specified in the schedule of equipment or shown on the drawings.

The units shall be wall mounted room air conditioner and shall be provided with a room thermostat and sensing element which detect changes in room temperature and adjust it to desired cooling by automatic actuation of the compressor. Compressor shall be provided with thermal overload device that automatically shuts off the compressor during overheating.

Fan motor shall be permanently lubricated. The unit shall operate on a 230 V AC, single phase and 60 Hz power supply.

Mounting brackets which are properly fixed on the concrete wall or structure shall be provided to support the suspended portion of the air conditioner unit. Weather seals shall be provided on the area between the air conditioner and wall opening.

Provision of wall opening for the installation of the window type air conditioning units shall be closely coordinated with the civil works.

MW-5.5 Ventilation Units

MW-5.5.1 General

The Supplier shall furnish, deliver, install and test the ventilation system equipment complete with all the necessary appurtenances for its efficient operation. The scope of supply shall include all mounting supports and fixing materials required to complete the installation and ready for operation.

The unit shall be properly sized to conform to the required air changes per hour at free air for this particular application but in no case be less than those specified elsewhere in this specification. It shall be designed to continuously or intermittently operate on a 230 V, single phase, 60 Hz power supply, otherwise specified.

MW-5.5.2 Wall Mounted Exhaust Fans

Thru-the-wall propeller exhaust fans shall be provided at the area as specified in the schedule of equipment.

Each unit shall be properly sized to conform with the required air changes per hour at free air for this particular application but in no case be less than those specified elsewhere in this specification. Unit installed/mounted on the wall and directly discharges exhaust outside the building shall be provided with automatic shutter. It shall be of the direct driven type and corrosion resistant to operate on a 230 V, single phase, 60 Hz.

MW-5.6 Installation and Painting

The Air-Conditioning and Ventilation Units shall be installed as indicated in the drawings or as directed by NPC. After installation, all exposed and unfinished surfaces shall be thoroughly cleaned and washed possibly by chemical of all rust, oil and other foreign matters and shall be repainted in accordance with the manufacturer's standard or as approved by NPC.

Likewise, all surfaces and supports shall be thoroughly cleaned of rust, oil and other foreign matters and shall be painted with epoxy primer and two (2) coats of finish paint.

Painted surfaces of all equipment which are damaged during transport and installation shall be repaired or touched-up as necessary to prevent rusting, corrosion, etc. until the final finish painting application is made.

MW-5.7 Spare Parts and Tools

The Supplier shall supply the standard spare parts for one (1) year operation as recommended by the equipment manufacturer. Spare parts required during the warranty period shall be supplied by the Supplier at no Cost to NPC.

Special tools for normal operation and maintenance and are not usually available in a standard machine shop or retailing store shall also be provided as recommended by the manufacturer.

MW-5.8 Acceptance Test

Prior to acceptance of the Works, the equipment shall be tested in the presence of NPC to determine whether the requirements of the specifications have been met. Any defects found that are inherent in the equipment shall be remedied at the expense of the Supplier.

MW-5.9 Submittal

Prior to purchase and implementation of the works, the Supplier shall prepare and submit five (5) copies of the following drawings/documents for review/approval of NPC:

a) Dimensional layout drawings of mechanical equipment and associated devices.

b) Manufacturer's catalog sheets, marked as necessary, to indicate materials or equipment being furnished including instruments for control system;

c) Complete control schematic and wiring diagrams for all equipment to be furnished;

d) List of recommended Spare Parts and Special Tools; and

e) Operation and Maintenance Manuals.

MW-6.0 FIRE FIGHTING SYSTEM

MW-6.1 General

This section provides the essential information for the design, manufacture, fabrication, supply, installation, delivery to site and test of the specified Fire Fighting System.

All equipment and materials necessary for the complete installation shall be furnished complete, even though not necessarily mentioned in this specification but are necessary for the safe and reliable operation of the Fire Fighting System.

All the Fire Fighting System equipment shall be supplied by the Supplier complete with their corresponding technical brochures written in English that would aid in the installation, operation and maintenance of the equipment.

The Fire Fighting System shall be designed, installed and tested in accordance with the requirements of National Fire Protection Association (NFPA) Standards.

The Supplier shall design, furnish, install and test all the equipment specified below.

MW-6.2 Portable Fire Extinguishers

MW-6.2.1 Scope of work

The Supplier shall supply the specified number of UL/FM approved Portable Type Fire Extinguishers complete and ready for operation and shall be installed at their corresponding place of use as specified below and shown on the drawings.

a) Two (2) units of Portable Type Fire Extinguisher, Clean Agent (HCFC or Halotron I Type), 7.1 kg. (15.5 lbs), non-expiry, multi-shots, wall-hung type and UL/FM approved (Package 1 – Palawan Operations Division);

b) Three (3) units of Portable Type Fire Extinguisher, Clean Agent (HCFC or Halotron I Type), 7.1 kg. (15.5 lbs), non-expiry, multi-shots, wall-hung type and PS/ICC and/or BFP approved (Package 2 – Nangalao DPP);

c) Two (2) units of Portable Type Fire Extinguishers, Clean Agent (HCFC or Halotron I Type), 7.1 kg. (15.5 lbs), non-expiry, multi-shots, wall-hung type and PS/ICC and/or BFP approved (Package 3 – Bisucay DPP);

d) Two (2) units of Portable Type Fire Extinguisher, Clean Agent (HCFC or Halotron I Type), 7.1 kg. (15.5 lbs), non-expiry, multi-shots, wall-hung type and UL/FM approved (Package 4 – Bancalaan I DPP);

e) One (1) unit of Portable Type Fire Extinguisher, Clean Agent (HCFC or Halotron I Type), 7.1 kg. (15.5 lbs), non-expiry, multi-shots, wall-hung type and PS/ICC and/or BFP approved (Package 5 – Casian DPP)

MW-6.2.2 Fire Extinguishers

Fire extinguishers shall be Underwriter Laboratories and/or Factory Mutual Approved and of rechargeable cylinder with five (5) years guarantee against leak. Each fire extinguisher cylinder shall be complete with release valve, dial gauge indicator, appropriate length of hose with nozzle and locking pin.

The 7.1 kg (15.5 lbs.) capacity wall-hung type fire extinguishers shall be complete with carrying handle and wall-mounting bracket.

Portable fire extinguishers shall be suitable for the protection against class ABC fires using Clean Agent (HydroChloroFluoroCarbon or Halotron I Type) that is environmentally safe and leaves no residue.

The fire extinguishers shall be check-weighed at interval of six (6) months from the date of delivery for a period of one (1) year and if found to be undercharged (unless used by an NPC personnel) shall be filled and recharged by the Supplier at no expense to NPC.

MW-6.2.3 Submittal

The Supplier shall submit the type and model of the fire extinguishers for the approval of NPC prior to purchase.

MW-7.0 DRAWINGS

Prior to procurement of all materials, equipment and auxiliaries to be supplied by the Supplier under this contract, the Supplier shall submit for NPC's review, approval, and/or reference, five (5) copies of prints of technical specifications/data and/or brochures/catalogues. NPC shall review, comment or note corrections to be made and return two (2) copies to the Supplier within twenty (20) calendar days after receipt of the drawing. If corrections are required, the Supplier shall make all necessary corrections and re-submit such within fourteen (14) calendar days for NPC's review and approval. However, if the Contractor has not received any reply from NPC within the twenty (20) calendar days, said drawings and documents are deemed approved and the Contractor may proceed with design and manufacture of equipment or materials. The Contractor however, shall not be relieved to meet all the requirement of this specification nor the responsibility for the correctness of the Contractor's drawing/documents.

Prints marked "Approved" or "Approved with Corrections Indicated" authorize the Supplier to proceed with the procurement of materials or equipment or construction/fabrication of the work shown on the drawings, with corrections, if any, indicated thereon. When prints of drawings are marked "Approved with Corrections Indicated" or "Returned for Corrections", the Supplier shall finalize

the drawings and re-submit same in five (5) copies each for final approval. Every revision shall be shown by number, date and subject in a revision block.

Drawings approved by NPC shall in no way relieve the Supplier from entire responsibility for engineering, design, workmanship, material and all other liabilities under the Contract.

NPC reserves the right to reproduce any drawings or prints received from the Supplier as may be required despite any notice prohibiting the same appearing on the drawing or the print.

The Supplier shall submit construction and detailed drawings as may deemed necessary, as-built drawings and other documents for NPC's review, approval, information and reference as specified in the relevant specifications.

Any supply of materials/equipment or construction of any particular structure or portion thereof prior to the approval of drawings pertinent thereto shall be at the Supplier's risk. The Supplier shall be responsible for any extra cost that may arise in correcting the work already done to conform with the drawings as revised and approved.

Should an error be found in the Supplier's drawings during construction/erection, the correction including any field change considered necessary shall be noted on the drawings and shall be resubmitted for approval.

All data and information to be submitted shall be in the English language and all drawings shall be drawn using the metric system as unit of measurement.

The Supplier shall address all communications pertaining to Supplier's Drawings or otherwise agreed to:

The Manager, Design and Development Department
National Power Corporation
BIR Road corner Quezon Avenue,
Diliman, Quezon City 1100

All drawings and documents to be submitted by the Supplier for NPC's review and approval shall be on A4 size or A3 size folded to A4.

MW-8.0 GUARANTEE

The Supplier shall guarantee the replacement of the supplied equipment or components at his own expense against defect in design, workmanship and materials for a period of twelve (12) months after the equipment has been installed, tested and accepted. However, the warranty coverage for the compressor of the air-conditioning units shall be five (5) years. The Supplier guarantees that the equipment will perform in the manner as set forth in the equipment's manual and the Contract.

The Supplier shall submit a Warranty Certificate effective from the date of acceptance by NPC.

After the lapse of the warranty period, provided that there are no defects found and/or pending repair works, NPC shall release the warranty security/certificate.

MW-9.0 MEASUREMENT OF PAYMENT

Measurement for payment for all works shall be based on the bid price of each item as shown in the Schedule of Requirements (Bid Price Schedule). The cost shall cover all works required and described in the pertinent provisions of the specifications.

Measurement for payment for pipes shall be based on the bid price of actual length of pipe installed as shown in the Schedule of Requirements (Bid Price Schedule). The cost shall cover all works required including excavation, sand bedding, backfilling, testing, painting and other works and services described in the pertinent provisions of the specifications.

SECTION VII

SCHEDULE OF REQUIREMENTS

SECTION VII - SCHEDULE OF REQUIREMENTS

SUMMARY

SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR PALAWAN DIESEL POWER PLANTS IN FIVE (5) PACKAGES

ITEM NO.	PARTICULARS	TOTAL AMOUNT IN FIGURES		TOTAL PESO EQUIVALENT
		Foreign Currency	Phil. Peso	Phil. Peso
1.0	Palawan Operations Division			
2.0	Nangalao DPP			
3.0	Bisucay DPP			
4.0	Bancalaan 1 DPP			
5.0	Casian DPP			
TOTAL AMOUNT				

Notes: *Final delivery site of all equipment/materials shall be at the respective plant sites stated above*

Name of Bidder

Name and Signature of Authorized Representative

Designation

SECTION VII - SCHEDULE OF REQUIREMENTS

SUMMARY

SUPPLY, DELIVERY AND INSTALLATION OF COLLAPSIBLE / CONTAINERIZED OFFICE ROOM FOR PALAWAN OPERATIONS DIVISION (PACKAGE 1)

ITEM NO.	PARTICULARS	TOTAL AMOUNT IN FIGURES		TOTAL PESO EQUIVALENT
		Foreign Currency	Phil. Peso	Phil. Peso
1.0	Palawan Operations Division			
SUB TOTAL AMOUNT				

Notes: *Final delivery site of all equipment/materials shall be at the respective plant sites stated above*

Name of Bidder

Name and Signature of Authorized Representative

Designation

SECTION VII- SCHEDULE OF REQUIREMENTS
(PACKAGE 1 - PALAWAN OPERATIONS DIVISION)

ITEM NO.	DESCRIPTION	QTY.- UNIT		UNIT PRICE FOR GOODS AND RELATED SERVICES TO BE SUPPLIED AND DELIVERED			TOTAL PRICE
				Unit Price of Goods	Value Added Tax and other Taxes Imposed by Phil. Govt. (Phil. Peso)	Local Transport from Port to Delivery Site (Phil. Peso)>	Local Currency (Phil. Peso) ({(d)+(e)+(f)} x(c))
(a)	(b)	(c)		(d)	(e)	(f)	(g)
	Supply and Delivery of the following including other works/services in accordance with the requirements as described in the Technical Specifications:						
1.0	**Architectural and Civil Works**						
1.1	Prefab Containerized House (Office Room) including plumbing system, foundation, steel plates and anchor bolts	2	set				
1.2	Concrete walk	1.8	cu.m.				
1.3	Septic tank	1	lot				
2.0	**Electrical Works**						
2.1	Lighting and power system of the Collapsible/ Containerized Bunker complete with the required panelboard, lighting fixtures, switches, outlets, cables, conduits, boxes and other fittings as described in the Technical Specifications and as shown on the Bid Drawings including installation works and tapping to the nearest power source.	1	lot				
	TOTAL	_____ (Amount in Words)					P _____

* Bidders shall enter a code representing the Country of Origin of all imported equipment, materials and accessories

\+ Cost of equipment, freight, insurance, etc. up to Phil. port of entry

\> Unit Price for Local Transportation, insurance and other local costs incidental to delivery of the goods from the Phil port of entry to final delivery site

Name of Bidder: _____

Signature of Bidder: _____

SECTION VII- SCHEDULE OF REQUIREMENTS
(PACKAGE 1 - PALAWAN OPERATIONS DIVISION)

ITEM NO.	DESCRIPTION	QTY.- UNIT		UNIT PRICE FOR GOODS AND RELATED SERVICES TO BE SUPPLIED AND DELIVERED			TOTAL PRICE
				Unit Price of Goods	Value Added Tax and other Taxes Imposed by Phil. Govt. (Phil. Peso)	Local Transport from Port to Delivery Site (Phil. Peso)>	Local Currency (Phil. Peso) (((d)+(e)+(f)) x(c))
(a)	(b)	(c)		(d)	(e)	(f)	(g)
3.0	**Mechanical Works**						
3.1	**Domestic Water Supply Piping System (Including Supply, Installation and Testing)**						
3.1.1	Gate Valve, 15 mm Ø, rising stem, cast bronze, screwed ends, Class 150	2	sets				
3.1.2	Gate Valve, 20 mm Ø, rising stem, cast bronze, screwed ends, Class 150	1	sets				
3.1.3	Hose Bibb, 20 mm Ø, bronze body, screwed ends, Class 150	1	set				
3.1.4	Water Pipe, 25 mm O.D. (3/4" N.D.), uPVC pipe, sch. 80 of class 150, and its associated fittings, pipe supports and other accessories	36	lm				
3.1.5	Water Pipe, 20 mm O.D. (1/2" N.D.), uPVC pipe, sch. 80 of class 150, and its associated fittings, pipe supports and other accessories	12	lm				
3.2	**Air-Conditioning and Ventilation System (Including Supply, Installation and Testing)**						
3.2.1	Air conditioning unit for Bedroom, 11,500 kJ/hr minimum cooling capacity, inverter-window type, complete with necessary mounting accessories and controls (infrared remote) and other necessary accessories as described in the technical specifications.	2	set				
3.2.2	Exhaust fan for Comfort Room, 100 m³/h wall mounted, propeller type, direct driven, complete with automatic shutter, mounting accessories and controls.	2	set				
3.3	**Fire Fighting System (Including Supply and Installation)**						
3.3.1	Portable Fire Extinguishers, HCFC or Halotron I, 7.1 kg. (15.5 lbs.), non-expiry, multi shots, wall hung type with bracket and mounting accessories, UL/FM approved.	2	units				
	TOTAL			(Amount in Words)			P

* Bidders shall enter a code representing the Country of Origin of all imported equipment, materials and accessories

\+ Cost of equipment, freight, insurance, etc. up to Phil. port of entry

\> Unit Price for Local Transportation, insurance and other local costs incidental to delivery of the goods from the Phil port of entry to final delivery site

Name of Bidder: _____

Signature of Bidder: _____

SECTION VII - SCHEDULE OF REQUIREMENTS

SUMMARY

SUPPLY, DELIVERY AND INSTALLATION OF 20 FT COLLAPSIBLE / CONTAINERIZED BUNKER, OFFICE AND STOCKROOM FOR NANGALAO DPP (PACKAGE 2)

ITEM NO.	PARTICULARS	TOTAL AMOUNT IN FIGURES		TOTAL PESO EQUIVALENT
		Foreign Currency	Phil. Peso	Phil. Peso
1.0	Nangalao DPP			
SUB TOTAL AMOUNT				

Notes: *Final delivery site of all equipment/materials shall be at the respective plant sites stated above*

Name of Bidder

Name and Signature of Authorized Representative

Designation

SECTION VII- SCHEDULE OF REQUIREMENTS
(PACKAGE 2 - NANGALAO DPP)

ITEM NO.	DESCRIPTION	QTY.- UNIT	UNIT PRICE FOR GOODS AND RELATED SERVICES TO BE SUPPLIED AND DELIVERED			TOTAL PRICE
			Unit Price of Goods	Value Added Tax and other Taxes Imposed by Phil. Govt. (Phil. Peso)	Local Transport from Port to Delivery Site (Phil. Peso)>	Local Currency (Phil. Peso) (((d)+(e)+(f)) x(c))
(a)	(b)	(c)	(d)	(e)	(f)	(g)
	Supply and Delivery of the following including other works/services in accordance with the requirements as described in the Technical Specifications:					
1.0	**Architectural and Civil Works**					
1.1	Prefab Containerized House (Staffhouse, Office and Stockroom) including steel stairs, plumbing system, foundation, steel plates and anchor bolts	**2** set				
1.2	Septic tank	**1** lot				
2.0	**Electrical Works**					
2.1	Lighting and power system of the Collapsible/ Containerized Bunker, Office and Stockroom complete with the required panelboard, lighting fixtures, switches, outlets, cables, conduits, boxes and other fittings as described in the Technical Specifications and as shown on the Bid Drawings including installation works and tapping to the nearest power source.	**1** lot				
	TOTAL _____ (Amount in Words)					P _____

* Bidders shall enter a code representing the Country of Origin of all imported equipment, materials and accessories

\+ Cost of equipment, freight, insurance, etc. up to Phil. port of entry

\> Unit Price for Local Transportation, insurance and other local costs incidental to delivery of the goods from the Phil port of entry to final delivery site

Name of Bidder: _____

Signature of Bidder: _____

SECTION VII- SCHEDULE OF REQUIREMENTS
(PACKAGE 2 - NANGALAO DPP)

ITEM NO.	DESCRIPTION	QTY.- UNIT		UNIT PRICE FOR GOODS AND RELATED SERVICES TO BE SUPPLIED AND DELIVERED			TOTAL PRICE
				Unit Price of Goods	Value Added Tax and other Taxes Imposed by Phil. Govt. (Phil. Peso)	Local Transport from Port to Delivery Site (Phil. Peso)>	Local Currency (Phil. Peso) (((d)+(e)+(f)) x(c))
(a)	(b)	(c)		(d)	(e)	(f)	(g)
3.0	**Mechanical Works**						
3.1	**Domestic Water Supply Piping System (Including Supply, Installation and Testing)**						
3.1.1	Gate Valve, 20 mm Ø, rising stem, cast bronze, screwed ends, Class 150	1	set				
3.1.2	Hose Bibb, 20 mm Ø, bronze body, screwed ends, Class 150	1	set				
3.1.3	Water Pipe, 25 mm O.D. (20mm Ø N.D.), uPVC pipe, sch. 80 of class 150, and its associated fittings, pipe supports and other accessories	30	lm				
3.1.4	Water Pipe, 20 mm O.D. (15mm Ø N.D.), uPVC pipe, sch. 80 of class 150, and its associated fittings, pipe supports and other accessories	12	lm				
3.2	**Air-Conditioning and Ventilation System (Including Supply, Installation and Testing)**						
3.2.1	Air conditioning unit for Office, 8,000 kJ/hr minimum cooling capacity, inverter-window type, complete with necessary mounting accessories and controls (infrared remote) and other necessary accessories as described in the technical specifications.	1	set				
3.2.2	Air conditioning unit for Personnel's Quarter, 11,500 kJ/hr minimum cooling capacity, inverter-window type, complete with necessary mounting accessories and controls (infrared remote) and other necessary accessories as described in the technical specifications.	1	set				
3.2.3	Exhaust fan for Comfort Room, 100 m^3/h wall mounted, propeller type, direct driven, complete with automatic shutter, mounting accessories and controls.	1	set				
3.2.4	Exhaust fan for Stock Room, 200 m^3/h wall mounted, propeller type, direct driven, complete with automatic shutter, mounting accessories and controls.	1	set				
3.3	**Fire Fighting System (Including Supply and Installation)**						
3.3.1	Portable Fire Extinguishers, HCFC or Halotron I, 7.1 kg. (15.5 lbs.), non-expiry, multi shots, wall hung type with bracket and mounting accessories, UL/FM approved.	3	units				
	TOTAL	_____ (Amount in Words)					₱ _____

* Bidders shall enter a code representing the Country of Origin of all imported equipment, materials and accessories

\+ Cost of equipment, freight, insurance, etc. up to Phil. port of entry

\> Unit Price for Local Transportation, insurance and other local costs incidental to delivery of the goods from the Phil port of entry to final delivery site

Name of Bidder: _____

Signature of Bidder: _____

SECTION VII - SCHEDULE OF REQUIREMENTS

SUMMARY

SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE AND STAFFHOUSE FOR BISUCAY DPP (PACKAGE 3)

ITEM NO.	PARTICULARS	TOTAL AMOUNT IN FIGURES Phil. Peso
1.0	Bisucay DPP	
	SUB TOTAL AMOUNT	_____

Notes: *Final delivery site of all equipment/materials shall be at the respective plant sites stated above*

_____ Name of Bidder

_____ Name and Signature of Authorized Representative

_____ Designation

SECTION VII- SCHEDULE OF REQUIREMENTS
(PACKAGE 3 - BISUCAY DPP)

ITEM NO.	DESCRIPTION	QTY.- UNIT		UNIT PRICE FOR GOODS AND RELATED SERVICES TO BE SUPPLIED AND DELIVERED			TOTAL PRICE
				Unit Price of Goods	Value Added Tax and other Taxes Imposed by Phil. Govt. (Phil. Peso)	Local Transport from Port to Delivery Site (Phil. Peso)>	Local Currency (Phil. Peso) (((d)+(e)+(f)) x(c))
(a)	(b)	(c)		(d)	(e)	(f)	(g)
	Supply and Delivery of the following including other works/services in accordance with the requirements as described in the Technical Specifications:						
1.0	**Architectural and Civil Works**						
1.1	Prefab Containerized House (Office and Staffhouse) including plumbing system, foundation, steel plates and anchor bolts	**2**	sets				
1.2	Concrete walk	**1.7**	cu.m.				
1.3	Septic tank	**1**	lot				
2.0	**Electrical Works**						
2.1	15 kVA Station Service Transformer, 7.97 kV / 240 V, 1-phase, 60 Hz complete with the required accessories and other appurtenances as described in the Technical Specifications, Technical Data Sheet and as indicated on the Bid Drawings including installation works	**1**	lot				
2.2	15kV Fuse Disconnect Switch with Lighting Arrester Combination complete with the required fuse link, brackets and accessories as described in the Technical Specifications and Technical Data Sheets as indicated on the Bid Drawings including installation works	**1**	set				
2.3	240 V Kilowatt-Hour Demand Meter complete with its accessories as described in the Technical Specifications, Technical Data Sheet and as indicated on the Bid Drawings including installation works	**1**	set				
2.4	Power, Control & Instrumentation Cables complete with the required accessories for cabling works to interface the supplied equipment to the 13.8 kV bus as described in the Technical Specifications, Technical Data Sheets and as indicated on the Bid Drawings including installation works	**1**	set				
2.5	Lighting and Power System of the Collapsible/Containerized Office and Staff House complete with the required panelboard, circuit breakers, luminaires, switches, outlets, cables, conduits, boxes and other fittings as described in the Technical Specifications and as shown on the Bid Drawings including installation works and tapping to the power source	**1**	set				
	TOTAL	_____ (Amount in Words)					P _____

* Bidders shall enter a code representing the Country of Origin of all imported equipment, materials and accessories

\+ Cost of equipment, freight, insurance, etc. up to Phil. port of entry

\> Unit Price for Local Transportation, insurance and other local costs incidental to delivery of the goods from the Phil port of entry to final delivery site

Name of Bidder: _____

Signature of Bidder: _____

SECTION VII- SCHEDULE OF REQUIREMENTS
(PACKAGE 3 - BISUCAY DPP)

ITEM NO.	DESCRIPTION	QTY.- UNIT		UNIT PRICE FOR GOODS AND RELATED SERVICES TO BE SUPPLIED AND DELIVERED			TOTAL PRICE
				Unit Price of Goods	Value Added Tax and other Taxes Imposed by Phil. Govt. (Phil. Peso)	Local Transport from Port to Delivery Site (Phil. Peso)>	Local Currency (Phil. Peso) (((d)+(e)+(f)) x(c))
(a)	(b)	(c)		(d)	(e)	(f)	(g)
3.0	**Mechanical Works**						
3.1	**Domestic Water Supply Piping System (Including Supply, Installation and Testing)**						
3.1.1	Gate Valve, 20 mm Ø, rising stem, cast bronze, screwed ends, Class 150	1	set				
3.1.2	Hose Bibb, 20 mm Ø, bronze body, screwed ends, Class 150	2	sets				
3.1.3	Water Pipe, 25 mm O.D. (3/4" N.D.), uPVC pipe, sch. 80 of class 150, and its associated fittings, pipe supports and other accessories	24	lm				
3.1.4	Water Pipe, 20 mm O.D. (1/2" N.D.), uPVC pipe, sch. 80 of class 150, and its associated fittings, pipe supports and other accessories	6	lm				
3.2	**Air-Conditioning and Ventilation System (Including Supply, Installation and Testing)**						
3.2.1	Air conditioning unit for Bedroom, 11,500 kJ/hr minimum cooling capacity, inverter-window type, complete with necessary mounting accessories and controls (infrared remote) and other necessary accessories as described in the technical specifications.	2	sets				
3.2.2	Exhaust fan for Comfort Room, 100 m³/h wall mounted, propeller type, direct driven, complete with automatic shutter, mounting and controls.	2	sets				
3.3	**Fire Fighting System (Including Supply and Installation)**						
3.3.1	Portable Fire Extinguishers, HCFC or Halotron I, 7.1 kg. (15.5 lbs.), non-expiry, multi shots, wall hung type with bracket and mounting accessories, PS/ICC and/or BFP approved.	2	units				
	TOTAL			(Amount in Words)			₱

* Bidders shall enter a code representing the Country of Origin of all imported equipment, materials and accessories

\+ Cost of equipment, freight, insurance, etc. up to Phil. port of entry

\> Unit Price for Local Transportation, insurance and other local costs incidental to delivery of the goods from the Phil port of entry to final delivery site

Name of Bidder: _____

Signature of Bidder: _____

SECTION VII - SCHEDULE OF REQUIREMENTS

SUMMARY

SUPPLY, DELIVERY AND INSTALLATION OF COLLAPSIBLE/ CONTAINERIZED BUNKER FOR BANCALAAN 1 DPP (PACKAGE 4)

ITEM NO.	PARTICULARS	TOTAL AMOUNT IN FIGURES		TOTAL PESO EQUIVALENT
		Foreign Currency	Phil. Peso	Phil. Peso
1.0	Bancalaan 1 DPP			
SUB TOTAL AMOUNT				

Notes: *Final delivery site of all equipment/materials shall be at the respective plant sites stated above*

Name of Bidder

Name and Signature of Authorized Representative

Designation

SECTION VII- SCHEDULE OF REQUIREMENTS
(PACKAGE 4 - BANCALAAN 1 DPP)

ITEM NO.	DESCRIPTION	QTY.- UNIT	UNIT PRICE FOR GOODS AND RELATED SERVICES TO BE SUPPLIED AND DELIVERED			TOTAL PRICE
			Unit Price of Goods	Value Added Tax and other Taxes Imposed by Phil. Govt. (Phil. Peso)	Local Transport from Port to Delivery Site (Phil. Peso)>	Local Currency (Phil. Peso) (((d)+(e)+(f)) x(c))
(a)	(b)	(c)	(d)	(e)	(f)	(g)
	Supply and Delivery of the following including other works/services in accordance with the requirements as described in the Technical Specifications:					
1.0	**Architectural and Civil Works**					
1.1	Prefab Containerized House (Bedroom) including plumbing system, foundation, steel plates and anchor bolts	**1** set				
1.2	Septic tank	**1** lot				
2.0	**Electrical Works**					
2.1	Lighting and power system of the Collapsible/ Containerized Bunker complete with the required panelboard, lighting fixtures, switches, outlets, cables, conduits, boxes and other fittings as described in the Technical Specifications and as shown on the Bid Drawings including installation works and tapping to the existing breaker inside the control room.	**1** lot				
	TOTAL	_____ (Amount in Words)				₱ _____

* Bidders shall enter a code representing the Country of Origin of all imported equipment, materials and accessories

\+ Cost of equipment, freight, insurance, etc. up to Phil. port of entry

\> Unit Price for Local Transportation, insurance and other local costs incidental to delivery of the goods from the Phil port of entry to final delivery site

Name of Bidder: _____

Signature of Bidder: _____

SECTION VII- SCHEDULE OF REQUIREMENTS
(PACKAGE 4 - BANCALAAN 1 DPP)

ITEM NO.	DESCRIPTION	QTY.- UNIT		UNIT PRICE FOR GOODS AND RELATED SERVICES TO BE SUPPLIED AND DELIVERED			TOTAL PRICE
				Unit Price of Goods	Value Added Tax and other Taxes Imposed by Phil. Govt. (Phil. Peso)	Local Transport from Port to Delivery Site (Phil. Peso)>	Local Currency (Phil. Peso) (((d)+(e)+(f)) x(c))
(a)	(b)	(c)		(d)	(e)	(f)	(g)
3.0	**Mechanical Works**						
3.1	**Domestic Water Supply Piping System (Including Supply, Installation and Testing)**						
3.1.1	Gate Valve, 15 mm Ø, rising stem, cast bronze, screwed ends, Class 150	1	set				
3.1.2	Gate Valve, 20 mm Ø, rising stem, cast bronze, screwed ends, Class 150	1	set				
3.1.3	Hose Bibb, 20 mm Ø, bronze body, screwed ends, Class 150	1	lm				
3.1.4	Water Pipe, 25 mm O.D. (3/4" N.D.), uPVC pipe, sch. 80 of class 150, and its associated fittings, pipe supports and other accessories	12	lm				
3.1.5	Water Pipe, 20 mm O.D. (1/2" N.D.), uPVC pipe, sch. 80 of class 150, and its associated fittings, pipe supports and other accessories	6	lm				
3.2	**Air-Conditioning and Ventilation System (Including Supply, Installation and Testing)**						
3.2.1	Air conditioning unit for Bedroom, 11,500 kJ/hr minimum cooling capacity, inverter-window type, complete with necessary mounting accessories and controls (infrared remote) and other necessary accessories as described in the technical specifications.	1	set				
3.2.2	Exhaust fan for Comfort Room, 100 m³/h wall mounted, propeller type, direct driven, complete with automatic shutter, mounting accessories and controls.	1	set				
3.3	**Fire Fighting System (Including Supply and Installation)**						
3.3.1	Portable Fire Extinguishers, HCFC or Halotron I, 7.1 kg. (15.5 lbs.), non-expiry, multi shots, wall hung type with bracket and mounting accessories, PS/ICC and/or BFP approved.	1	unit				
TOTAL				_____ (Amount in Words)			P _____

* Bidders shall enter a code representing the Country of Origin of all imported equipment, materials and accessories

\+ Cost of equipment, freight, insurance, etc. up to Phil. port of entry

\> Unit Price for Local Transportation, insurance and other local costs incidental to delivery of the goods from the Phil port of entry to final delivery site

Name of Bidder: _____

Signature of Bidder: _____

SECTION VII - SCHEDULE OF REQUIREMENTS

SUMMARY

SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE STAFFHOUSE FOR CASIAN DPP (PACKAGE 5)

ITEM NO.	PARTICULARS	TOTAL AMOUNT IN FIGURES Phil. Peso
1.0	Casian DPP	
	SUB TOTAL AMOUNT	_____

Notes: *Final delivery site of all equipment/materials shall be at the respective plant sites stated above*

_____ Name of Bidder

_____ Name and Signature of Authorized Representative

_____ Designation

SECTION VII- SCHEDULE OF REQUIREMENTS
(PACKAGE 5 - CASIAN DPP)

ITEM NO.	DESCRIPTION	QTY.- UNIT	UNIT PRICE FOR GOODS AND RELATED SERVICES TO BE SUPPLIED AND DELIVERED			TOTAL PRICE
			Unit Price of Goods	Value Added Tax and other Taxes Imposed by Phil. Govt. (Phil. Peso)	Local Transport from Port to Delivery Site (Phil. Peso)>	Local Currency (Phil. Peso) (((d)+(e)+(f)) x(c))
(a)	(b)	(c)	(d)	(e)	(f)	(g)
	Supply and Delivery of the following including other works/services in accordance with the requirements as described in the Technical Specifications:					
1.0	**Architectural and Civil Works**					
1.1	Prefab Containerized Staffhouse including plumbing system, foundation, steel plates and anchor bolts	**1** set				
1.2	Concrete walk	**1.4** cu.m.				
2.0	**Electrical Works**					
2.1	Lighting and power system of the Containerized / Collapsible Staffhouse complete with the required panelboard, lighting fixtures, switches, outlets, cables, conduits, boxes and other fittings as described in the Technical Specifications and as shown on the Bid Drawings including installation works and tapping to the nearest power source.	**1** lot				
TOTAL		_____ (Amount in Words)				₱ _____

* Bidders shall enter a code representing the Country of Origin of all imported equipment, materials and accessories

\+ Cost of equipment, freight, insurance, etc. up to Phil. port of entry

\> Unit Price for Local Transportation, insurance and other local costs incidental to delivery of the goods from the Phil port of entry to final delivery site

Name of Bidder: _____

Signature of Bidder: _____

SECTION VII- SCHEDULE OF REQUIREMENTS
(PACKAGE 5 - CASIAN DPP)

ITEM NO.	DESCRIPTION	QTY.- UNIT		UNIT PRICE FOR GOODS AND RELATED SERVICES TO BE SUPPLIED AND DELIVERED			TOTAL PRICE
				Unit Price of Goods	Value Added Tax and other Taxes Imposed by Phil. Govt. (Phil. Peso)	Local Transport from Port to Delivery Site (Phil. Peso)>	Local Currency (Phil. Peso) (((d)+(e)+(f)) x(c))
(a)	(b)	(c)		(d)	(e)	(f)	(g)
3.0	**Mechanical Works**						
3.1	**Domestic Water Supply Piping System (Including Supply, Installation and Testing)**						
3.1.1	Gate Valve, 20 mm Ø, rising stem, cast bronze, screwed ends, Class 150	1	set				
3.1.2	Hose Bibb, 20 mm Ø, bronze body, screwed ends, Class 150	1	set				
3.1.3	Water Pipe, 25 mm O.D. (3/4" N.D.), uPVC pipe, sch. 80 of class 150, and its associated fittings, pipe supports and other accessories	42	lm				
3.1.4	Water Pipe, 20 mm O.D. (1/2" N.D.), uPVC pipe, sch. 80 of class 150, and its associated fittings, pipe supports and other accessories	6	lm				
3.2	**Air-Conditioning and Ventilation System (Including Supply, Installation and Testing)**						
3.2.1	Air conditioning unit for Bedroom, 11,500 kJ/hr minimum cooling capacity, inverter-window type, complete with necessary mounting accessories and controls (infrared remote) and other necessary accessories as described in the technical specifications.	1	set				
3.2.2	Exhaust fan for Comfort Room, 100 m³/h wall mounted, propeller type, direct driven, complete with automatic shutter, mounting accessories and controls.	1	set				
3.3	**Fire Fighting System (Including Supply and Installation)**						
3.3.1	Portable Fire Extinguishers, HCFC or Halotron I, 7.1 kg. (15.5 lbs.), non-expiry, multi shots, wall hung type with bracket and mounting accessories, PS/ICC and/or BFP approved.	1	unit				
	TOTAL	_____ (Amount in Words)					₱ _____

* Bidders shall enter a code representing the Country of Origin of all imported equipment, materials and accessories

\+ Cost of equipment, freight, insurance, etc. up to Phil. port of entry

\> Unit Price for Local Transportation, insurance and other local costs incidental to delivery of the goods from the Phil port of entry to final delivery site

Name of Bidder: _____

Signature of Bidder: _____

SECTION VIII

BIDDING FORMS

SECTION VIII – BIDDING FORMS

TABLE OF CONTENTS

Standard Form No: NPCSF-GOODS-01

Checklist of Technical & Financial Envelope Requirements for Bidders

A. THE 1ST ENVELOPE (TECHNICAL COMPONENT) SHALL CONTAIN THE FOLLOWING:

1. ELIGIBILITY DOCUMENTS

a. (CLASS A)

➢ Any of the following:

- PhilGEPS Certificate of Registration and Membership under Platinum Category in accordance with Section 8.5.2 of the IRR;

OR:

- The following updated and valid Class "A" eligibility documents enumerated under "Annex A" of the Platinum Membership:
  - Registration Certificate from the Securities and Exchange Commission (SEC) for corporations, Department of Trade and Industry (DTI) for sole proprietorship, or Cooperative Development Authority (CDA) for cooperatives;
  - Mayor's/Business permit issued by the city or municipality where the principal place of business of the prospective bidder is located, or the equivalent document for Exclusive Economic Zones or Areas.

    In cases of recently expired Mayor's/Business permits, it shall be accepted together with the official receipt as proof that the bidder has applied for renewal within the period prescribed by the concerned local government unit, provided that the renewed permit shall be submitted as a post qualification requirement in accordance with Section 34.2 of the Revised IRR of RA 9184.
  - The prospective bidder's audited financial statements, showing, among others, the prospective bidder's total and current assets and liabilities, stamped "received" by the BIR or its duly accredited and authorized institutions, for the preceding calendar year which should not be earlier than two (2) years from the date of bid submission.
  - Tax clearance per Executive Order 398, Series of 2005, as finally reviewed and approved by the BIR *or* as stated under GPPB NPM-039-2014, for Non-Resident Foreign Corporation (NRFC) and Non-Resident Alien Not Engaged in Trade or Business (NRANETB), a Delinquency Verification Certificate may be submitted as a form of Tax Clearance;

OR:

- A combination thereof

➢ Statement of all its ongoing government and private contracts if any, whether similar or not similar in nature and complexity to the contract to be bid *(NPCSF-GOODS-02)*

➢ The Statement of the bidder's Single Largest Completed Contract (SLCC) similar to the contract to be bid, and whose value, adjusted to current prices using the Philippine Statistics Authority (PSA) consumer price index, must be at least 50% of the ABC *(NPCSF-GOODS-03)* complete with the following supporting documents:

1. Contract/Purchase Order
2. Certificate of Acceptance; or Certificate of Completion; or Official Receipt (O.R); or Sales Invoice

(The Single Largest Completed Contract (SLCC) as declared by the bidder shall be verified and validated to ascertain such completed contract. Hence, bidders must ensure access to sites of such projects/equipment to NPC representatives for verification and validation purposes during post-qualification process.

It shall be a ground for disqualification, if verification and validation cannot be conducted for reasons attributable to the Bidder.)

- Duly signed computation of its Net Financial Contracting Capacity (NFCC) at least equal to the ABC (NPCSF-GOODS-04) or a Committed Line of Credit (CLC) at least equal to ten percent (10%) of the ABC, issued by a Universal or Commercial Bank; If the Bidder opted to submit a Committed Line of Credit (CLC), the bidder must submit a granted credit line valid/effective at the date of bidding.

b. (CLASS B)

- For Joint Venture (if applicable), any of the following:
  - Valid Joint Venture Agreement *(NPCSF-GOODS-05)*

    OR

  - Notarized statements from all the potential joint venture partners stating that they will enter into and abide by the provisions of the JVA, if awarded the contract
- Certification from the relevant government office of their country stating that Filipinos are allowed to participate in their government procurement activities for the same item/product *(For foreign bidders claiming eligibility by reason of their country's extension of reciprocal rights to Filipinos)*

2. *Technical Documents*

- Bid Security, any one of the following:
  - Bid Securing Declaration (NPCSF-GOODS-06c)

    OR

  - Cash or Cashier's/Manager's check issued by a Universal or Commercial Bank – *2% of ABC;*

    OR

  - Bank draft/guarantee or irrevocable letter of credit issued by a Universal or Commercial Bank: *(NPCSF-GOODS-06a) - 2% of ABC;*

    OR

  - Surety Bond callable upon demand issued by a reputable surety or insurance company *(NPCSF-GOODS-06b) - 5% of ABC, with*
    - Certification from the Insurance Commission as authorized company to issue surety
- Duly signed, completely filled-out and notarized Omnibus Sworn statement (Revised) (NPCSF-GOODS-07), complete with the following attachments:
  - For Sole Proprietorship:
    - Special Power of Attorney
  - For Partnership/Corporation/Cooperative/Joint Venture:
    - Document showing proof of authorization (e.g., duly notarized Secretary's Certificate, Board/Partnership Resolution, or Special Power of Attorney, whichever is applicable)
- Complete eligibility documents of the proposed subcontractor, if any

B. THE 2ND ENVELOPE (FINANCIAL COMPONENT) SHALL CONTAIN THE FOLLOWING:

- Duly signed Bid Letter indicating the total bid amount in accordance with the prescribed form *(NPCSF-GOODS-08)*
- Duly signed and completely filled-out Schedule of Requirement *(Section VII)* indicating the unit and total prices per item and the total amount in the prescribed Price Schedule form.
- For Domestic Bidder claiming for domestic preference:
  - Letter address to the BAC claiming for preference
  - Certification from DTI as Domestic Bidder in accordance with the prescribed forms provided

CONDITIONS:

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

2. *In the case of foreign bidders, the eligibility requirements under Class "A" Documents (except for Tax Clearance) may be substituted by the appropriate equivalent documents, if any, issued by the country of the foreign bidder concerned. The eligibility requirements or statements, the bids, and all other documents to be submitted to the BAC must be in English. If the eligibility requirements or statements, the bids, and all other documents submitted to the BAC are in foreign language other than English, it must be accompanied by a translation of the documents in English. The documents shall be translated by the relevant foreign government agency, the foreign government agency authorized to translate documents, or a registered translator in the foreign bidder's country; and 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.*

   These documents shall be accompanied by a Sworn Statement in a form prescribed by the GPPB stating that the documents submitted are complete and authentic copies of the original, and all statements and information provided therein are true and correct. Upon receipt of the said documents, the PhilGEPS shall process the same in accordance with the guidelines on the Government of the Philippines – Official Merchants Registry (GoP-OMR).

3. *A Bidder not submitting bid for reason that his cost estimate is higher than the ABC, is required to submit his letter of non-participation/regret supported by corresponding detailed estimates. Failure to submit the two (2) documents shall be understood as acts that tend to defeat the purpose of public bidding without valid reason as stated under Section 69.1.(i) of the revised IRR of R.A. 9184.*

Standard Form Number: NPCSF-GOODS-02

List of All Ongoing Government and Private Contracts Including Contract Awarded But Not Yet Started

Business Name : _____
Business Address : _____

Name of Contract/ Project Cost	a. Owner's Name b. Address c. Telephone Nos.	Nature of Work	Bidder's Role		a. Date Awarded b. Date Started c. Date of Completion or Contract Duration/ Date of Delivery	Value of Outstanding Works / Undelivered Portion
			Description	%		
Government						
Private						
				Total Cost		

The bidder shall declare in this form all his on-going government and private contracts including contracts where the bidder (either as individual or as a Joint Venture) is a partner in a Joint Venture agreement other than his current joint venture where he is a partner. Non declaration will be a ground for disqualification of bid.

Note : This statement shall be supported with the following documents for all the contract(s) stated above which shall be submitted during Post-qualification:

1. Contract/Purchase Order and/or Notice of Award
2. Certification coming from the project owner/client that the performance is satisfactory as of the bidding date.

Submitted by : _____
(Printed Name & Signature)

Designation : _____
Date : _____

Standard Form Number: NPCSF-GOODS-03

The Statement of the bidder's Single Largest Completed Contract (SLCC) similar to the contract to be bid

Business Name : _____
Business Address : _____

Name of Contract	a. Owner's Name b. Address c. Telephone Nos.	Nature of Work	Contractor's Role		a. Amount at Award b. Amount at Completion c. Duration	a. Date Awarded b. Contract Effectivity c. Date Completed
			Description	%		

Notes: 1. The bidder must state only one (1) Single Largest Completed Contract (SLCC) similar to the contract to be bid.
2. Supporting documents such as Contract/Purchase Order and any of the following: Certificate of Acceptance; *or* Certificate of Completion; *or* Official Receipt (O.R); or Sales Invoice for the contract stated above shall be submitted during Bid Opening.

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

Standard Form Number: NPCSF-GOODS-04

NET FINANCIAL CONTRACTING CAPACITY (NFCC)

A. Summary of the Supplier's/Distributor's/Manufacturer's assets and liabilities on the basis of the income tax return and audited financial statement for the immediately preceding calendar year are:

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

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

NFCC = [(Current assets minus current liabilities) x 15] minus the value of all outstanding or uncompleted portions of the projects under ongoing contracts, including awarded contracts yet to be started coinciding with the contract for this Project.

NFCC = P _____

Herewith attached is certified true copy of the audited financial statement, stamped "RECEIVED" by the BIR or BIR authorized collecting agent for the immediately preceding calendar year.

Submitted by:

_____
Name of Supplier / Distributor / Manufacturer

_____
Signature of Authorized Representative

Date : _____

Standard Form Number: NPCSF-GOODS-05

JOINT VENTURE AGREEMENT

KNOW ALL MEN BY THESE PRESENTS:

That this JOINT VENTURE AGREEMENT is entered into by and between: _____, of legal age, *(civil status)*_____, authorized representative of _____ and a resident of _____.

- and –

_____, of legal age, *(civil status)*_____, authorized representative of _____ a resident of _____.

That both parties agree to join together their capital, manpower, equipment, and other resources and efforts to enable the Joint Venture to participate in the Bidding and Undertaking of the hereunder stated Contract of the **National Power Corporation.**

NAME OF PROJECT	**CONTRACT AMOUNT**

That the capital contribution of each member firm:

NAME OF FIRM	CAPITAL CONTRIBUTION
1.	₱
2.	₱

That both parties agree to be jointly and severally liable for their participation in the Bidding and Undertaking of the said contract.

That both parties agree that _____ and/or _____ shall be the Official Representative/s of the Joint Venture, and are granted full power and authority to do, execute and perform any and all acts necessary and/or to represent the Joint Venture in the Bidding and Undertaking of the said contract, as fully and effectively and the Joint Venture may do and if personally present with full power of substitution and revocation.

That this Joint Venture Agreement shall remain in effect only for the above stated Contract until terminated by both parties.

_____
Name & Signature of Authorized Representative

_____
Official Designation

_____
Name of Firm

_____
Name & Signature of Authorized Representative

_____
Official Designation

_____
Name of Firm

Witnesses

1. _____ 2. _____

[Jurat]

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

Standard Form Number: NPCSF-GOODS-06a

FORM OF BID SECURITY (BANK GUARANTEE)

WHEREAS, *(Name of Bidder)*_____ (hereinafter called "the Bidder") has submitted his bid dated *(Date)*_____ for the *[name of project]* (hereinafter called "the Bid").

KNOW ALL MEN by these presents that We *(Name of Bank)*_____ of *(Name of Country)*_____ having our registered office at _____ (hereinafter called "the Bank" are bound unto National Power Corporation (hereinafter called "the Entity") in the sum of *[amount in words & figures as prescribed in the bidding documents]* for which payment well and truly to be made to the said Entity the Bank binds himself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this _____ day of _____ 20___.

THE CONDITIONS of this obligation are that:

1) if the Bidder withdraws his Bid during the period of bid validity specified in the Bidding Documents; or

2) if the Bidder does not accept the correction of arithmetical errors of his bid price in accordance with the Instructions to Bidder; or

3) if the Bidder, having determined as the LCB, fails or refuses to submit the required tax clearance, latest income and business tax returns and PhilGEPs registration certificate within the prescribed period; or

4) if the Bidder having been notified of the acceptance of his bid and award of contract to him by the Entity during the period of bid validity:

   a) fails or refuses to execute the Contract; or

   b) fails or refuses to submit the required valid JVA, if applicable; or

   c) fails or refuses to furnish the Performance Security in accordance with the Instructions to Bidders;

we undertake to pay to the Entity up to the above amount upon receipt of his first written demand, without the Entity having to substantiate its demand, provided that in his demand the Entity will note that the amount claimed by it is due to the occurrence of any one or combination of the four (4) conditions stated above.

The Guarantee will remain in force up to 120 days after the opening of bids or as it may be extended by the Entity, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this Guarantee should reach the Bank not later than the above date.

DATE _____ SIGNATURE OF THE BANK _____

WITNESS _____ SEAL _____

_____

(Signature, Name and Address)

Standard Form Number: NPCSF-GOODS-06b

FORM OF BID SECURITY (SURETY BOND)

BOND NO.: _____ DATE BOND EXECUTED: _____

By this bond, We *(Name of Bidder)* _____ (hereinafter called "the Principal") and *(Name of Surety)* _____ of *(Name of Country of Surety)* _____, authorized to transact business in the Philippines (hereinafter called "the Surety") are held and firmly bound unto National Power Corporation (hereinafter called "the Employer") as Obligee, in the sum of *(amount in words & figures as prescribed in the bidding documents)*, callable on demand, for the payment of which sum, well and truly to be made, we, the said Principal and Surety bind ourselves, our successors and assigns, jointly and severally, firmly by these presents.

SEALED with our seals and dated this _____ day of _____ 20 _____

WHEREAS, the Principal has submitted a written Bid to the Employer dated the _____ day of _____ 20 _____, for the _____ (hereinafter called "the Bid").

NOW, THEREFORE, the conditions of this obligation are:

1) if the Bidder withdraws his Bid during the period of bid validity specified in the Bidding Documents; or
2) if the Bidder does not accept the correction of arithmetical errors of his bid price in accordance with the Instructions to Bidder; or
3) if the Bidder, having determined as the LCB, fails or refuses to submit the required tax clearance, latest income and business tax returns and PhilGEPs registration certificate within the prescribed period; or
4) if the Bidder having been notified of the acceptance of his bid and award of contract to him by the Entity during the period of bid validity:
    d) fails or refuses to execute the Contract; or
    e) fails or refuses to submit the required valid JVA, if applicable; or
    f) fails or refuses to furnish the Performance Security in accordance with the Instructions to Bidders;

then this obligation shall remain in full force and effect, otherwise it shall be null and void.

PROVIDED HOWEVER, that the Surety shall not be:

a) liable for a greater sum than the specified penalty of this bond, nor

b) liable for a greater sum that the difference between the amount of the said Principal's Bid and the amount of the Bid that is accepted by the Employer.

This Surety executing this instrument hereby agrees that its obligation shall be valid for 120 calendar days after the deadline for submission of Bids as such deadline is stated in the Instructions to Bidders or as it may be extended by the Employer, notice of which extension(s) to the Surety is hereby waived.

PRINCIPAL _____	SURETY _____
SIGNATURE(S) _____	SIGNATURES(S) _____
NAME(S) AND TITLE(S) _____	NAME(S) _____
SEAL _____	SEAL _____

Standard Form No: NPCSF-GOODS-06c

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

BID-SECURING DECLARATION

SUPPLY, DELIVERY, AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE/ STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES,
PR NOS. S1-PWN22-018/S1-NGL22-001/ S1-BDP22-001/S1-BAC22-007/S1-CSN22-001

To: **National Power Corporation**
BIR Road cor. Quezon Ave.
Diliman, Quezon City

I/We[1], the undersigned, declare that:

1. *I/We* understand that, according to your conditions, bids must be supported by a Bid Security, which may be in the form of a Bid-Securing Declaration.
2. *I/We* accept that: (a) *I/we* will be automatically disqualified from bidding for any contract with any procuring entity for a period of two (2) years upon receipt of your Blacklisting Order; and, (b) *I/we* will pay the applicable fine provided under Section 6 of the Guidelines on the Use of Bid Securing Declaration, within fifteen (15) days from receipt of the written demand by the Procuring Entity for the commission of acts resulting to the enforcement of the Bid Securing Declaration under Sections 23.1 (b), 34.2, 40.1 and 69.1, except 69.1 (f) of the IRR of R.A. 9184; without prejudice to other legal action the government may undertake.
3. *I/We* understand that this Bid-Securing Declaration shall cease to be valid on the following circumstances:
   (a) Upon expiration of the bid validity period, or any extension thereof pursuant to your request;
   (b) *I am/we are* declared ineligible or post-disqualified upon receipt of your notice to such effect, and (i) *I/we* failed to timely file a request for reconsideration or (ii) *I/we* filed a waiver to avail of said right;
   (c) *I am/we are* declared as the bidder with the Lowest Calculated and Responsive Bid, and *I/we* have furnished the performance security and signed the Contract.

IN WITNESS WHEREOF, *I/we* have hereunto set my hand this ____ day of ____ 20____ at _____, Philippines.

_____
[Name and Signature of Bidder's Representative/ Authorized Signatory]
[Signatory's legal capacity]
Affiant

[Jurat]

[1] *Select one and delete the other. Adopt same instruction for similar terms throughout the document.*

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

Standard Form No: NPCSF-GOODS-07

Omnibus Sworn Statement (Revised)

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

AFFIDAVIT

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

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

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

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

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

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

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

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

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

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

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

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

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

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

7. *[Name of Bidder]* complies with existing labor laws and standards; and

8. *[Name of Bidder]* is aware of and has undertaken the responsibilities as a Bidder in compliance with the Philippine Bidding Documents, which includes:

   a. Carefully examining all of the Bidding Documents;

   b. Acknowledging all conditions, local or otherwise, affecting the implementation of the Contract;

   c. Making an estimate of the facilities available and needed for the contract to be bid, if any; and

   d. Inquiring or securing Supplemental/Bid Bulletin(s) issued for the *[Name of the Project].*

9. *[Name of Bidder]* did not give or pay directly or indirectly, any commission, amount, fee, or any form of consideration, pecuniary or otherwise, to any person or official, personnel or representative of the government in relation to any procurement project or activity.

10. In case advance payment was made or given, failure to perform or deliver any of the obligations and undertakings in the contract shall be sufficient grounds to constitute criminal liability for Swindling (Estafa) or the commission of fraud with unfaithfulness or abuse of confidence through misappropriating or converting any payment received by a person or entity under an obligation involving the duty to deliver certain goods or services, to the prejudice of the public and the government of the Philippines pursuant to Article 315 of Act No. 3815 s. 1930, as amended, or the Revised Penal Code.

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

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

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

Standard Form No: NPCSF-GOODS-08

BID LETTER

Date: _____

To: **THE PRESIDENT**
National Power Corporation
BIR Road cor. Quezon Ave.
Diliman, Quezon City

Gentlemen:

Having examined the Bidding Documents including Bid Bulletin Numbers *[insert numbers]*____, the receipt of which is hereby duly acknowledged, we, the undersigned, offer to perform **SUPPLY, DELIVERY, AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE/ STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES (PR NOS. S1-PWN22-018/S1-NGL22-001/S1-BDP22-001/S1-BAC22-007/S1-CSN22-001)** in conformity with the said Bidding Documents for the sum of *[total Bid amount in words and figures]*_____ or such other sums as may be ascertained in accordance with the Schedule of Prices attached herewith and made part of this Bid.

We undertake, if our Bid is accepted, to supply and deliver the goods and perform other services, if required within the contract duration and in accordance with the scope of the contract specified in the Schedule of Requirements and Technical Specifications.

If our Bid is accepted, we undertake to provide a performance security in the form, amounts, and within the times specified in the Bidding Documents.

We agree to abide by this Bid for the Bid Validity Period specified in Bid Documents and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

Until a formal Contract is prepared and executed, this Bid, together with your written acceptance thereof and your Notice of Award, shall be binding upon us.

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

We certify/confirm that we comply with the eligibility requirements pursuant to the Bidding Documents.

We likewise certify/confirm that the undersigned, ***[for sole proprietorships, insert:*** as the owner and sole proprietor or authorized representative of *[Name of Bidder]*_____has the full power and authority to participate, submit the bid, and to sign and execute the ensuing contract, on the latter's behalf for the *[Name of Project]*_____ of the National Power Corporation ***[for partnerships, corporations, cooperatives, or joint ventures, insert:*** is granted full power and authority by the *[Name of Bidder]*_____ to participate, submit the bid, and to sign and execute the ensuing contract on the latter's behalf for *[Name of Project]*_____ of the National Power Corporation.

We acknowledge that failure to sign each and every page of this Bid Letter, including the attached Schedule of Requirements (Bid Price Schedule), shall be a ground for the rejection of our bid.

_____ _____
[name and signature of authorized signatory] *[in the capacity of]*

Duly authorized to sign Bid for and on behalf of _____
[name of bidder]

Bank Guarantee Form for Advance Payment

To: **THE PRESIDENT**
National Power Corporation
BIR Road cor. Quezon Ave.
Diliman, Quezon City

[name of Contract]

Gentlemen and/or Ladies:

In accordance with the Advance Payment Provision, of the General Conditions of Contract, *[name and address of Supplier]* (hereinafter called the "Supplier") shall deposit with the PROCURING ENTITY a bank guarantee to guarantee its proper and faithful performance under the said Clause of the Contract in an amount of *[amount of guarantee in figures and words]*.

We, the *[name of the universal/commercial bank]*, as instructed by the Supplier, agree unconditionally and irrevocably to guarantee as primary obligator and not as surety merely, the payment to the PROCURING ENTITY on its first demand without whatsoever right of objection on our part and without its first claim to the Supplier, in the amount not exceeding *[amount of guarantee in figures and words]*.

We further agree that no change or addition to or other modification of the terms of the Contract to be performed thereunder or of any of the Contract documents which may be made between the PROCURING ENTITY and the Supplier, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition, or modification.

This guarantee shall remain valid and in full effect from the date the advance payment is received by the Supplier under the Contract and until the Goods are accepted by the PROCURING ENTITY.

Yours truly,

Signature and seal of the Guarantors

_____
[name of bank or financial institution]

_____
[address]

_____
[date]

CERTIFICATION AS A DOMESTIC BIDDER

This is to certify that based on the records of this office, *(Name of Bidder)* _____ is duly registered with the DTI on _____.

This further certifies that the articles forming part of the product of *(Name of Bidder)* _____, which are/is *(Specify)* _____. are substantially composed of articles, materials, or supplies grown, produced or manufactured in the Philippines. (Please encircle the applicable description/s).

This certification is issued upon the request of *(Name of Person/Entity)* _____ in connection with his intention to participate in the bidding for the *(Name of Project)* _____ of the National Power Corporation (NPC).

Given this __ day of _____20__ at _____, Philippines

_____
Name

_____
Position

_____
Department of Trade & Industry

SECTION IX

BID DRAWINGS

SECTION IX

BID DRAWINGS FOR ARCHITECTURAL WORKS

SECTION IX – BID DRAWINGS

AW – ARCHITECTURAL WORKS

DRAWING NO.	TITLE
POD-BDA-13.001	PREFABRICATED CONTAINER HOUSE (Floor and Roof Plan, Plumbing Layout)
POD-BDA-13.002	PREFABRICATED CONTAINER HOUSE (Elevations)
Nang-BDA-13.001	PREFABRICATED CONTAINER HOUSE (Floor and Roof Plan, Plumbing Layout)
Nang-BDA-13.002	PREFABRICATED CONTAINER HOUSE (Elevations)
Nang-BDA-13.003	PREFABRICATED CONTAINER HOUSE (Schedule of Doors and Windows)
BisDPP-BDA-13.001	PREFABRICATED CONTAINER HOUSE (Floor and Roof Plan, Plumbing Layout)
BisDPP-BDA-13.002	PREFABRICATED CONTAINER HOUSE (Elevations & Schedule of Doors and Windows)
BisDPP-BDA-13.003	PREFABRICATED CONTAINER HOUSE (Elevations & Roof Plan)
PWN-BDA-13.001	PREFABRICATED CONTAINER HOUSE (Plans, Elevation, Plumbing Layout & Details)

SECTION IX

BID DRAWINGS

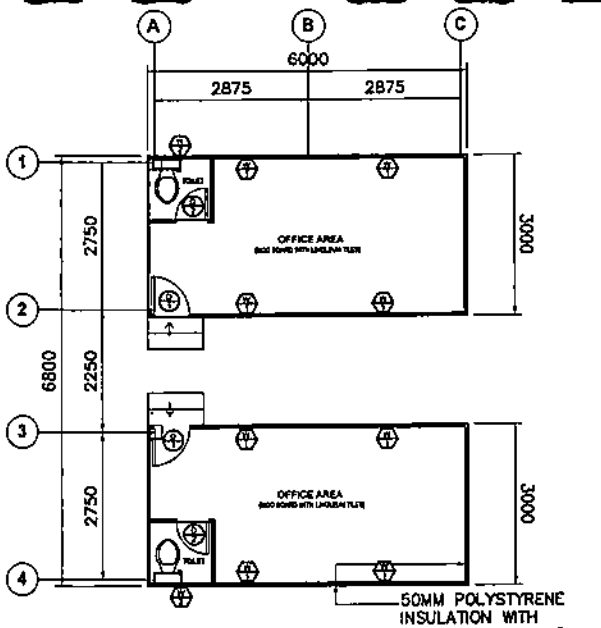
SECTION IX

BID DRAWINGS FOR ARCHITECTURAL WORKS

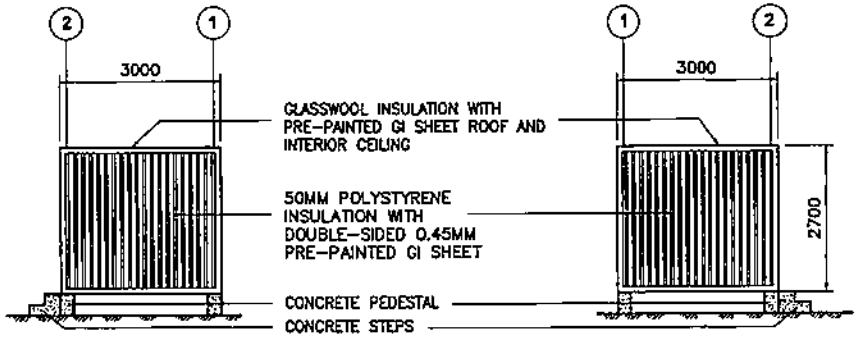
SECTION IX – BID DRAWINGS

AW – ARCHITECTURAL WORKS

DRAWING NO.	TITLE
POD-BDA-13.001	PREFABRICATED CONTAINER HOUSE (Floor and Roof Plan, Elevations & Plumbing Layout)
POD-BDA-13.002	PREFABRICATED CONTAINER HOUSE (Elevations and Schedule of Doors & Windows)
Nang-BDA-13.001	PREFABRICATED CONTAINER HOUSE (Floor and Roof Plan & Plumbing Layout)
Nang-BDA-13.002	PREFABRICATED CONTAINER HOUSE (Elevations)
Nang-BDA-13.003	PREFABRICATED CONTAINER HOUSE (Schedule of Doors and Windows)
BisDPP-BDA-13.001	PREFABRICATED CONTAINER HOUSE (Floor Plan & Plumbing Layout)
BisDPP-BDA-13.002	PREFABRICATED CONTAINER HOUSE (Elevations & Schedule of Doors and Windows)
BisDPP-BDA-13.003	PREFABRICATED CONTAINER HOUSE (Elevations & Roof Plan)
PWN-BDA-13.001	PREFABRICATED CONTAINER HOUSE (Plans, Elevation, Plumbing Layout & Details)

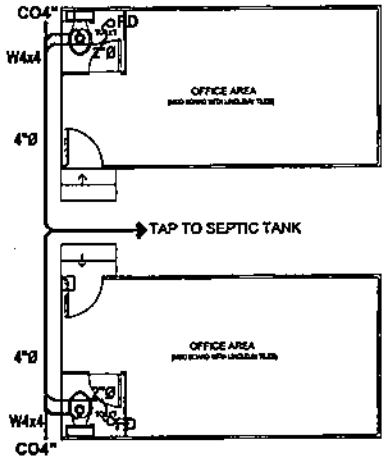


FLOOR PLAN
SCALE 1:100

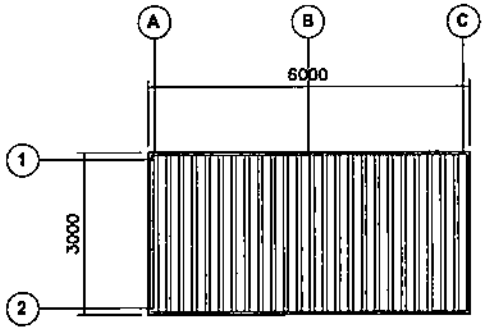


FRONT ELEVATION
SCALE 1:100

REAR ELEVATION
SCALE 1:100



PLUMBING LAYOUT
SCALE 1:100



ROOF PLAN
SCALE 1:100

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.
2. LOCATION OF BUNKHOUSE SHALL BE VERIFIED AT SITE.
3. USE UNPLASTICIZED POLYVINYL CHLORIDE (PVC) FOR PLUMBING SYSTEM CONFORMING TO ISO4435 OR EQUIVALENT.

LEGEND:

FD – FLOOR DRAIN
CO – CLEAN OUT

OWNER: NATIONAL POWER CORPORATION
AGHAM ROAD, DILIMAN, QUEZON CITY

PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES
LOCATION: POD, PUERTO PRINCESA, PALAWAN

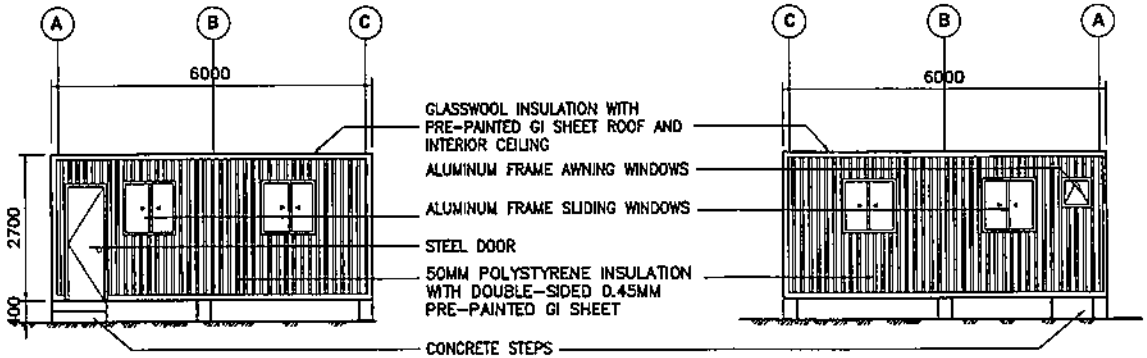
TITLE: **PREFABRICATED CONTAINER HOUSE**
(FLOOR AND ROOF PLAN, ELEVATIONS & PLUMBING LAYOUT)

	BY	CHKD	DATE
DESIGNED			
DRAWN	J.G.A.C.		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

SUBMITTED: R.R.R. VILLANUEVA, PRINCIPAL ARCHITECT A, OEAD
RECOMMENDED: A.C. ESPIRITU, Manager, EMD
APPROVED: N. G. [illegible]ERRA, Manager, DDD

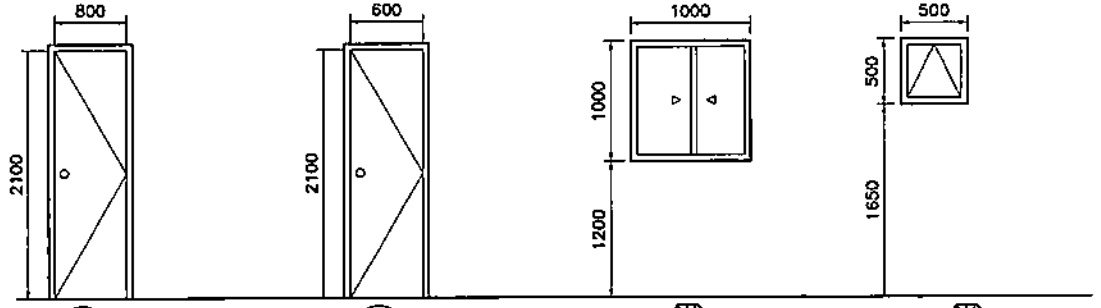
DWG NO. POD-BDA-13.001 | PR NO. S1-PWN22-018
SCALE: AS SHOWN | BID DRAWING

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECD.	APPD.



LEFT SIDE ELEVATION
SCALE 1:100

RIGHT SIDE ELEVATION
SCALE 1:100



D/1 : FLUSH TYPE STEEL DOOR
: 3 PIECES OF HEAVY DUTY LOOSE PIN HINGES
: DOOR KNOB, WEATHERPROOF

D/2 : FLUSH TYPE PVC DOOR
: 3 PIECES OF HEAVY DUTY LOOSE PIN HINGES
: DOOR KNOB

W/1 : GLASS AND ALUM. SLIDING WINDOW
: 6 MM THICK CLEAR GLASS ONE WHOLE PIECE PANEL
: HEAVY GAGE EXTRUDED 50 X 100MM ANODIZED ALUMINUM FRAME

W/2 : GLASS AND ALUM. AWNING WINDOW
: 6 MM THICK CLEAR GLASS ONE WHOLE PIECE PANEL
: HEAVY GAGE EXTRUDED 50 X 100MM ANODIZED ALUMINUM FRAME

SCHEDULE OF DOORS AND WINDOWS
SCALE 1:50

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.
2. LOCATION OF BUNKHOUSE SHALL BE VERIFIED AT SITE.

OWNER: NATIONAL POWER CORPORATION
AGHAM ROAD, DILIMAN, QUEZON CITY

PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES
LOCATION: PCO, PUERTO PRINCESA, PALAWAN

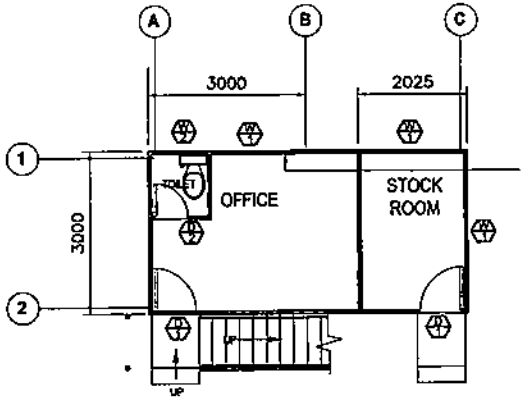
TITLE: **PREFABRICATED CONTAINER HOUSE**
(ELEVATIONS AND SCHEDULE OF DOORS & WINDOWS)

	BY	CHKD	DATE
DESIGNED			
DRAWN	J.O.A.C.		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

SUBMITTED: R.R.R. VILLANUEVA, PRINCIPAL ARCHITECT A/CHEAD
RECOMMENDED: A. C. ESPIRITU, Manager, DDO
APPROVED: N. C. SORIANO-SIERRA, Manager, DDO

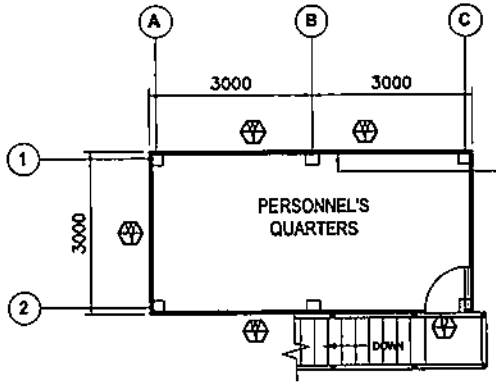
DWG. NO. POD-BDA-13.002 PR NO. S1-PWN22-018
SCALE: AS SHOWN BID DRAWING REV. 0

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECD.	APPD.



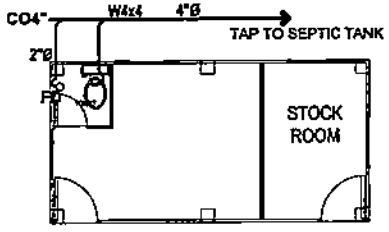
50mm POLYSTYRENE INSULATION ON WALL WITH DOUBLE SIDED 0.45MM THK PRE-PAINTED GALVANIZED IRON SHEET.

GROUND FLOOR PLAN
SCALE 1:100

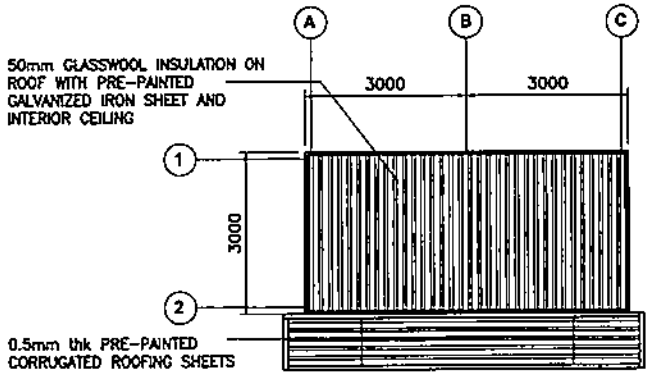


50mm POLYSTYRENE INSULATION ON WALL WITH DOUBLE SIDED 0.45MM THK PRE-PAINTED GALVANIZED IRON SHEET.

SECOND FLOOR PLAN
SCALE 1:100



GROUND FLOOR PLUMBING LAYOUT
SCALE 1:100



ROOF PLAN
SCALE 1:100

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.
2. LOCATION OF BUNKHOUSE SHALL BE VERIFIED AT SITE.
3. USE UNPLASTICIZED POLYVINYL CHLORIDE (PVC) FOR PLUMBING SYSTEM CONFORMING TO ISO4435 OR EQUIVALENT.

LEGEND:

FD – FLOOR DRAIN
CO – CLEAN OUT

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECD.	APPD.

OWNER: NATIONAL POWER CORPORATION
AGHAM ROAD, DILIMAN, QUEZON CITY

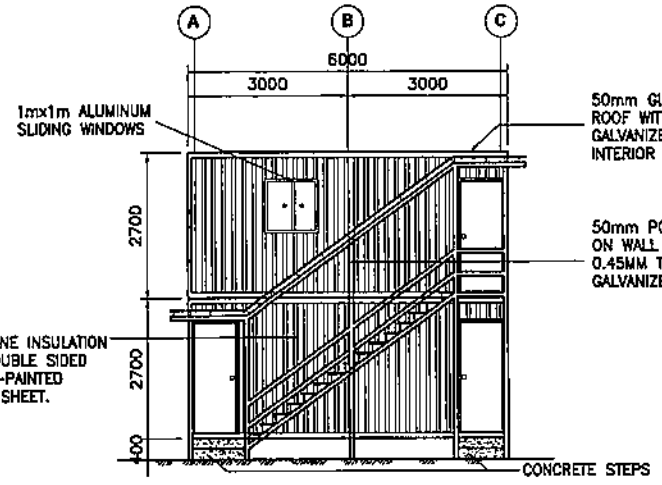
PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES
LOCATION: BRGY. NANGALAO, LIMPAKAN, PALAWAN

TITLE: **PREFABRICATED CONTAINER HOUSE**
(FLOOR AND ROOF PLAN & PLUMBING LAYOUT)

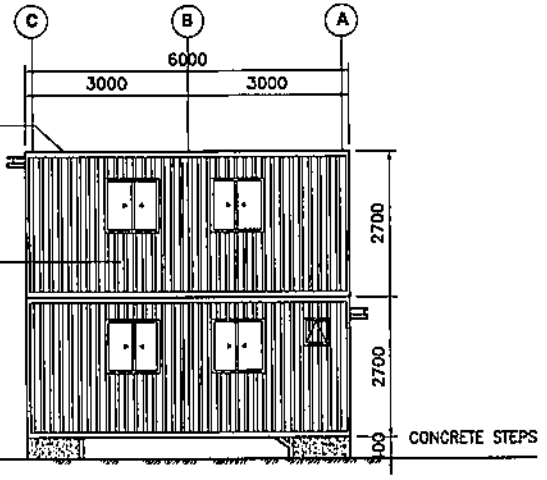
	BY	CHKD	DATE
DESIGNED			
DRAWN	FTAPEL		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

SUBMITTED: R.R.R. VILLANUEVA, PRINCIPAL ARCHITECT A, CEAD
RECOMMENDED: A. C. ESPIRITU, MANAGER, CEAD
APPROVED: N. G. SOMBILLO, MANAGER, LDD

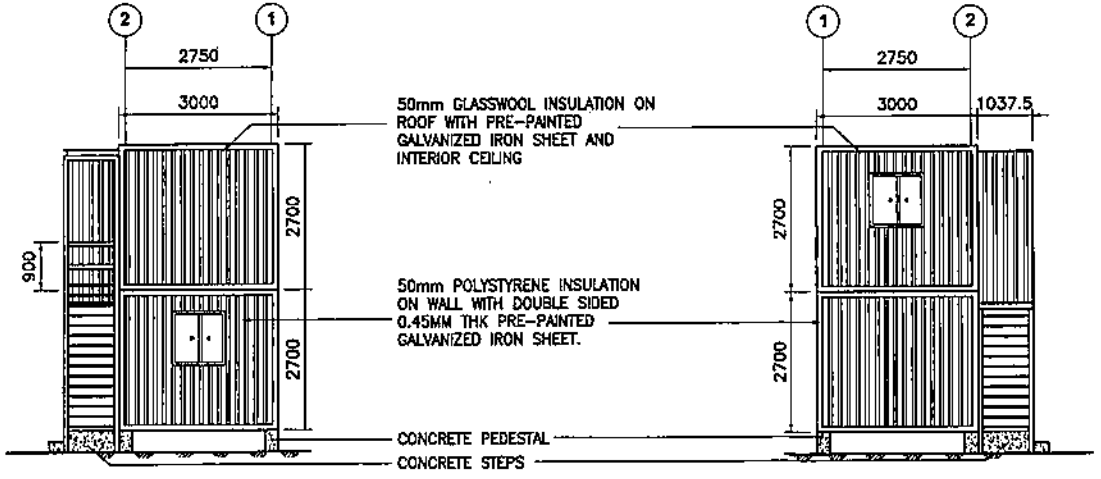
DWG. NO. Nang-BDA-13.001 PR NO. S1-NGL22-001
SCALE: AS SHOWN **BID DRAWING** REV. 0



FRONT ELEVATION
SCALE 1:100



REAR ELEVATION
SCALE 1:100



RIGHT SIDE ELEVATION
SCALE 1:100

LEFT SIDE ELEVATION
SCALE 1:100

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.
2. LOCATION OF BUNKHOUSE SHALL BE VERIFIED AT SITE.

OWNER: **NATIONAL POWER CORPORATION**
AGHAM ROAD, DILIMAN, QUEZON CITY

PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES

LOCATION: BRGY. NANGALAO, LINAPACAN, PALAWAN

TITLE: **PREFABRICATED CONTAINER HOUSE**
(ELEVATIONS)

	BY	CHKD	DATE
DESIGNED			
DRAWN	FTAPEL		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

SUBMITTED: R.R.R. VILLANUEVA, PRINCIPAL ARCHITECT, A, OIC-DEAD
RECOMMENDED: A.C. ESPIRITU, MANAGER, SEAD
APPROVED: N.G. [illegible], MANAGER, DOD

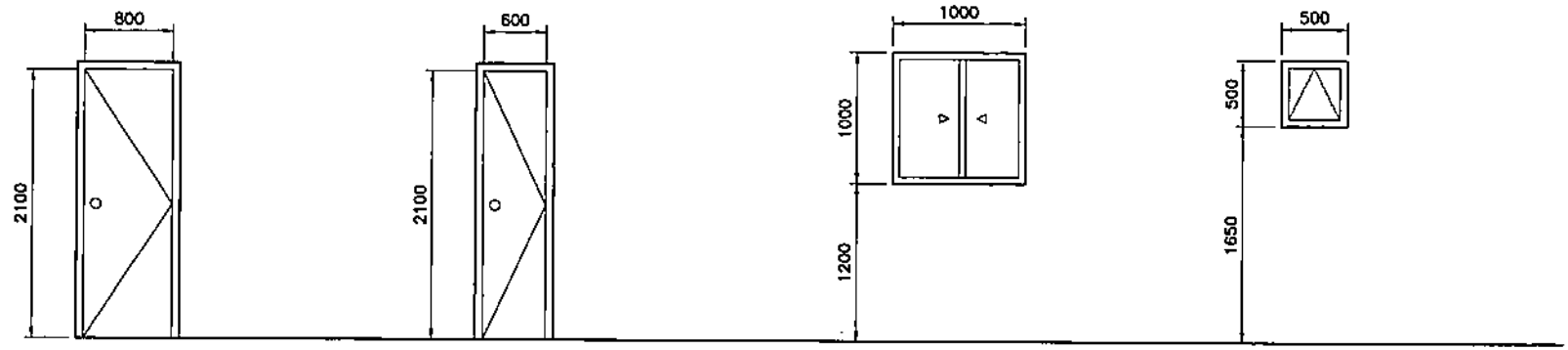
DWG. NO. Nang-BDA-13.002 | PR NO. S1-NGL22-001

SCALE: AS SHOWN | **BID DRAWING** | REV. 0

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECD.	APPD.

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.
2. LOCATION OF BUNKHOUSE SHALL BE VERIFIED AT SITE.



D/1 : FLUSH TYPE STEEL DOOR

D/2 : FLUSH TYPE PVC DOOR

W/1 : GLASS AND ALUM. SLIDING WINDOW
: 6 MM THICK CLEAR GLASS ALUMINUM FRAME

W/2 : GLASS AND ALUM. AWNING WINDOW
: 6 MM THICK CLEAR GLASS ALUMINUM FRAME

SCHEDULE OF DOORS AND WINDOWS
SCALE 1:40

OWNER: **NATIONAL POWER CORPORATION**
AGHAM ROAD, DILIMAN, QUEZON CITY

PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES
LOCATION: BRGY. MANGALAO, LINAPACAN, PALAWAN

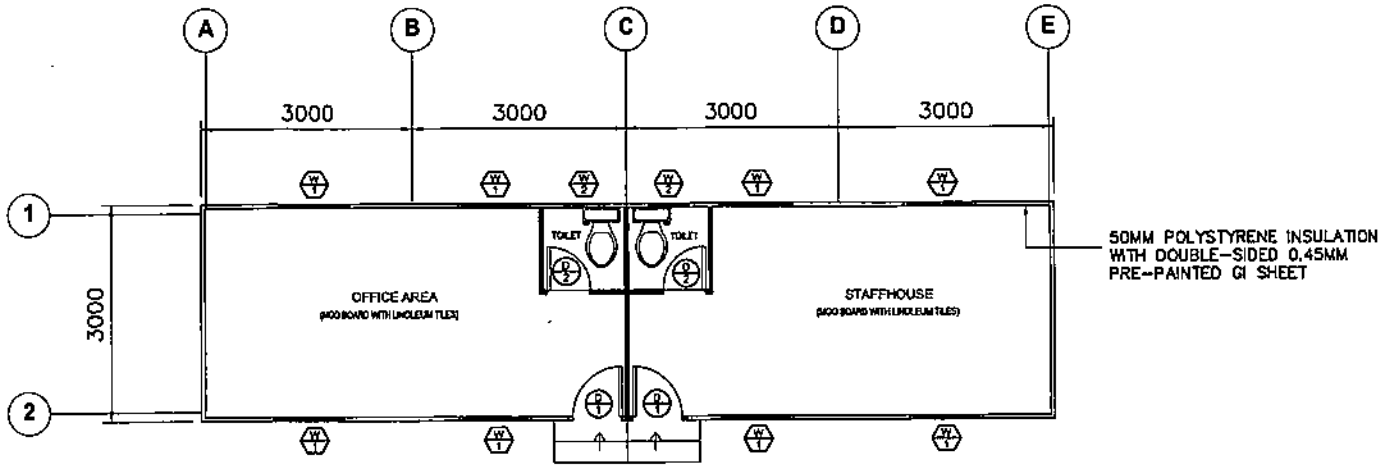
TITLE: **PREFABRICATED CONTAINER HOUSE**
(SCHEDULE OF DOORS & WINDOWS)

	BY	CHKD	DATE
DESIGNED			
DRAWN	FTAPEL		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

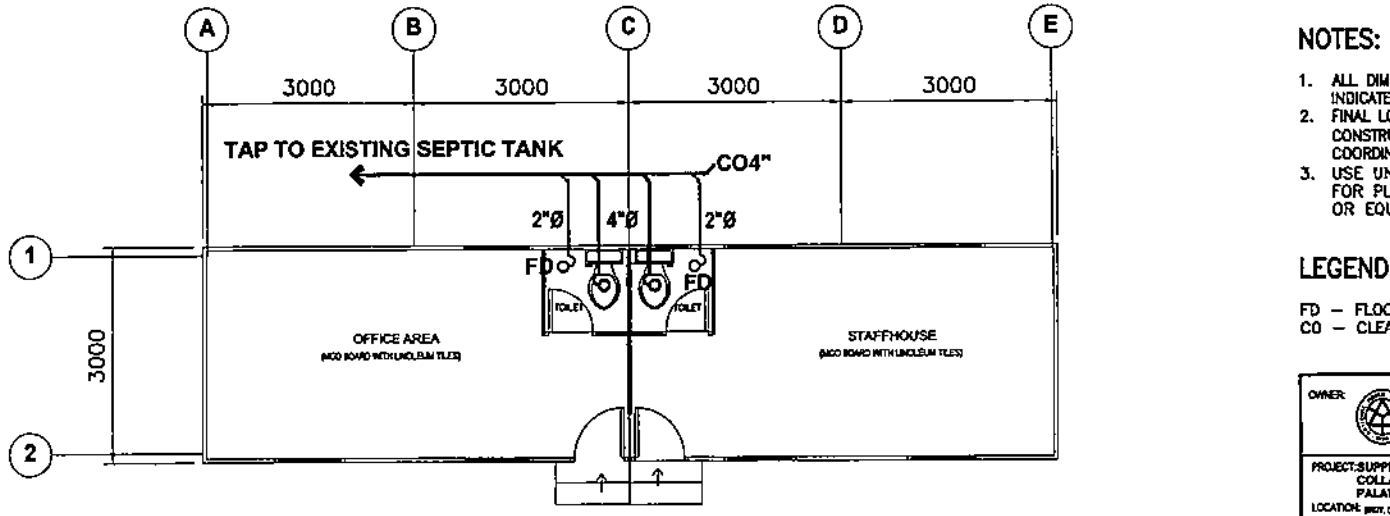
SUBMITTED: R.R.R. VILLANUEVA, PRINCIPAL ARCHITECT, CEAD
RECOMMENDED: A.C. ESPIRITU, MANAGER, CEAD
APPROVED: N.G. SUMANGIL, MANAGER, DDD

DWG. NO. Nang-BDA-13.003 | PR NO. S1-NGL22-001
SCALE: AS SHOWN | BID DRAWING | REV. 0

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECD.	APPD.



FLOOR PLAN
SCALE 1:75



PLUMBING LAYOUT
SCALE 1:75

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.
2. FINAL LOCATION OF THE PROPOSED FACILITY TO BE CONSTRUCTED/SUPPLIED SHALL BE VERIFIED AT SITE AND COORDINATED TO THE END-USER.
3. USE UNPLASTICIZED POLYVINYL CHLORIDE (PVC) FOR PLUMBING SYSTEM CONFORMING TO ISO4435 OR EQUIVALENT.

LEGEND:

FD – FLOOR DRAIN
CO – CLEAN OUT

OWNER: **NATIONAL POWER CORPORATION**
AGHAM ROAD, DILIMAN, QUEZON CITY

PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES
LOCATION: BRGY. CABURAN, BISUCAY ISLAND, CUYO, PALAWAN

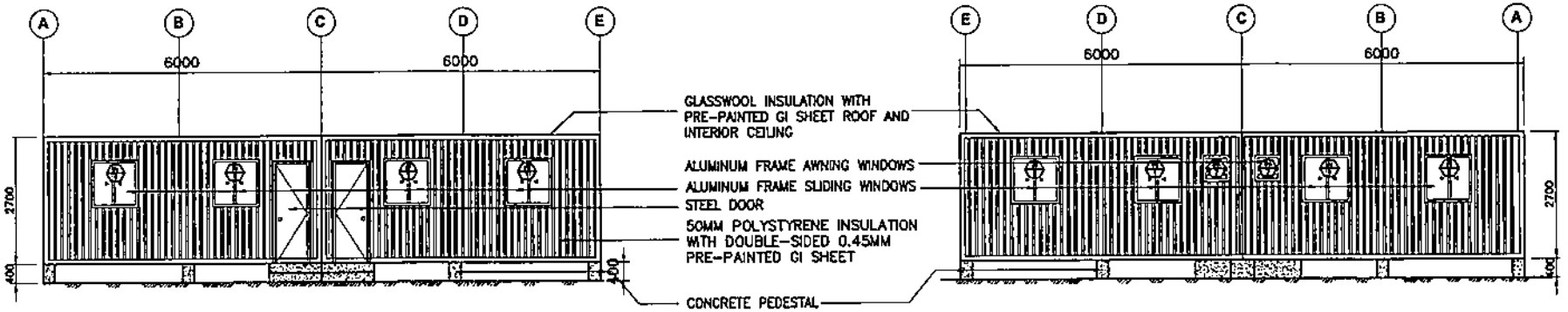
TITLE: **PREFABRICATED CONTAINER HOUSE**
(FLOOR PLAN & PLUMBING LAYOUT)

	BY	CHKD	DATE
DESIGNED			
DRAWN	FTAPEL		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

SUBMITTED: R.R.R. VILLANUEVA, PRINCIPAL ARCHITECT A, CEAD
RECOMMENDED: A. C. ESPIRITU, MANAGER, CEAD
APPROVED: N. G. [illegible], MANAGER, [illegible]

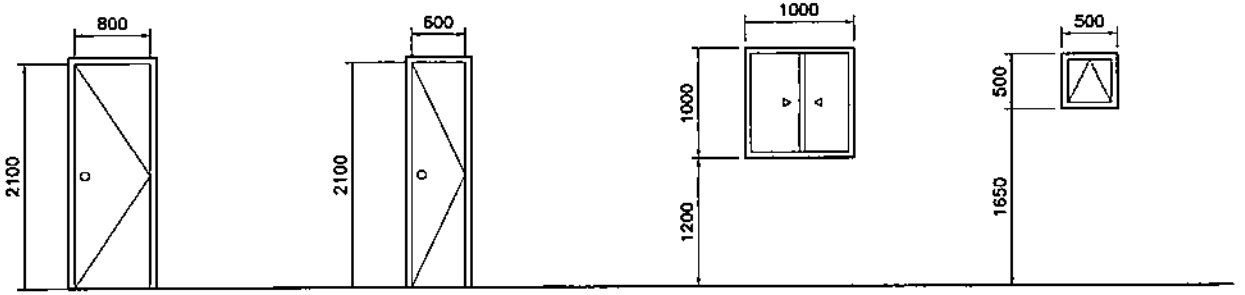
DWG. NO. BIsDPP-BDA-13.001 PR NO. S1-BDP22-001
SCALE: AS SHOWN **BID DRAWING** REV. 0

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECD.	APPD.



FRONT ELEVATION
SCALE 1:100

REAR ELEVATION
SCALE 1:100



D/1 : FLUSH TYPE STEEL DOOR

D/2 : FLUSH TYPE PVC DOOR

W/1 : GLASS AND ALUM. SLIDING WINDOW
: 6 MM THICK CLEAR GLASS ALUMINUM FRAME

W/2 : GLASS AND ALUM. AWNING WINDOW
: 6 MM THICK CLEAR GLASS ALUMINUM FRAME

SCHEDULE OF DOORS AND WINDOWS
SCALE 1:50

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.
2. LOCATION OF BUNKHOUSE SHALL BE VERIFIED AT SITE.

OWNER: NATIONAL POWER CORPORATION
AGHAM ROAD, DILIMAN, QUEZON CITY

PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES

LOCATION: BGY. CABUNAN, BUCLAY ISLAND, CUYO, PALAWAN

TITLE: PREFABRICATED CONTAINER HOUSE
(ELEVATIONS & SCHEDULE OF DOORS AND WINDOWS)

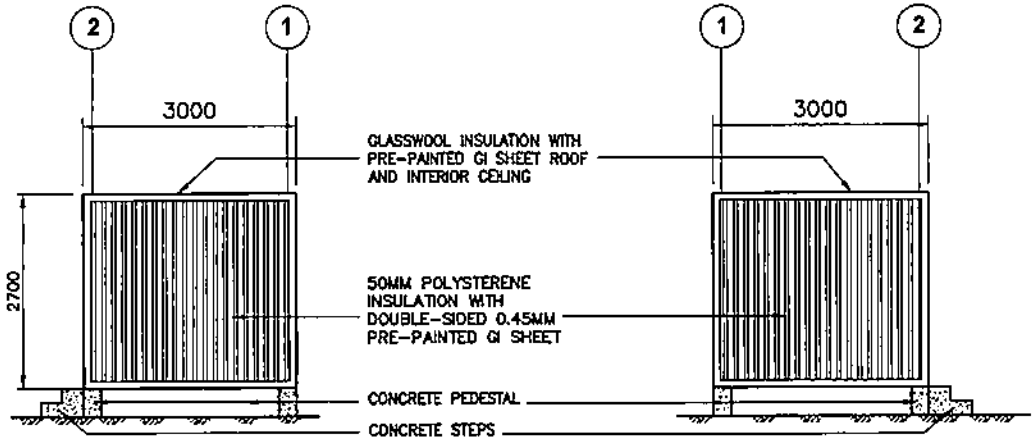
	BY	CHKD	DATE
DESIGNED			
DRAWN	FTAPEL		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

SUBMITTED: R.R.R. VILLANUEVA, PRINCIPAL ARCHITECT A, CEAD
RECOMMENDED: A. S. ESPIRITU, MANAGER, CEAD
APPROVED: N. G. SOLOMON, MANAGER, CDD

DWG. NO. BisDPP-BOA-13.002 PR NO. S1-BDP22-001

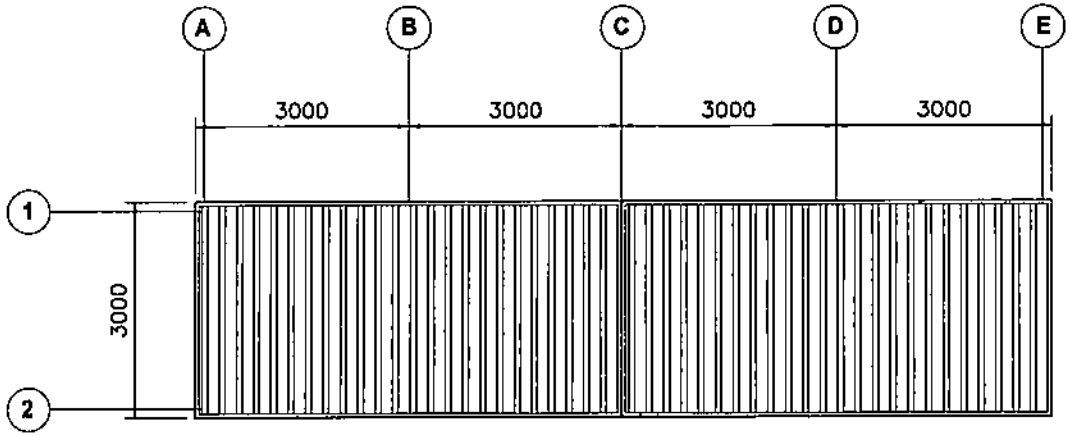
SCALE: AS SHOWN BID DRAWING REV. 0

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECD.	APPD.



RIGHT ELEVATION
SCALE 1:75

LEFT ELEVATION
SCALE 1:75



ROOF PLAN
SCALE 1:75

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.
2. FINAL LOCATION OF THE PROPOSED FACILITY TO BE CONSTRUCTED/SUPPLIED SHALL BE VERIFIED AT SITE AND COORDINATED TO THE END-USER.

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECD.	APPD.

OWNER: NATIONAL POWER CORPORATION
AGHAM ROAD, DILIMAN, QUEZON CITY

PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES

LOCATION: BRGY. CABURAN, BONCAY ISLAND, CLYO, PALAWAN

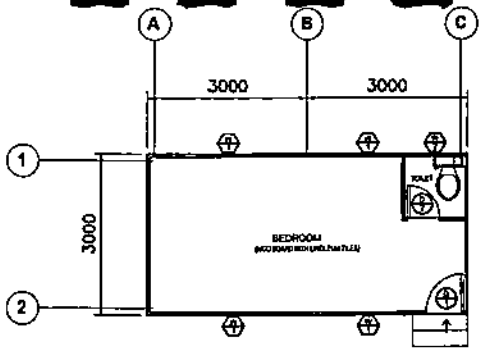
TITLE: **PREFABRICATED CONTAINER HOUSE**
(ELEVATIONS & ROOF PLAN)

	BY	CHKD	DATE
DESIGNED			
DRAWN	FTAPEL		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

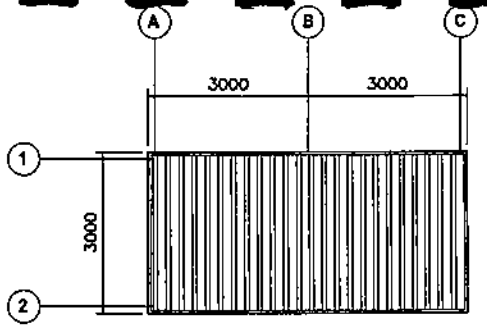
SUBMITTED: R.R.R. VILLANUEVA, PRINCIPAL ARCHITECT A, OEAD
RECOMMENDED: A.C. ESPIRITU, MANAGER, OEAD
APPROVED: N.G. [redacted], MANAGER, DDD

DWG. NO. BIsDPP-BDA-13.003 | PR NO. S1-BDP22-001

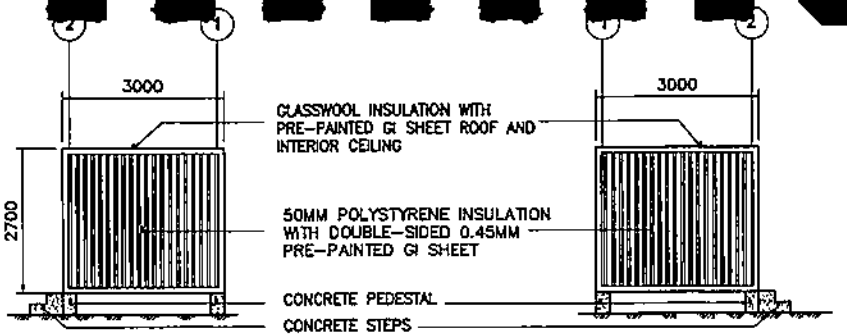
SCALE: AS SHOWN | **BID DRAWING** | REV. 0



FLOOR PLAN
SCALE 1:100

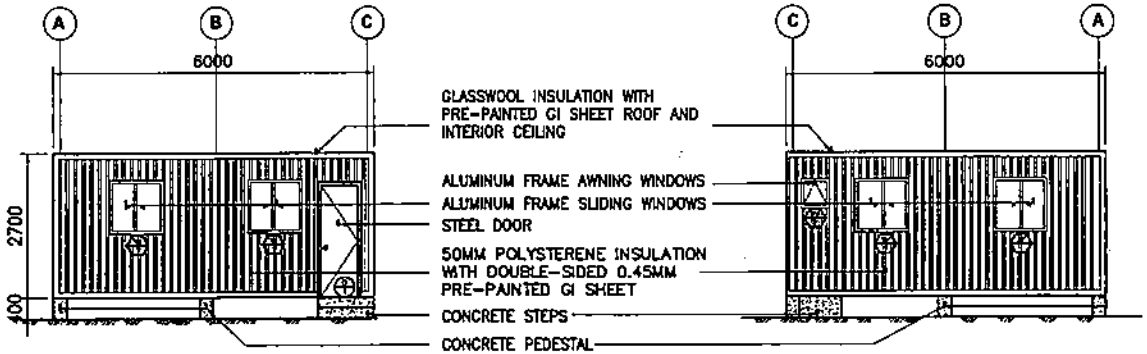


ROOF PLAN
SCALE 1:100



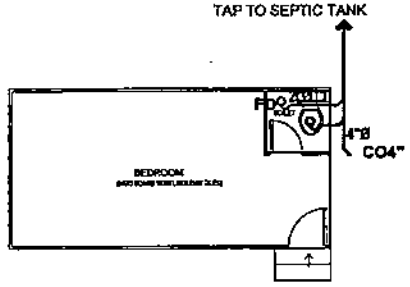
RIGHT SIDE ELEVATION
SCALE 1:100

LEFT SIDE ELEVATION
SCALE 1:100



FRONT ELEVATION
SCALE 1:100

REAR ELEVATION
SCALE 1:100



PLUMBING LAYOUT
SCALE 1:100

D 1 : FLUSH TYPE STEEL DOOR

D 2 : FLUSH TYPE PVC DOOR

W 1 : GLASS AND ALUM. SLIDING WINDOW
: 6 MM THICK CLEAR GLASS
: ALUMINUM FRAME

W 2 : GLASS AND ALUM. AWNING WINDOW
: 6 MM THICK CLEAR GLASS
: ALUMINUM FRAME

SCHEDULE OF DOORS AND WINDOWS
SCALE 1:100

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.
2. LOCATION OF BUNKHOUSE SHALL BE VERIFIED AT SITE.
3. USE UNPLASTICIZED POLYVINYL CHLORIDE (PVC) FOR PLUMBING SYSTEM CONFORMING TO ISO4435 OR EQUIVALENT.

LEGEND:

FD – FLOOR DRAIN
CO – CLEAN OUT

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECD.	APPD.

OWNER: NATIONAL POWER CORPORATION
AGHAM ROAD, DILIMAN, QUEZON CITY

PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES
LOCATION: BANCALAN, BALABAC, & CASIAN, TAYTAY, PALAWAN

TITLE: **PREFABRICATED CONTAINER HOUSE**
(PLANS, ELEVATIONS, PLUMBING LAYOUT, AND DETAILS)

	BY	CHKD	DATE
DESIGNED			
DRAWN	J.G.A.C.		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

SUBMITTED: R.R.R. VILLANUEVA, PRINCIPAL ARCHITECT / HEAD
RECOMMENDED: A. C. ESPIRITU, MANAGER / HEAD
APPROVED: M. G. SORIANO, MANAGER, ODD

DWG. NO. PWN-BDA-13.001
PR NO. S1-BAC22-007, S1-CSN22-001
SCALE: AS SHOWN
BID DRAWING
REV. 0

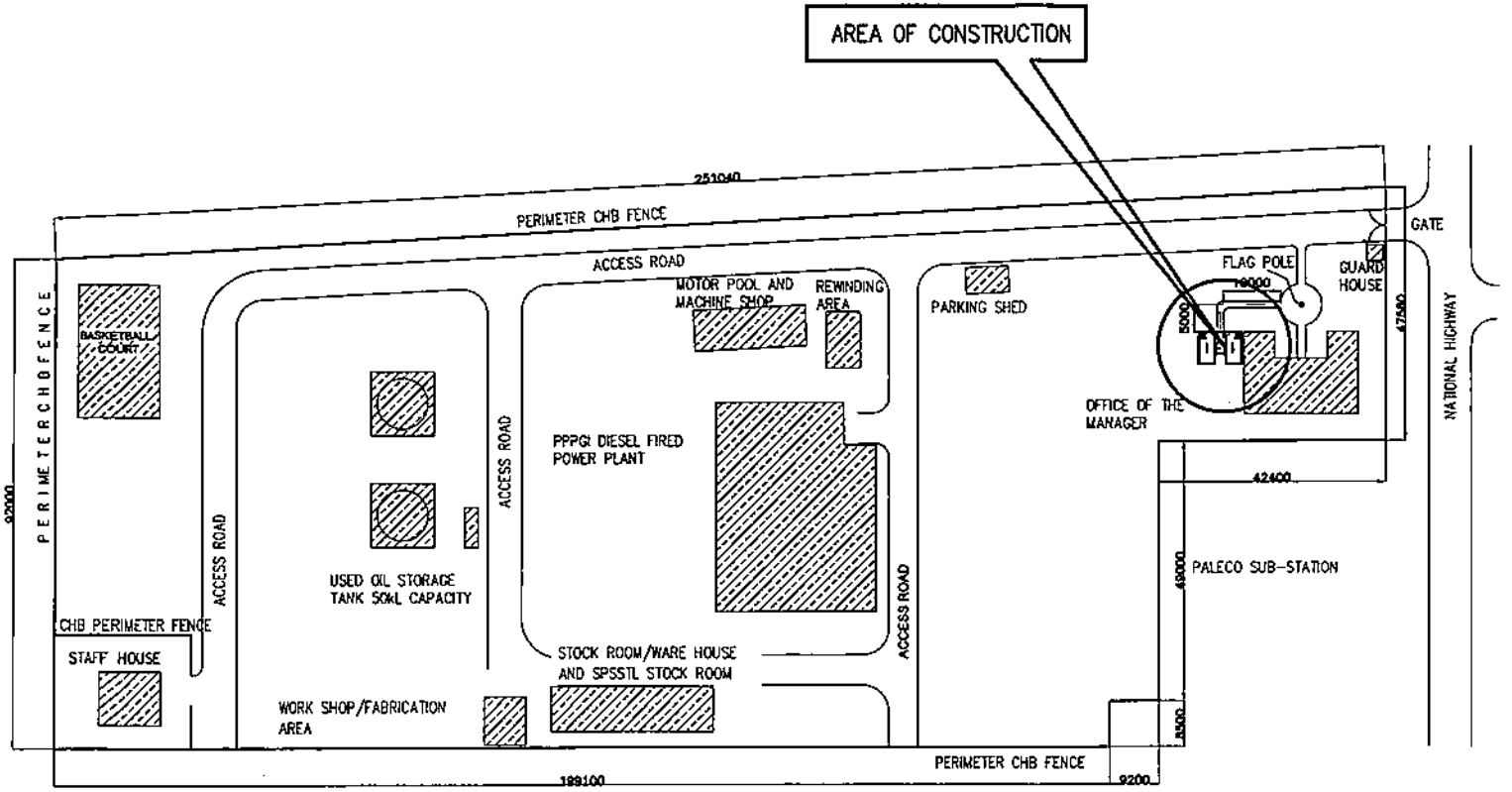
SECTION IX

BID DRAWINGS FOR CIVIL WORKS

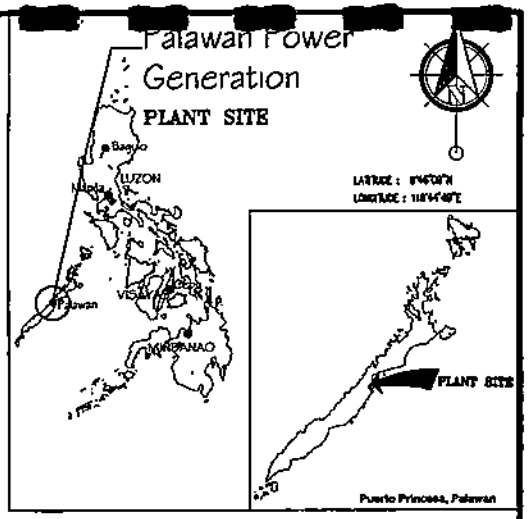
SECTION IX – BID DRAWINGS

CW – CIVIL WORKS

DRAWING NO.	TITLE
POD-BDC-13.001	POD PLANT LAYOUT
Nang-BDC-13.001	SITE DEVELOPMENT PLAN (Nangalao DPP)
Nang-BDC-13.002	PREFABRICATED CONTAINER HOUSE (Steel Stairs Elevation, Details & Foundation)
BisDPP-BDC-13.001	SITE DEVELOPMENT PLAN (Bisucay DPP)
BDPP-BDC-13.001	SITE DEVELOPMENT PLAN (Bancalaan 1 DPP)
CasDPP-BDC-13.001	SITE DEVELOPMENT PLAN (Casian DPP)
PWN-BDC-13-001	PREFABRICATED CONTAINER HOUSE (Pedestal Footing, Concrete Walk & Steps Details)
PWN-BDC-13-002	PREFABRICATED CONTAINER HOUSE (Foundation Plan)
PWN-BDC-13-003	PREFABRICATED CONTAINER HOUSE (Foundation Plan)
PWN-BDC-13-004	TYPICAL SEPTIC TANK (Plan, Section & Details)



POD PLANT LAYOUT
SCALE 1:1000



LOCATION MAP
NOT TO SCALE

NOTE:
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.
2. LOCATION OF BUNKHOUSE SHALL BE VERIFIED AT SITE

LEGENDS:
- PROPOSED LOCATION OF FACILITIES
- EXISTING EQUIPMENT/STRUCTURES

OWNER: **NATIONAL POWER CORPORATION**
AGHAM ROAD, DILIMAN, QUEZON CITY

PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES
LOCATION: POD, PUERTO PRINCESA, PALAWAN

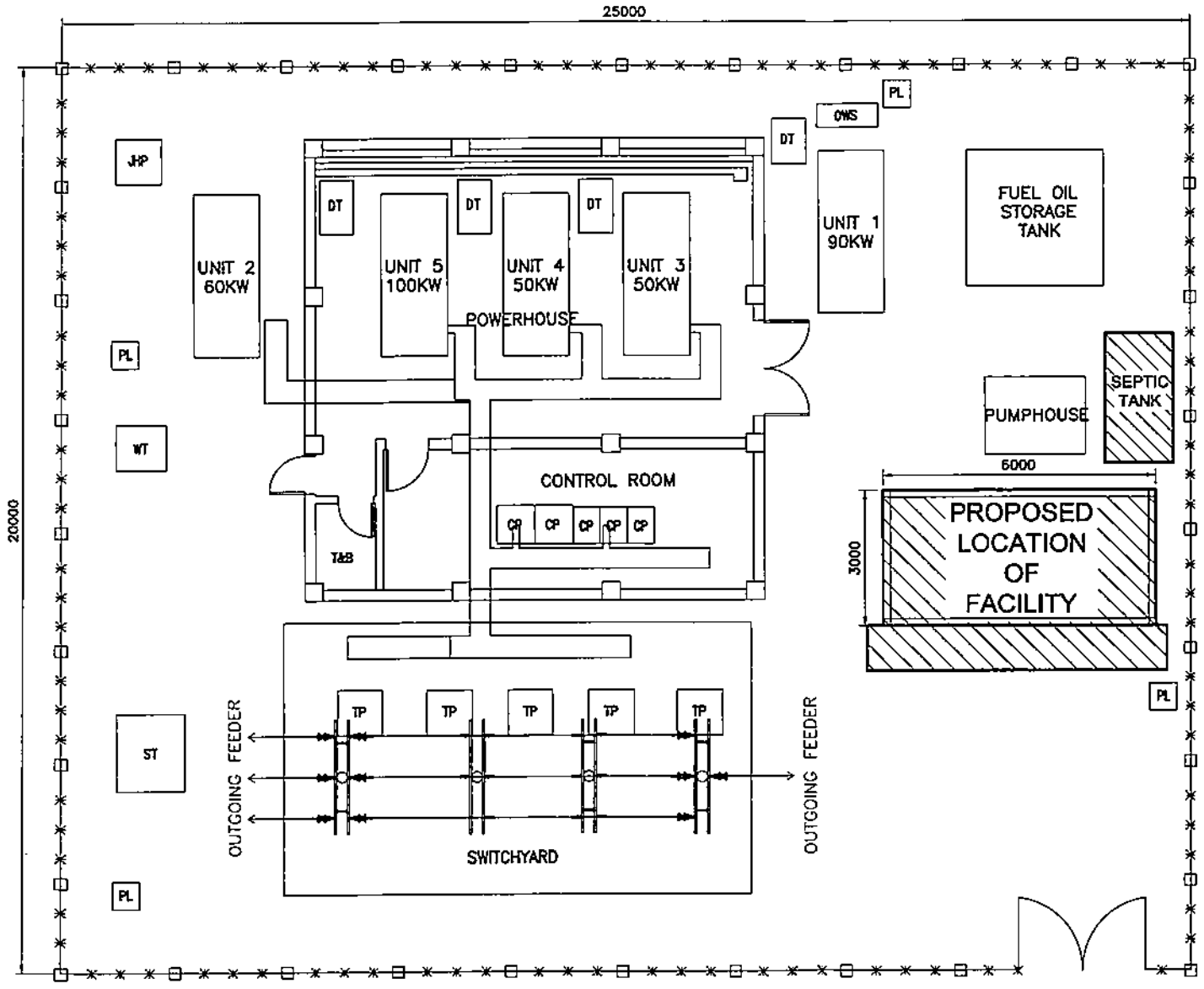
TITLE: **POD PLANT LAYOUT**

	BY	CHKD	DATE
DESIGNED			
DRAWN	J.G.A.C		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

SUBMITTED: H. L. MENDOZA, Principal Engineer A, DEAD
RECOMMENDED: A. C. ESPIRITU, Manager, DEAD
APPROVED: N. G. SARMIENTO, Manager, DDD

DWG. NO. POD-BDC-13.001 PR NO. S1-PWN22-018
SCALE: 1:1000 **BID DRAWING** REV. 0

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECO.	APPD.



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.
2. FINAL LOCATION OF THE PROPOSED FACILITY TO BE SUPPLIED/CONSTRUCTED SHALL BE CLOSELY COORDINATED WITH THE NPC/END-USER.
3. THIS DRAWING SHALL BE WORKED WITH MECHANICAL AND ELECTRICAL DRAWINGS.

LEGEND:

JHP – JETMATIC HAND PUMP
DT – DAY TANK
DP – DRAIN PIT
TP – TRANSFORMER PAD
WT – WATER TANK
ST – SEPTIC TANK
OWS – OIL WATER SEPARATOR
T&B – TOILET AND BATH
CP – CONTROL PANEL
PL – PERIMETER LIGHTING
▨ – PROPOSED LOCATION OF FACILITY TO BE SUPPLIED/CONSTRUCTED

SITE DEVELOPMENT PLAN

SCALE 1:100

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECD.	APPD.

OWNER: NATIONAL POWER CORPORATION
AGHAM ROAD, DILIMAN, QUEZON CITY

PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES

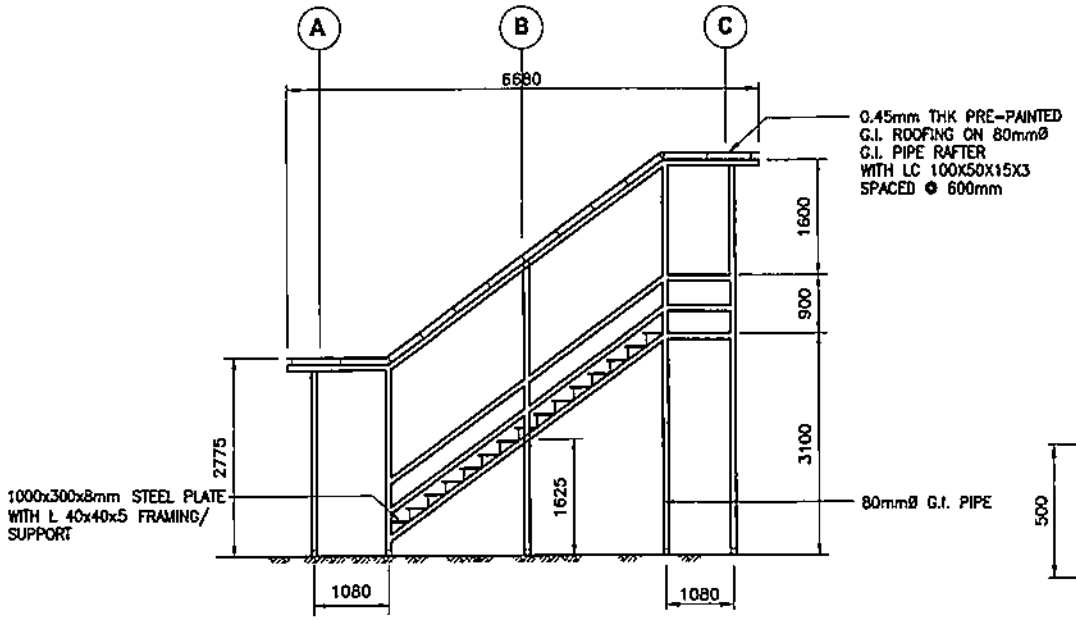
LOCATION: BRGY. NANGALAO, LIMPAPANG, PALAWAN

TITLE: SITE DEVELOPMENT PLAN (NANGALAO DPP)

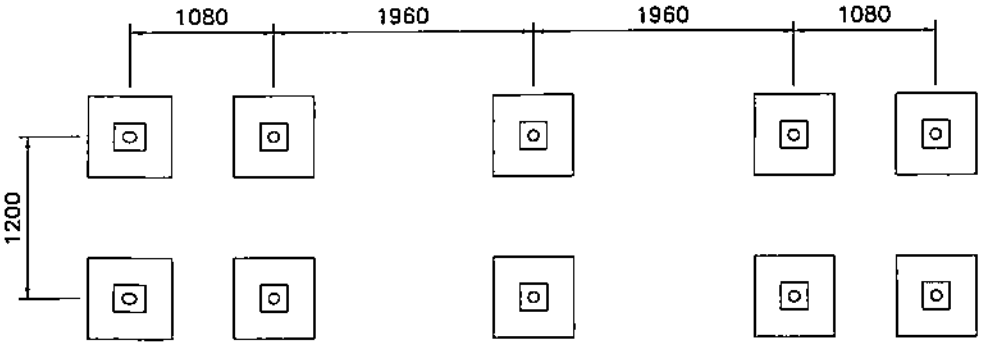
	BY	CHKD	DATE
DESIGNED			
DRAWN	FTAPEL		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

SUBMITTED: H. L. MENDOZA, PRINCIPAL ENGINEER A, CEAD
RECOMMENDED: A. C. ESPIRITU, MANAGER, CEAD
APPROVED: N. G. [illegible] BARRA, MANAGER, DDD

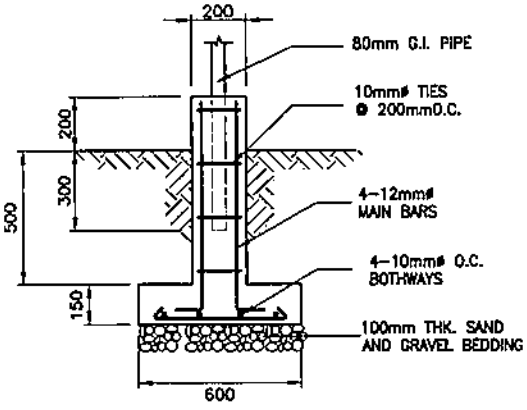
DWG. NO. Nang-BDC-13.001 PR NO. S1-NGL22-001
SCALE: AS SHOWN BID DRAWING REV. 0



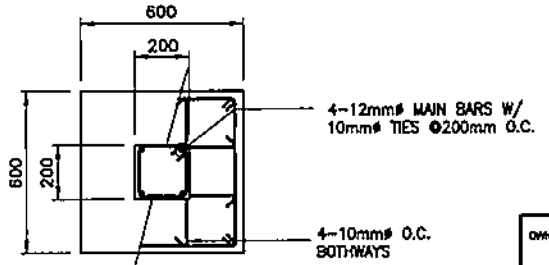
STEEL STAIRS
SCALE 1:75



STEEL STAIRS FOUNDATION
SCALE 1:40



SECTION



PLAN

G.I. PIPE PEDESTAL PLAN AND DETAILS
SCALE 1:20

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
2. FOOTING DESIGN BASED ON ALLOWABLE SOIL PRESSURE OF 140 KPa AND TO BE VERIFY BASED ON ACTUAL SOIL CONDITION.
3. UNLESS OTHERWISE INDICATED IN THE PLANS OR NOTED IN THE SPECIFICATIONS, THE MINIMUM 28 DAY CYLINDER COMPRESSIVE STRENGTH OF CONCRETE SHALL BE 20.7MPa FOR PEDESTAL.
4. UNLESS OTHERWISE INDICATED SPECIFIED IN THE PLANS, THE MINIMUM YIELD STRENGTH OF REINFORCEMENT TO BE USED SHALL BE GRADE 40 (276MPa).
5. ALL REINFORCING STEEL SHALL BE DETAILED AND PLACED IN CONFORMANCE WITH ACI-318.
6. ALL STRUCTURAL STEEL CONNECTIONS FOR STEEL STAIRS MUST BE DESIGNED BY THE CONTRACTOR.
7. USE STRUCTURAL GRADE STEEL SHAPES, BARS AND PLATES CONFORMING TO ASTM A36.
8. ALL WELDING WORKS SHALL BE IN ACCORDANCE OF THE LATEST EDITION OF THE AMERICAN WELDING SOCIETY.
9. ALL STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE AISC SPECIFICATION AND CODE OF STANDARD PRACTICE.

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECO.	APPD.

OWNER: NATIONAL POWER CORPORATION
AGHAM ROAD, DILIMAN, QUEZON CITY

PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES

LOCATION: BRGY. MAGAUAO, LINAPACAN, PALAWAN

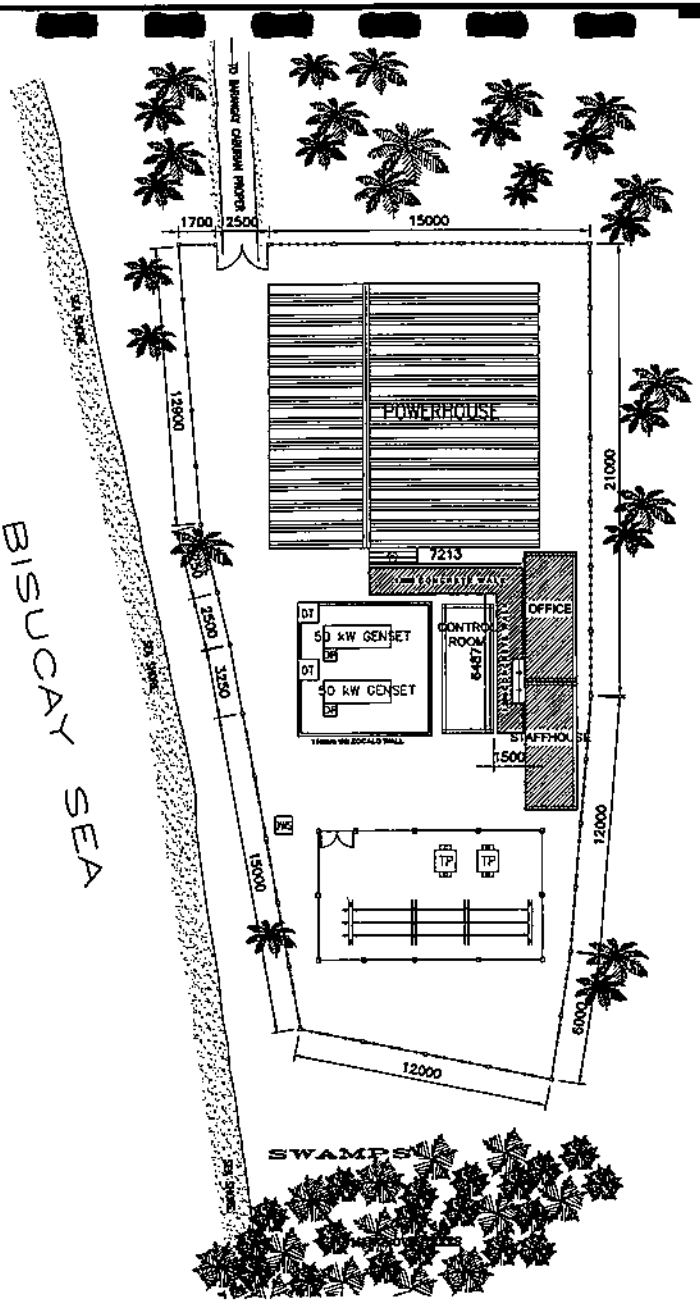
TITLE: STEEL STAIRS ELEVATION, DETAILS AND FOUNDATION

	BY	CHKD	DATE
DESIGNED			
DRAWN	FTAPEL		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

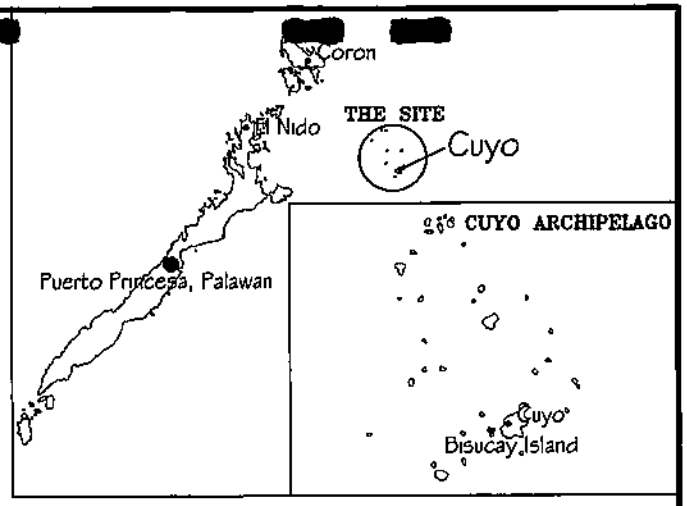
SUBMITTED: H.L. MENDOZA, PRINCIPAL ENGINEER A, CEAD
RECOMMENDED: L.C. ESPIRITU, MANAGER, CEAD
APPROVED: R.G. [illegible], MANAGER, CDD

DWG. NO. Nang-BDC-13.002 PR No. S1-NGL22-001

SCALE: AS SHOWN BID DRAWING REV. 0



SITE DEVELOPMENT PLAN
SCALE 1:250



LOCATION MAP
NOT TO SCALE

LEGENDS:

- PROPOSED LOCATION OF FACILITIES/EQUIPMENT
- PERIMETER FENCE/PROPERTY LINE BARBED WIRE (2 STRAND GALV. STEEL WIRE)
- CHB PERIMETER FENCE/PROPERTY LINE
- SECLUSION FENCE
- TP — TRANSFORMER PAD
- OWS — OIL-WATER SEPARATOR
- DP — DRAIN PIT
- DT — DAY TANK

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.
2. WORK THIS WITH ELECTRICAL AND MECHANICAL DRAWINGS.

OWNER: **NATIONAL POWER CORPORATION**
AGHAM ROAD, DILIMAN, QUEZON CITY

PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES
LOCATION: BRGY. CABURIAN, BISUCAY ISLAND, CUYO, PALAWAN

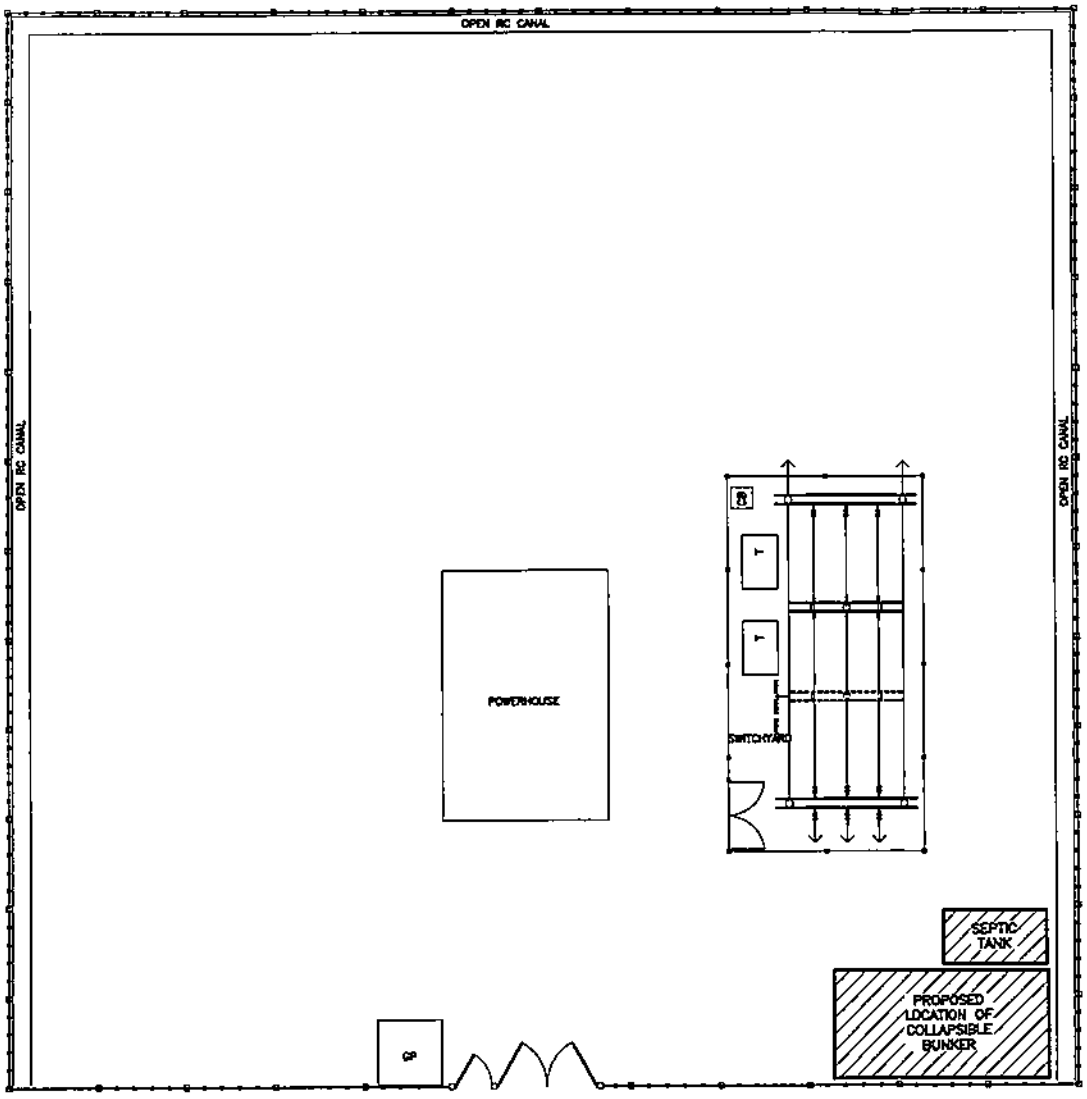
TITLE: **SITE DEVELOPMENT PLAN (BISUCAY DPP)**

	BY	CHKD	DATE
DESIGNED			
DRAWN	FYST		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

SUBMITTED: H. L. MENDOZA, PRINCIPAL ENGINEER A, CEAD
RECOMMENDED: A. C. ESPIRITU, MANAGER, CEAD
APPROVED: N. G. SCHWEIGERT, MANAGER, DDO

DWG NO. BisDPP-BDC-13.001 | PR NO. 51-BDP22-001
SCALE: AS SHOWN | **BID DRAWING** | REV. 0

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECO.	APPD.



SITE DEVELOPMENT PLAN
SCALE 1:150

LOCATION MAP
NOT TO SCALE

VICINITY PLAN
NOT TO SCALE

NOTE:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.
2. LOCATION OF STAFFHOUSE SHALL BE VERIFIED AT SITE

LEGENDS:

- EXISTING FACILITIES/STRUCTURE/EQUIPMENT
- PROPOSED PROJECT LOCATION

OWNER: NATIONAL POWER CORPORATION
AGHAM ROAD, DILIMAN, QUEZON CITY

PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES

LOCATION: BRGY. BANCALAAN, BALABAC, PALAWAN

TITLE: SITE DEVELOPMENT PLAN (BANCALAAN 1 DPP)

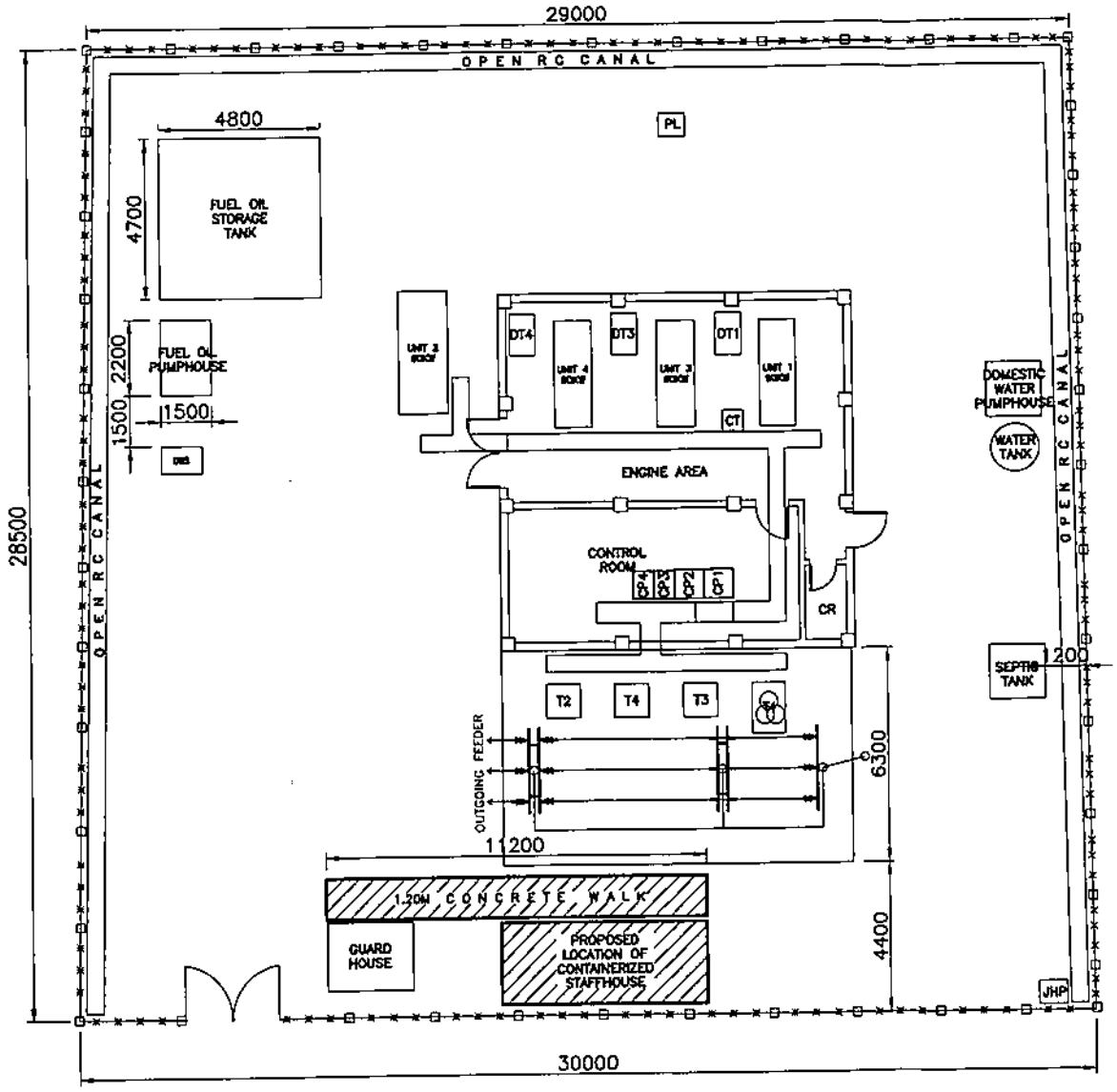
	BY	CHKD	DATE
DESIGNED			
DRAWN	JAAS		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

SUBMITTED: H. L. MENDOZA, Principal Engineer A, CEAD
RECOMMENDED: A. C. ESPIRITU, Manager, CEAD
APPROVED: N. G. [illegible], Manager, DDO

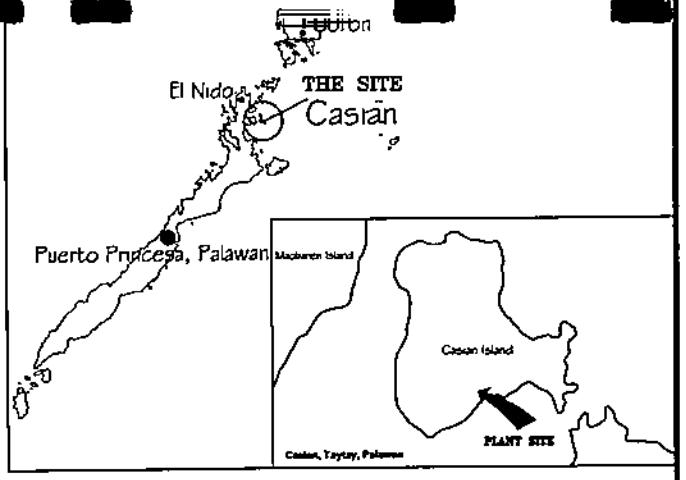
DWG. NO. BDPP-BDC-13.001 PR NO. S1-BAC22-007

SCALE: AS SHOWN BID DRAWING REV. 0

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECD.	APPD.



SITE DEVELOPMENT PLAN
SCALE 1:150



LOCATION MAP
NOT TO SCALE

NOTE:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.
2. LOCATION OF STAFFHOUSE SHALL BE VERIFIED AT SITE

LEGENDS:

- EXISTING FACILITIES/STRUCTURE/EQUIPMENT
- PROPOSED PROJECT LOCATION

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECD.	APPD.

OWNER: NATIONAL POWER CORPORATION
AGHAM ROAD, DILIMAN, QUEZON CITY

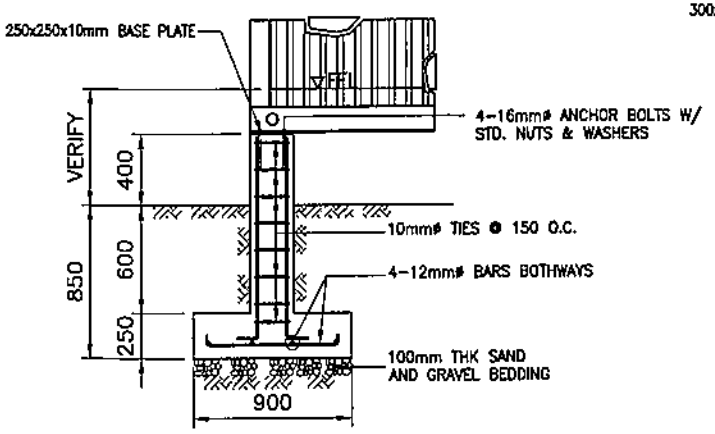
PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES
LOCATION: CASIAN, TAYTAY, PALAWAN

TITLE: SITE DEVELOPMENT PLAN (CASIAN DPP)

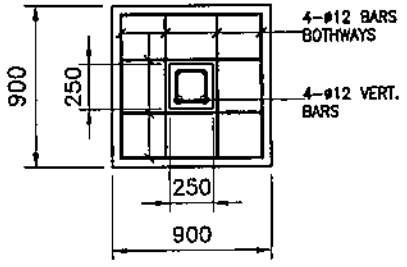
	BY	CHKD	DATE
DESIGNED			
DRAWN	ENGR.		
REVIEWED	PRINCIPAL ENGR./ ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

SUBMITTED: H. L. MENDOZA, Principal Engineer A, DEAD
RECOMMENDED: A. C. ESPIRITU, Manager, DEAD
APPROVED: N. G. SOMBILLERA, Manager, DDO

DWG. NO. CasDPP-BDC-13.001 PR NO. S1-CSN22-001
SCALE: 1:150 BID DRAWING

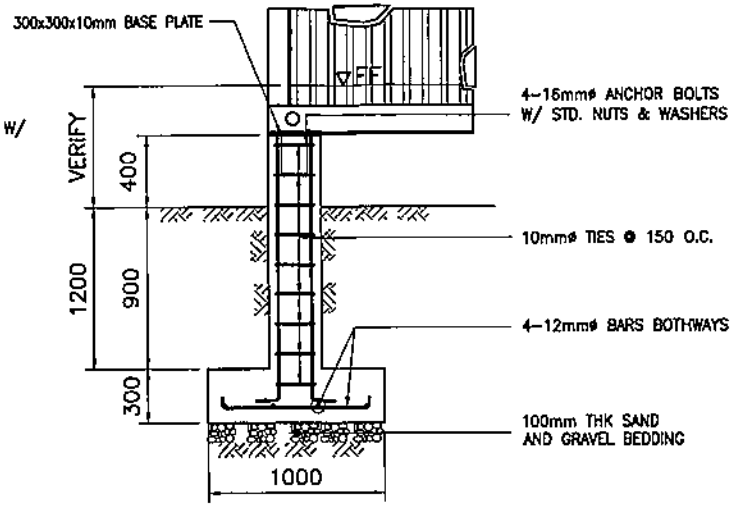


SECTION

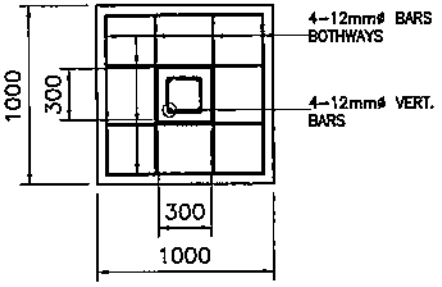


PLAN

DETAILS OF PEDESTAL FOOTING 1 (PF-1)
SCALE 1:30

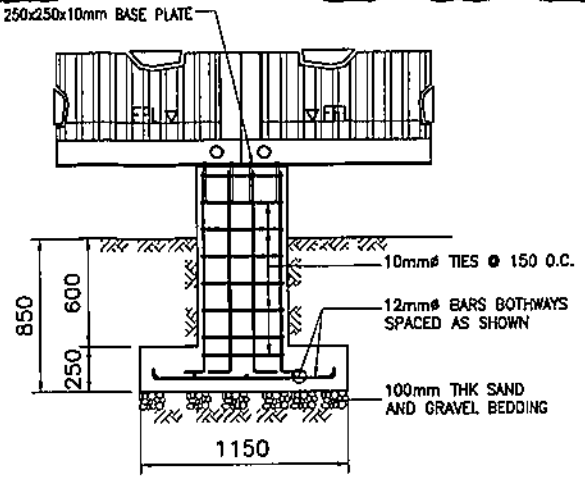


SECTION

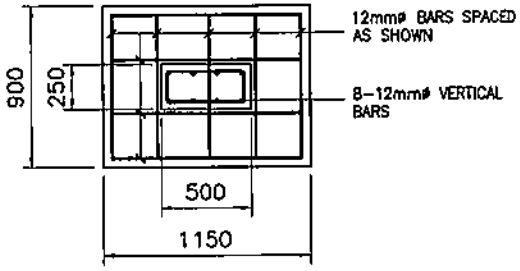


PLAN

DETAILS OF PEDESTAL FOOTING 2 (PF-2)
SCALE 1:30

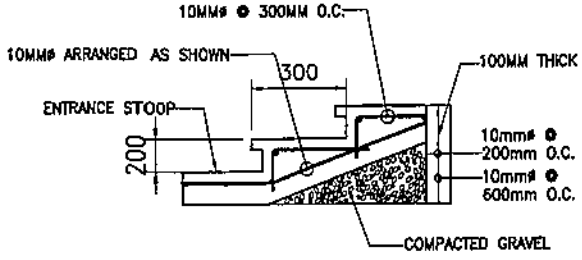


SECTION

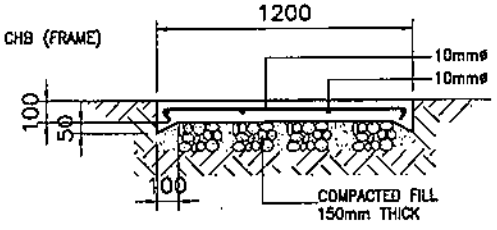


PLAN

DETAILS OF PEDESTAL FOOTING 3 (PF-3)
SCALE 1:30



CONCRETE STEPS DETAIL
SCALE NTS



CONCRETEWALK DETAIL
SCALE 1:30

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
2. THE MINIMUM 28 DAY CYLINDER COMPRESSIVE STRENGTH OF CONCRETE SHALL BE 20.7MPa.
3. UNLESS OTHERWISE INDICATED SPECIFIED IN THE PLANS, THE MINIMUM YIELD STRENGTH OF REINFORCEMENT TO BE USED SHALL BE GRADE 40 (276MPa).
4. ALL REINFORCING STEEL SHALL BE DETAILED AND PLACED IN CONFORMANCE WITH ACI-318.

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECD.	APPD.

OWNER: **NATIONAL POWER CORPORATION**
AGHAM ROAD, DILIMAN, QUEZON CITY

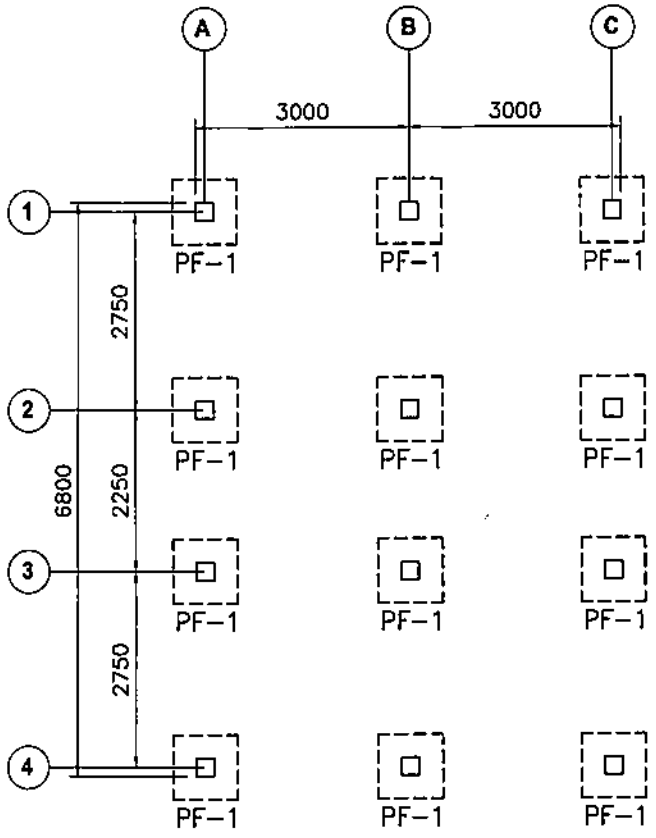
PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES
LOCATION: VARIOUS PALAWAN SPUG AREAS

TITLE: **PREFABRICATED CONTAINER HOUSE**
(PEDESTAL FOOTING, CONCRETE WALK & STEPS DETAILS)

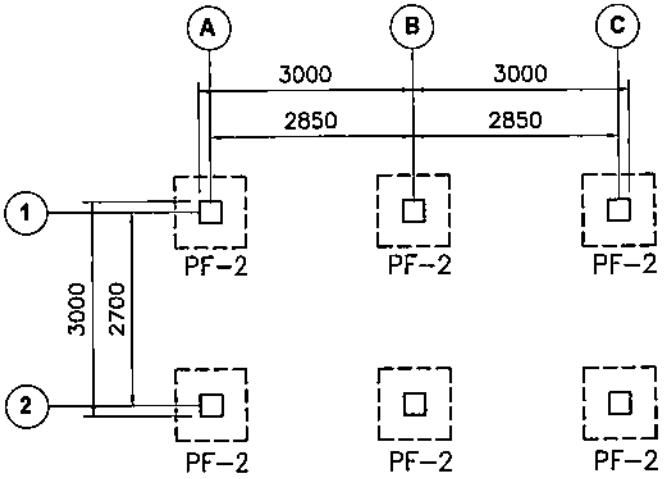
	BY	CHKD	DATE
DESIGNED			
DRAWN	FYST		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

SUBMITTED: HL MENDOZA, PRINCIPAL ENGINEER A-CHEAD
RECOMMENDED: A.C. ESPIRITU, Manager, CSD
APPROVED: N.G. SOLIVERES, Manager, DDD

DWG. NO. PWN-BDC-13.001
PR No. S1-PWN22-016 S1-BAC22-007 S1-NGL22-001 S1-CSN22-001 S1-BDP22-001
SCALE: AS SHOWN
BID DRAWING
REV. 0



POD FOUNDATION PLAN
SCALE 1:75



NANGALAO FOUNDATION PLAN
SCALE 1:75

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
2. THE MINIMUM 28 DAY CYLINDER COMPRESSIVE STRENGTH OF CONCRETE SHALL BE 20.7MPa.
3. UNLESS OTHERWISE INDICATED SPECIFIED IN THE PLANS, THE MINIMUM YIELD STRENGTH OF REINFORCEMENT TO BE USED SHALL BE GRADE 40 (276MPa).
4. ALL REINFORCING STEEL SHALL BE DETAILED AND PLACED IN CONFORMANCE WITH ACI-318.

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECD.	APPD.

OWNER: **NATIONAL POWER CORPORATION**
AGHAM ROAD, DILIMAN, QUEZON CITY

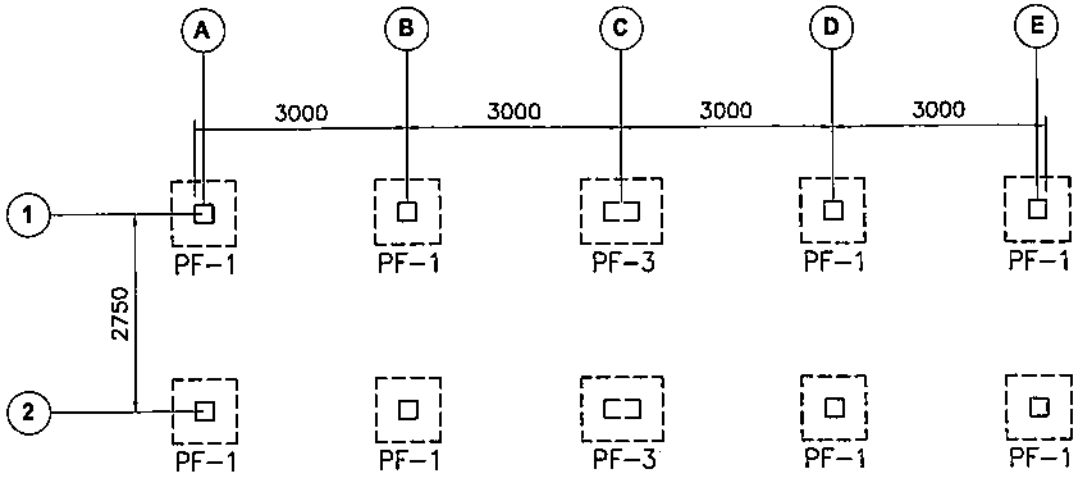
PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES
LOCATION: VARIOUS PALAWAN SPUG AREAS

TITLE: **PREFABRICATED CONTAINER HOUSE**
(FOUNDATION PLAN)

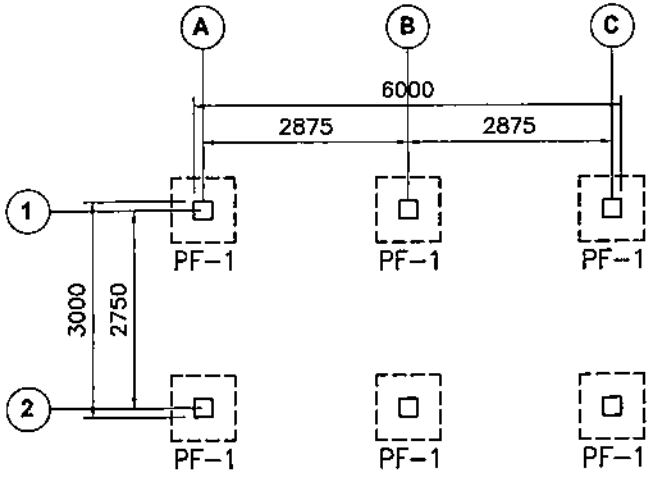
	BY	CHKD	DATE
DESIGNED			
DRAWN	FYST		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

SUBMITTED: H.L. MENDOZA, PRINCIPAL ENGINEER/A (HEAD)
RECOMMENDED: A.C. ESPIRITU, Manager, PSMD
APPROVED: N.G. SOLIDUM-SIERRA, Manager, OOD

DWG. NO. PWN-BDC-13.002 | PR No. S1-PWN22-018 S1-NGL22-001
SCALE: AS SHOWN | **BID DRAWING** | REV. 0



BISUCAY FOUNDATION PLAN
SCALE 1:75



BANCALAAN 1 / CASIAN FOUNDATION PLAN
SCALE 1:75

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
2. THE MINIMUM 28 DAY CYLINDER COMPRESSIVE STRENGTH OF CONCRETE SHALL BE 20.7MPa.
3. UNLESS OTHERWISE INDICATED SPECIFIED IN THE PLANS, THE MINIMUM YIELD STRENGTH OF REINFORCEMENT TO BE USED SHALL BE GRADE 40 (276MPa).
4. ALL REINFORCING STEEL SHALL BE DETAILED AND PLACED IN CONFORMANCE WITH ACI-318.

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECD.	APPD.

OWNER: NATIONAL POWER CORPORATION
AGHAM ROAD, DILIMAN, QUEZON CITY

PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES
LOCATION: VARIOUS PALAWAN SPUG AREAS

TITLE: **PREFABRICATED CONTAINER HOUSE**
(FOUNDATION PLAN)

	BY	CHKD	DATE
DESIGNED			
DRAWN	FYST		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

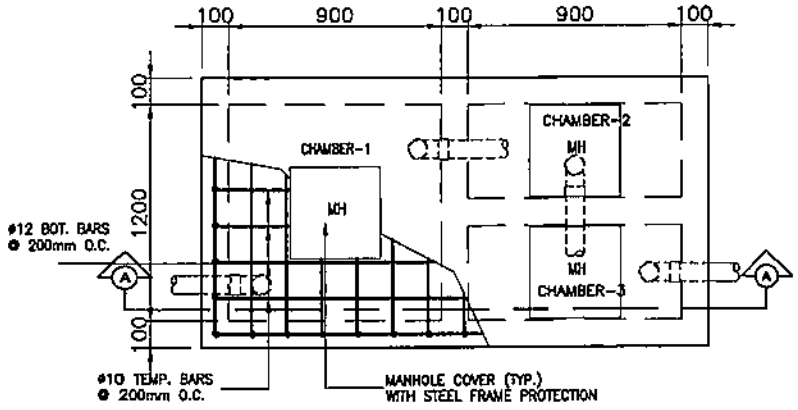
SUBMITTED: H.L. MENDOZA, PRINCIPAL ENGINEER A, CEAD
RECOMMENDED: A. C. ESPIRITU, Manager, CEAD
APPROVED: N. G. SONGCUYA, Manager, CDD

DWG. NO. PWN-BDC-13.003
PR.No. S1-BDP22-001, S1-BAC22-007, S1-CSN22-001

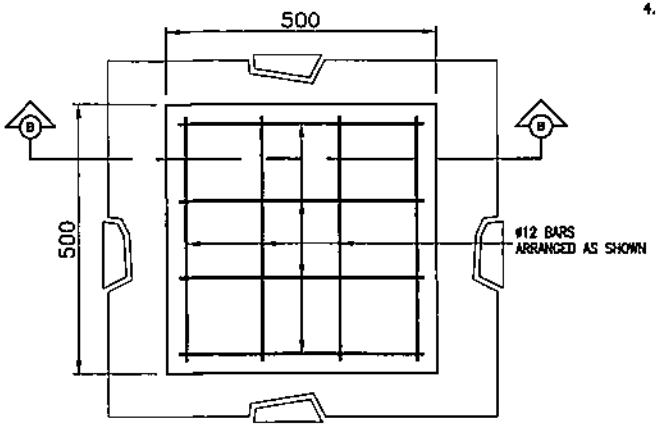
SCALE: AS SHOWN
BID DRAWING
REV. 0

NOTES:

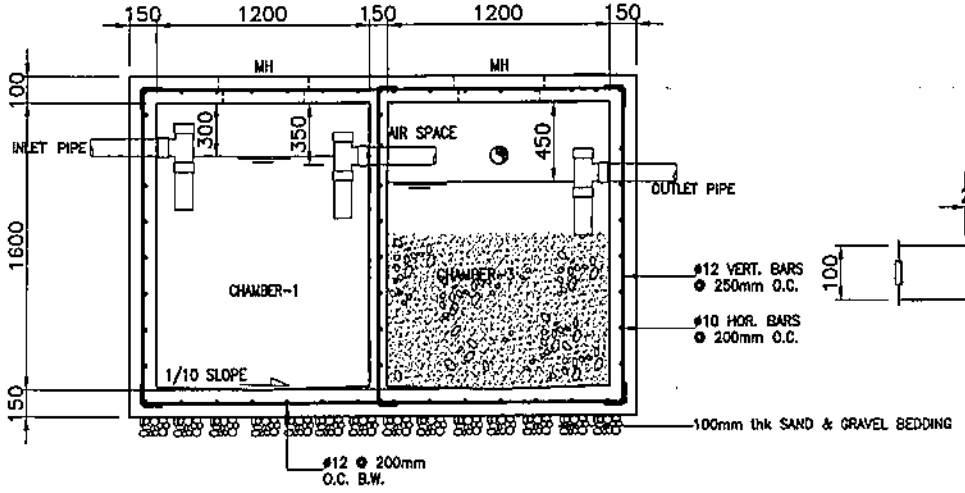
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED IN THE DRAWING.
2. USE 20.7 MPa CONCRETE FOR ALL DRAINAGE APPURTENANT STRUCTURES UNLESS OTHERWISE INDICATED.
3. REINFORCING STEEL BARS SHALL CONFORM TO THE REQUIREMENTS OF THE PNS FOR DEFORMED STEEL BARS GRADE 275.
4. POLYVINYL CHLORIDE (PVC) PIPE SHALL BE UNPLASTICIZED CONFORMING TO ISO4435 OR EQUIVALENT.



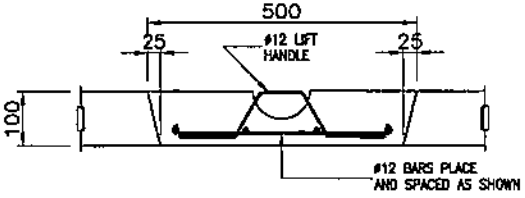
PLAN



MAN HOLE COVER



SECTION 'A'



SECTION 'B'

SEPTIC TANK
SCALE 1:20

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECD.	APPD.

OWNER: NATIONAL POWER CORPORATION
AGHAM ROAD, DILIMAN, QUEZON CITY

PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES
LOCATION: VARIOUS PALAWAN SPUG AREAS

TITLE: **TYPICAL SEPTIC TANK**
(PLAN, SECTION & DETAILS)

	BY	CHKD	DATE
DESIGNED			
DRAWN	J.B.A.C.		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

SUBMITTED: H. L. MENDOZA, Principal Engineer A / HEAD
RECOMMENDED: A. C. ESPIRITU, Manager, CEAD
APPROVED: N. G. SOMBILLERA, Manager, DDD

DWG. NO. PWN-BDC-13.004
PR NO. S1-PWN22-015 S1-NGI22-001 S1-BAC22-007
SCALE: AS SHOWN
BID DRAWING
REV. 0

SECTION IX

BID DRAWINGS FOR ELECTRICAL WORKS

SECTION IX - BID DRAWINGS

EW – ELECTRICAL WORKS

DRAWING NO.	TITLE
POD-BDE-13.001	PREFABRICATED CONTAINER HOUSE (General Notes, Legend and Details of Luminaires)
POD-BDE-13.002	PREFABRICATED CONTAINER HOUSE (Lighting and Power Layout)
POD-BDE-13.003	PREFABRICATED CONTAINER HOUSE (Schedule of Loads and Riser Diagram)
Nang-BDE-13.001	PREFABRICATED CONTAINER HOUSE (General Notes, Legend and Details of Luminaires)
Nang-BDE-13.002	PREFABRICATED CONTAINER HOUSE (Lighting and Power Layout)
Nang-BDE-13.003	PREFABRICATED CONTAINER HOUSE (Schedule of Loads and Riser Diagram)
BisDPP-BDE-13.001	PREFABRICATED CONTAINER HOUSE (General Notes, Legend and Details of Luminaires)
BisDPP-BDE-13.002	PREFABRICATED CONTAINER HOUSE (Lighting and Power Layout)
BisDPP-BDE-13.003	PREFABRICATED CONTAINER HOUSE (Schedule of Loads and Riser Diagram)
BDPP-BDE-13.001	PREFABRICATED CONTAINER HOUSE (General Notes, Legend, Details of Luminaires and Mounting Detail A)
BDPP-BDE-13.002	PREFABRICATED CONTAINER HOUSE (Lighting and Power Layout)
BDPP-BDE-13.003	PREFABRICATED CONTAINER HOUSE (Schedule of Loads and Riser Diagram)

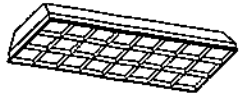
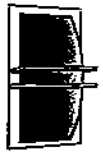
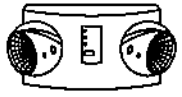
CasDPP-BDE-13.001	PREFABRICATED CONTAINER HOUSE (General Notes, Legend and Details of Luminaires)
CasDPP-BDE-13.002	PREFABRICATED CONTAINER HOUSE (Lighting and Power Layout)
CasDPP-BDE-13.003	PREFABRICATED CONTAINER HOUSE (Schedule of Loads and Riser Diagram)

GENERAL NOTES:

1. ALL WORKS SHALL BE DONE IN ACCORDANCE WITH THE LATEST PROVISIONS OF THE PHILIPPINE ELECTRICAL CODE, LAWS AND ORDINANCES OF THE LOCAL CODE ENFORCING AUTHORITIES.
2. POWER SUPPLY SHALL BE SINGLE PHASE, 240 VOLTS, 60 HERTZ, TWO (2) WIRE SYSTEM TO BE PROVIDED BY THE END-USER.
3. METHOD OF WIRING SHALL BE IN uPVC WITH PROPER FITTINGS, DEVICES, BOXES AND SUPPORTS. WORK SHALL BE AS PER PLAN AND SPECIFICATIONS AS TO LOCATION, TYPE AND USE.
4. ALL SWITCHES AND CONVENIENCE OUTLETS SHALL BE FLUSH-MOUNTED. SWITCHES SHALL BE 1.37 METERS ABOVE THE FINISHED FLOOR WHILE CONVENIENCE OUTLET SHALL BE MOUNTED 0.30 METERS ABOVE THE FINISHED FLOOR AND 0.15 METERS ABOVE WORKING TABLE.
5. OUTLETS FOR EXHAUST FAN SHALL BE FLUSH-MOUNTED, 2.0 METERS ABOVE THE FINISHED FLOOR.
6. CONDUIT RUNS ARE INDICATIVE ONLY. THE ACTUAL RUNS SHALL BE DETERMINED IN THE FIELD.
7. MINIMUM SIZE OF CONDUCTOR TO BE USED SHALL BE 3.5 mm^2 THHN/THWN-2 IN 20 mmϕ SCH.40 uPVC CONDUIT UNLESS OTHERWISE SPECIFIED IN THE PLAN.
8. WIRES, BOXES, ELECTRICAL AS WELL AS NON-ELECTRICAL MATERIALS NOT INCLUDED IN THE PLANS AND SPECIFICATIONS BUT NECESSARY TO COMPLETE THE JOB SHALL BE FURNISHED AND INSTALLED BY THE SUPPLIER.
9. ALL ELECTRICAL MATERIALS TO BE USED IN THE INSTALLATION SHALL BE NEW, STANDARD AND APPROVED TYPE AS TO LOCATION, TYPES AND PURPOSE.
10. ELECTRICAL WORKS SHALL BE DONE UNDER THE DIRECT SUPERVISION OF A DULY LICENSED ELECTRICAL ENGINEER.

LEGEND:

- (A) – LUMINAIRE TYPE A
- (B) – LUMINAIRE TYPE B
- (C) – LUMINAIRE TYPE C
- (D) – LUMINAIRE TYPE D
- *S – SINGLE GANG WALL SWITCH
- *S_{db} – DOUBLE GANG WALL SWITCH (SUBSCRIPT DENOTES LAMP/S BEING CONTROLLED)
- Ω – 200 VA, DUPLEX CONVENIENCE OUTLET
- Ω_{EL} – EMERGENCY LIGHT OUTLET
- Ω_{EF} – EXHAUST FAN OUTLET
- Ω_{ACU} – AIR CONDITIONING UNIT (ACU) OUTLET
- ——— – CIRCUIT RUNNING ON CEILING
- - - - - – CIRCUIT RUNNING ON WALL
- . . . . . – CONTROL CIRCUIT
- —→(1) – CIRCUIT HOMERUN
- LPP – LIGHTING AND POWER PANEL

(A) 	(B) 	(C) 	(D) 
IP20 CEILING MOUNTED LUMINAIRE, WITH MIRROR FINISH ALUMINUM REFLECTOR AND 2 X 18 WATTS, 1200mm, COOL WHITE LED LINEAR TUBE	IP44 WALL MOUNTED LUMINAIRE, STEEL BASE, WHITE SATINATED GLASS DIFFUSER WITH 1 x 12 WATTS COMPACT LED LAMP	IP20 LED BULB, 1 x 9 WATTS COOL WHITE, CLASSIC GLOBE SHAPE, FROSTED FINISH, E27 BASE	PORTABLE EMERGENCY LIGHTING FIXTURE, 2 x 2 WATTS LED WARM WHITE WITH BUILT-IN SEALED LEAD ACID BATTERY CHARGING TIME < 20 HRS; USAGE TIME >= 4 HRS

DETAILS OF LUMINAIRES

SCALE NTS

OWNER: NATIONAL POWER CORPORATION
AGHAM ROAD, DILIMAN, QUEZON CITY

PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES

LOCATION: PUERTO PRINCESA, PALAWAN

TITLE: **PREFABRICATED CONTAINER HOUSE**
(GENERAL NOTES, LEGEND AND DETAILS OF LUMINAIRES)

	BY	CHKD	DATE
DESIGNED			
DRAWN	ACLB		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

SUBMITTED: B. M. AGUILA, Project Engineer
RECOMMENDED: C. G. LUGOD, JR., Manager, SDCD
APPROVED: N. G. SONGCUYA, Manager, SDD

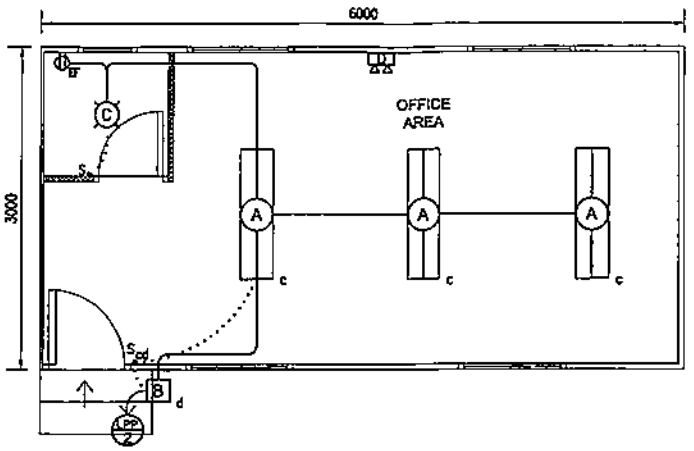
DWG. NO. POD-BDE-13.001 PR NO. S1-PWN22-018

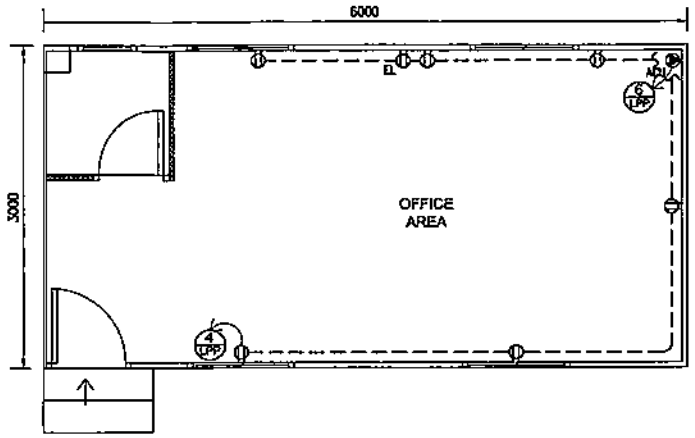
SCALE: AS SHOWN BID DRAWING REV. 0

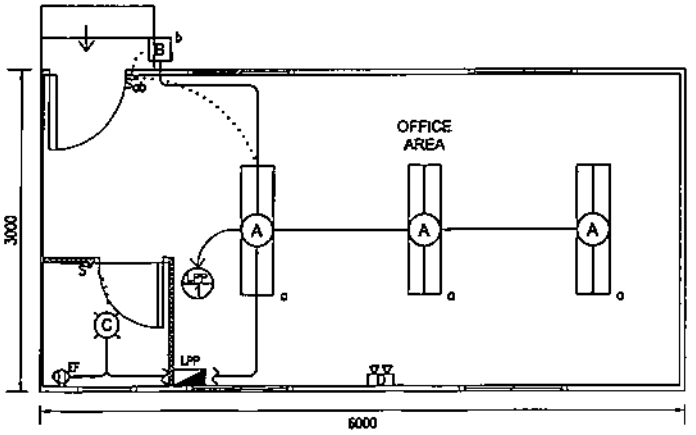
REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECO.	APPD.

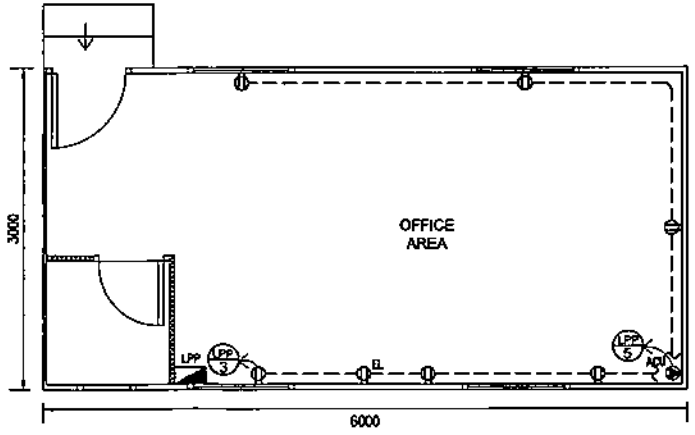
NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.
2. THIS DRAWING SHALL BE WORKED WITH CIVIL AND MECHANICAL BID DRAWINGS.









LIGHTING LAYOUT
SCALE 1:50

POWER LAYOUT
SCALE 1:50

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECD.	APPD.

OWNER: NATIONAL POWER CORPORATION
AGHAM ROAD, DILIMAN, QUEZON CITY

PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES
LOCATION: PUERTO PRINCESA, PALAWAN

TITLE: **PREFABRICATED CONTAINER HOUSE**
(LIGHTING AND POWER LAYOUT)

	BY	CHKD	DATE
DESIGNED			
DRAWN	ACLB		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

SUBMITTED: B. M. AGUILA, Principal Engineer
RECOMMENDED: C. Z. C. LUGOD, JR., Manager, EEDD
APPROVED: N. G. SOMBILLERA, Manager, DDD

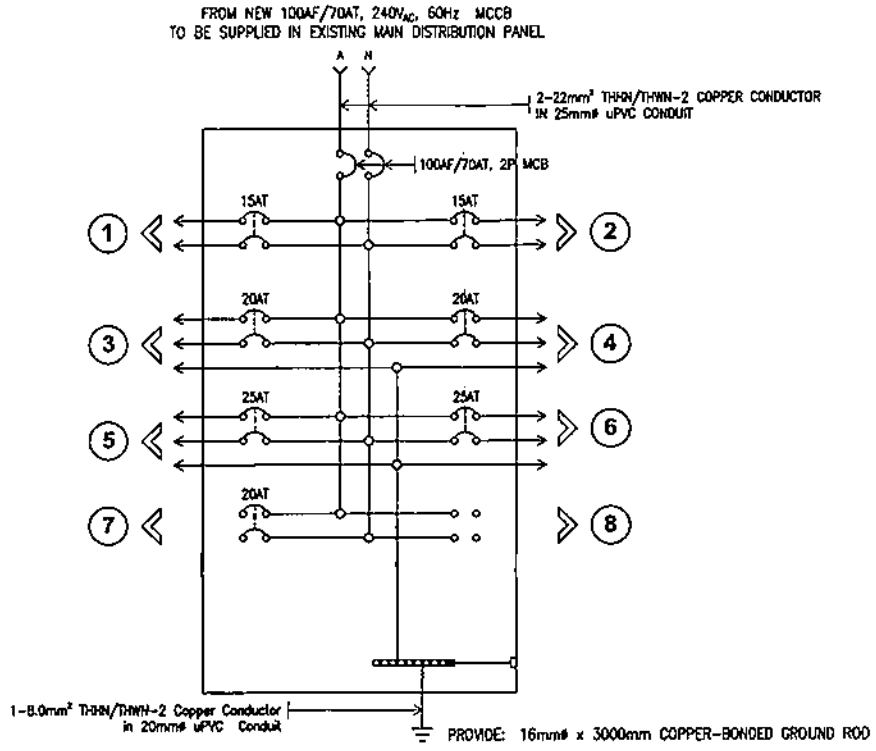
DWG. NO. POD-BDE-13.002 PR NO. S1-PWN22-018
SCALE: AS SHOWN BID DRAWING REV. 0

SCHEDULE OF LOADS							
CKT NO.	DESCRIPTION	VA	V	A	SIZES		
					BREAKER	WIRE	CONDUIT
1	3 – 2 X 18W LED TUBE, TYPE A 1 – 12W LED LAMP, TYPE B 1 – 9W LED BULB, TYPE C 1 – 100VA OUTLET FOR EXHAUST FAN	246	230	1.07	50AF / 15AT	2 – 3.5mm² THHN/THWN-2	20mmØ uPVC
2	3 – 2 X 18W LED TUBE, TYPE A 1 – 12W LED LAMP, TYPE B 1 – 9W LED BULB, TYPE C 1 – 100VA OUTLET FOR EXHAUST FAN	246	230	1.07	50AF / 15AT	2 – 3.5mm² THHN/THWN-2	20mmØ uPVC
3	6 – 200VA CONVENIENCE OUTLET 1 – 100VA OUTLET FOR EMERGENCY LIGHT	1300	230	5.65	50AF / 20AT	2 – 3.5mm² THHN/THWN-2 1 – 3.5mm² THHN/THWN-2	20mmØ uPVC
4	6 – 200VA CONVENIENCE OUTLET 1 – 100VA OUTLET FOR EMERGENCY LIGHT	1300	230	5.65	50AF / 20AT	2 – 3.5mm² THHN/THWN-2 1 – 3.5mm² THHN/THWN-2	20mmØ uPVC
5	1 – 1.5HP AIR CONDITIONING UNIT	2300	230	10	50AF / 25AT	2 – 5.5mm² THHN/THWN-2 1 – 5.5mm² THHN/THWN-2	20mmØ uPVC
6	1 – 1.5HP AIR CONDITIONING UNIT	2300	230	10	50AF / 25AT	2 – 5.5mm² THHN/THWN-2 1 – 5.5mm² THHN/THWN-2	20mmØ uPVC
7	SPARE	1500	230	8.52	50AF / 20AT		
8	SPACE						
	TOTAL	9192	230	39.97			

PROVIDE: 100 AF / 70 AT, 2P MCB
WITH BRANCH CIRCUITS OF:
2 – 50AF/25AT, 2P, MCB
3 – 50AF/20AT, 2P, MCB
2 – 50AF/15AT, 2P, MCB

PROVIDE: 2 – 22mm² + 1 – 8.0mm THHN/THWN-2
Copper Conductor in 25mmØ uPVC Conduit

SCHEDULE OF LOADS
(LIGHTING AND POWER PANEL)



RISER DIAGRAM
(LIGHTING AND POWER PANEL)

SCALE NTS

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECO.	APPD.

OWNER: **NATIONAL POWER CORPORATION**
AGHAM ROAD, DILIMAN, QUEZON CITY

PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES
LOCATION: PUERTO PRINCESA, PALAWAN

TITLE: **PREFABRICATED CONTAINER HOUSE**
(SCHEDULE OF LOADS AND RISER DIAGRAM)

	BY	CHKD	DATE
DESIGNED			
DRAWN	ACLS		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

SUBMITTED: B. M. AGUILA, Project Engineer
RECOMMENDED: E. Z. C. LUGOD, JR., Manager, EDCO
APPROVED: N. G. [illegible], Manager, EDCO

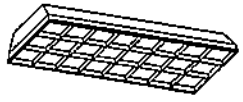
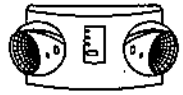
DWG. NO. POD-BDE-13.003 PR NO. S1-PWN22-018
SCALE: AS SHOWN BID DRAWING REV. 0

GENERAL NOTES:

1. ALL WORKS SHALL BE DONE IN ACCORDANCE WITH THE LATEST PROVISIONS OF THE PHILIPPINE ELECTRICAL CODE, LAWS AND ORDINANCES OF THE LOCAL CODE ENFORCING AUTHORITIES.
2. POWER SUPPLY SHALL BE SINGLE PHASE, 230 VOLTS, 60 HERTZ, TWO (2) WIRE SYSTEM TO BE PROVIDED BY THE END-USER.
3. METHOD OF WIRING SHALL BE IN uPVC WITH PROPER FITTINGS, DEVICES, BOXES AND SUPPORTS. WORK SHALL BE AS PER PLAN AND SPECIFICATIONS AS TO LOCATION, TYPE AND USE.
4. ALL SWITCHES AND CONVENIENCE OUTLETS SHALL BE FLUSH-MOUNTED. SWITCHES SHALL BE 1.37 METERS ABOVE THE FINISHED FLOOR, WHILE CONVENIENCE OUTLET SHALL BE MOUNTED 0.30 METERS ABOVE THE FINISHED FLOOR AND 0.15 METERS ABOVE WORKING TABLE.
5. OUTLETS FOR EXHAUST FAN SHALL BE FLUSH-MOUNTED, 2.0 METERS ABOVE THE FINISHED FLOOR.
6. CONDUIT RUNS ARE INDICATIVE ONLY. THE ACTUAL RUNS SHALL BE DETERMINED IN THE FIELD.
7. MINIMUM SIZE OF CONDUCTOR TO BE USED SHALL BE 3.5 mm^2 THHN/THWN-2 IN 20 mmϕ SCH.40 uPVC CONDUIT UNLESS OTHERWISE SPECIFIED IN THE PLAN.
8. WIRES, BOXES, ELECTRICAL AS WELL AS NON-ELECTRICAL MATERIALS NOT INCLUDED IN THE PLANS AND SPECIFICATIONS BUT NECESSARY TO COMPLETE THE JOB SHALL BE FURNISHED AND INSTALLED BY THE SUPPLIER.
9. ALL ELECTRICAL MATERIALS TO BE USED IN THE INSTALLATION SHALL BE NEW, STANDARD AND APPROVED TYPE AS TO LOCATION, TYPES AND PURPOSE.
10. ELECTRICAL WORKS SHALL BE DONE UNDER THE DIRECT SUPERVISION OF A DULY LICENSED ELECTRICAL ENGINEER.

LEGEND:

- (A) – LUMINAIRE TYPE A
- (B) – LUMINAIRE TYPE B
- (C) – LUMINAIRE TYPE C
- (D) – LUMINAIRE TYPE D
- $\bullet S$ – SINGLE GANG WALL SWITCH
- $\bullet 3SW_0$ – THREE WAY SWITCH (SUBSCRIPT DENOTES LAMP/S BEING CONTROLLED)
- Φ – 200VA DUPLEX CONVENIENCE OUTLET
- Φ_{EF} – EXHAUST FAN OUTLET
- Φ_{EL} – EMERGENCY LIGHT OUTLET
- Φ_{ACU} – AIR CONDITIONING UNIT OUTLET
- ——— – CIRCUIT RUNNING ON CEILING
- – – – – – CIRCUIT RUNNING ON WALL
- . . . . . – CONTROL CIRCUIT
- —→(1) – CIRCUIT HOMERUN
- LPP – LIGHTING AND POWER PANEL

(A) 	(B) 	(C) 	(D) 
IP20 CEILING MOUNTED LUMINAIRE, WITH MIRROR FINISH ALUMINUM REFLECTOR AND 2 X 16 WATTS, 1200mm, COOL WHITE LED LINEAR TUBE	IP20 ROUND SURFACE MOUNTED LUMINAIRE, WITH 350 mm DIAMETER, WHITE STEEL BASE, WHITE OPAL GLASS DIFFUSER AND 2 x 18 WATTS, E27 BASE, FROSTED FINISH LED BULB	IP20 LED BULB, 1 x 9 WATTS COOL WHITE, CLASSIC GLOBE SHAPE, FROSTED FINISH, E27 BASE	PORTABLE EMERGENCY LIGHTING FIXTURE, 2 x 2 WATTS LED WARM WHITE WITH BUILT-IN SEALED LEAD ACID BATTERY CHARGING TIME < 20 HRS; USAGE TIME >= 4 HRS

DETAILS OF LUMINAIRES

SCALE NTS

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECD.	APPD.

OWNER: **NATIONAL POWER CORPORATION**
AGHAM ROAD, DILIMAN, QUEZON CITY

PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES

LOCATION: BRGY. MANGALAQ, LINAPACAN, PALAWAN

TITLE: **PREFABRICATED CONTAINER HOUSE**
(GENERAL NOTES, LEGEND AND DETAILS OF LUMINAIRES)

	BY	CHKD	DATE
DESIGNED			
DRAWN	CBF		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

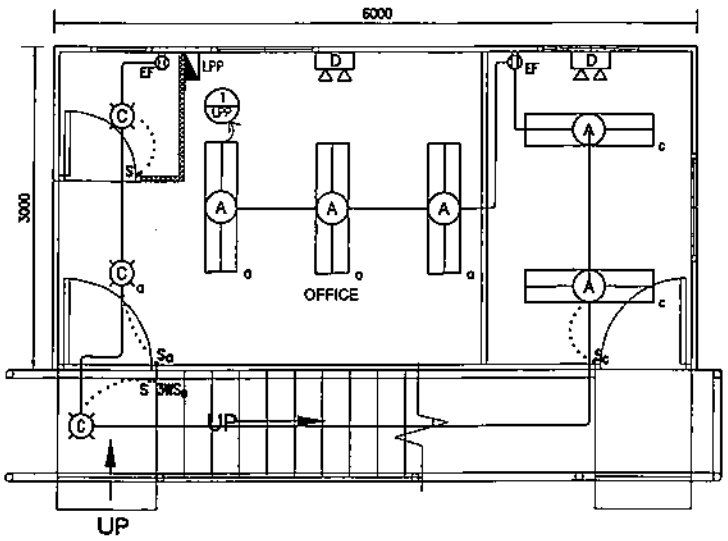
SUBMITTED: B. M. AGUILA, Principal Engineer
RECOMMENDED: C. Z. C. LUGOD, JR., Manager, SDD
APPROVED: N. G. SOMBILLERA, Manager, DDD

DWG. NO. Nang-BDE-13.001 PR.No. S1-NGL22-001

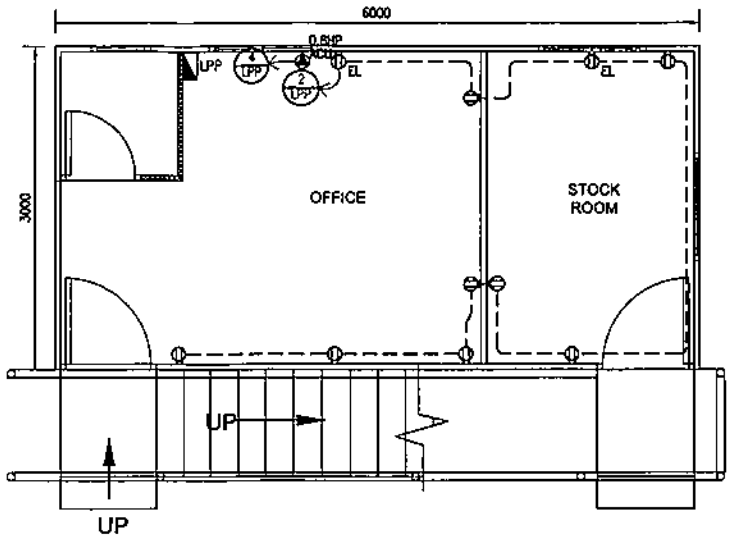
SCALE: AS SHOWN **BID DRAWING** REV. 0

NOTES:

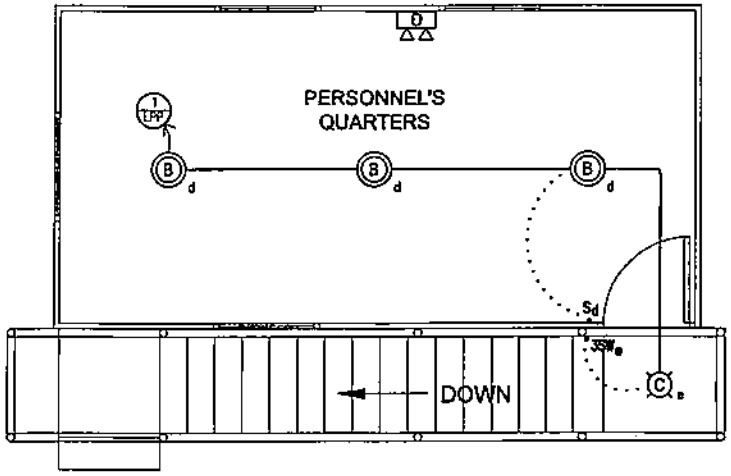
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.
2. LOCATION OF BUNKHOUSE SHALL BE VERIFIED AT SITE.



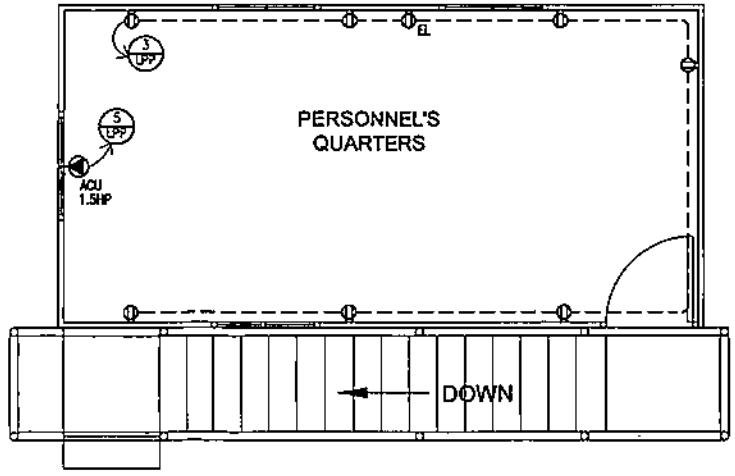
LIGHTING LAYOUT @ GROUND FLOOR
SCALE 1:50



POWER LAYOUT @ GROUND FLOOR
SCALE 1:50



LIGHTING LAYOUT @ SECOND FLOOR
SCALE 1:50



POWER LAYOUT @ SECOND FLOOR
SCALE 1:50

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECD.	APPD.

OWNER: NATIONAL POWER CORPORATION
AGHAM ROAD, DILIMAN, QUEZON CITY

PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES
LOCATION: BRGY. NANGALAO, LINAPACAN, PALAWAN

TITLE: **PREFABRICATED CONTAINER HOUSE**
(LIGHTING AND POWER LAYOUT)

	BY	CHKD	DATE
DESIGNED			
DRAWN	CBF		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT.			
ELEC.			
MECH.			

SUBMITTED: B. M. AGUILA, Principal Engineer A
RECOMMENDED: O. Z. C. LUGOD, JR., Manager, TERD
APPROVED: N. G. SOLOMBRINO, Manager, DDD

DWG. NO. Nang-BDE-13.002 PR No. S1-NGL22-001
SCALE: AS SHOWN **BID DRAWING** REV. 0

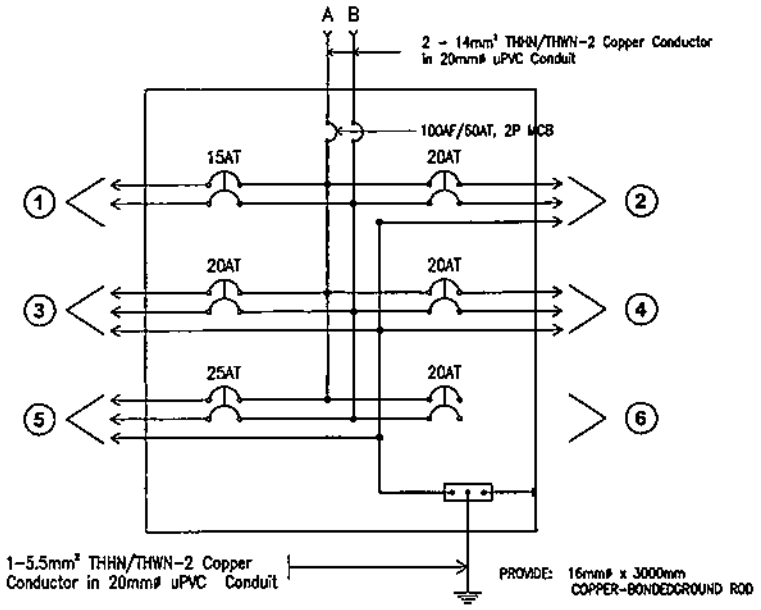
SCHEDULE OF LOADS							
CKT NO.	DESCRIPTION	VA	V	A	SIZES		
					BREAKER	WIRE	CONDUIT
1	5 – 2 X 15W LUMINAIRE TYPE A 3 – 2 X 18W LUMINAIRE TYPE B 4 – 1 X 9W LUMINAIRE TYPE C 2 – 100VA OUTLET FOR EXHAUST FAN	580	230	2.52	15AT	2 – 3.5mm² THHN/THWN-2	20mmØ uPVC
2	8 – 200VA CONVENIENCE OUTLET 2 – 100VA OUTLET FOR EMERGENCY LIGHT	1800	230	7.83	20AT	3 – 3.5mm² THHN/THWN-2	20mmØ uPVC
3	7 – 200VA CONVENIENCE OUTLET 1 – 100VA OUTLET FOR EMERGENCY LIGHT	1500	230	6.52	20AT	3 – 3.5mm² THHN/THWN-2	20mmØ uPVC
4	0.8HP OUTLET FOR ACU	1638	230	7.12	20AT	3 – 5.5mm² THHN/THWN-2	20mmØ uPVC
5	1.5HP OUTLET FOR ACU	2300	230	10.00	25AT	3 – 5.5mm² THHN/THWN-2	20mmØ uPVC
6	SPARE	1500	230	6.52	20AT		
	TOTAL	9318	230	40.51			

PROVIDE: 100AF/60AT, 2P MCB
WITH BRANCH CIRCUITS OF:
1 – 15AT, 2P, MCB
4 – 20AT, 2P, MCB
1 – 25AT, 2P, MCB

PROVIDE: 2 – 14mm² + 5.5mm THHN/THWN-2
Copper Conductor in 20mmØ uPVC Conduit

SCHEDULE OF LOADS
(LIGHTING AND POWER PANEL)

TO MAIN DISTRIBUTION PANELBOARD INSIDE
THE CONTROL ROOM



RISER DIAGRAM
(LIGHTING AND POWER PANEL)
SCALE NTS

OWNER: NATIONAL POWER CORPORATION
AGHAM ROAD, DILIMAN, QUEZON CITY

PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES

LOCATION: BRGY. NANGALAO, LINAPACAN, PALAWAN

TITLE: PREFABRICATED CONTAINER HOUSE
(SCHEDULE OF LOADS AND RISER DIAGRAM)

	BY	CHKD	DATE
DESIGNED			
DRAWN	CBF		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

SUBMITTED: B. M. AGUILA, Project Engineer
RECOMMENDED: C. Z. C. LUGOD, JR., Manager, EDD
APPROVED: N. G. SOMBILLERA, Manager, CDD

DWG. NO. Nang-BDE-13.003 PR No. S1-NGL22-001
SCALE: AS SHOWN BID DRAWING REV. 0

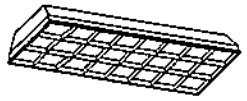
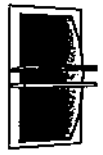
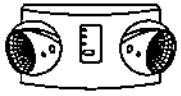
REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECD.	APPD.

GENERAL NOTES:

1. ALL WORKS SHALL BE DONE IN ACCORDANCE WITH THE LATEST PROVISIONS OF THE PHILIPPINE ELECTRICAL CODE, LAWS AND ORDINANCES OF THE LOCAL CODE ENFORCING AUTHORITIES.
2. POWER SUPPLY SHALL BE FROM THE NEW 15 kVA STATION SERVICE TRANSFORMER WITH FUSE DISCONNECT SWITCH AND LIGHTNING ARRESTER COMBINATION AND KILOWATT-HOUR METER TO BE SUPPLIED, INSTALLED, TESTED AND COMMISSIONED.
3. CONDUCTOR FROM THE NEW STATION SERVICE TRANSFORMER TO THE NEW FUSE DISCONNECT SWITCH WITH LIGHTNING ARRESTER COMBINATION SHALL BE 30mm² 15kV XLPE POWER CABLE WHILE CONDUCTOR FROM THE NEW FUSE DISCONNECT SWITCH WITH LIGHTNING ARRESTER COMBINATION TO THE EXISTING 15kV BUS SHALL BE 2/0 AWG 15kV ACSR.
4. ALL SWITCHES AND CONVENIENCE OUTLETS SHALL BE FLUSH-MOUNTED. SWITCHES SHALL BE 1.37 METERS ABOVE THE FINISHED FLOOR WHILE CONVENIENCE OUTLETS SHALL BE MOUNTED 0.30 METERS ABOVE THE FINISHED FLOOR AND 0.15 METERS ABOVE WORKING TABLE.
5. OUTLETS FOR EXHAUST FAN SHALL BE FLUSH-MOUNTED, 2.0 METERS ABOVE THE FINISHED FLOOR.
6. CONDUIT RUNS ARE INDICATIVE ONLY. THE ACTUAL RUNS SHALL BE DETERMINED IN THE FIELD.
7. MINIMUM SIZE OF CONDUCTOR TO BE USED FOR THE BRANCH CIRCUITS SHALL BE 3.5 mm² THHN/THWN-2 IN 20 mmϕ SCH.40 uPVC CONDUIT UNLESS OTHERWISE SPECIFIED IN THE PLAN.
8. METHOD OF WIRING SHALL BE IN uPVC WITH PROPER FITTINGS, DEVICES, BOXES AND SUPPORTS, WORK SHALL BE AS PER PLAN AND SPECIFICATIONS AS TO LOCATION, TYPE AND USE.
9. ALL EQUIPMENT SHALL BE PROPERLY GROUNDED.
10. WIRES, BOXES, ELECTRICAL AS WELL AS NON-ELECTRICAL MATERIALS NOT INCLUDED IN THE PLANS AND SPECIFICATIONS BUT NECESSARY TO COMPLETE THE JOB SHALL BE FURNISHED AND INSTALLED BY THE SUPPLIER.
11. ALL ELECTRICAL MATERIALS TO BE USED IN THE INSTALLATION SHALL BE NEW, STANDARD AND APPROVED TYPE AS TO LOCATION, TYPES AND PURPOSE.
12. ELECTRICAL WORKS SHALL BE DONE UNDER THE DIRECT SUPERVISION OF A DULY LICENSED ELECTRICAL ENGINEER.

LEGEND:

- (A) – LUMINAIRE TYPE A
- (B) – LUMINAIRE TYPE B
- (C) – LUMINAIRE TYPE C
- (D) – LUMINAIRE TYPE D
- (E) – LUMINAIRE TYPE E
- •S – SINGLE GANG WALL SWITCH
- •S_{ab} – DOUBLE GANG WALL SWITCH (SUBSCRIPT DENOTES LAMP/S BEING CONTROLLED)
- •S_{abc} – TRIPLE GANG WALL SWITCH (SUBSCRIPT DENOTES LAMP/S BEING CONTROLLED)
- Ω – 200 VA, DUPLEX CONVENIENCE OUTLET
- Ω_{EL} – EMERGENCY LIGHT OUTLET
- Ω_{EF} – EXHAUST FAN OUTLET
- Ω_{ACU} – AIR CONDITIONING UNIT (ACU) OUTLET
- ——— – CIRCUIT RUNNING ON CEILING
- - - - - – CIRCUIT RUNNING ON WALL
- ..... – CONTROL CIRCUIT
- —→① – CIRCUIT HOMERUN
- LPP – LIGHTING AND POWER PANEL

(A) 	(B) 	(C) 	(D) 	(E) 
IP20 SURFACE MOUNTED LUMINAIRE, 1200 mm IN LENGTH, WITH MIRROR FINISH ALUMINUM REFLECTOR AND 2 X 16 WATTS COOL WHITE LED LINEAR TUBE	IP20 ROUND SURFACE MOUNTED LUMINAIRE, WITH 350 mm DIAMETER, WHITE STEEL BASE, WHITE OPAL GLASS DIFFUSER AND 2 x 18 WATTS, E27 BASE, FROSTED FINISH LED BULB	IP44 WALL MOUNTED LUMINAIRE, STEEL BASE, WHITE SATINATED GLASS DIFFUSER WITH 1 x 12 WATTS COMPACT LED LAMP	IP20 LED BULB, 1 x 9 WATTS COOL WHITE, CLASSIC GLOBE SHAPE, FROSTED FINISH, E27 BASE	PORTABLE EMERGENCY LIGHT, 2 x 2 WATTS LED WARM WHITE WITH BUILT-IN SEALED LEAD ACID BATTERY CHARGING TIME < 20 HRS; USAGE TIME >= 4 HRS

DETAILS OF LUMINAIRES

SCALE NTS

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECD.	APPD.

OWNER: NATIONAL POWER CORPORATION
AGHAM ROAD, DILIMAN, QUEZON CITY

PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN BPUG AREAS IN FIVE (5) PACKAGES

LOCATION: BRGY. CARAMAN, BUSUANGA ISLAND, CUYO, PALAWAN

TITLE: **PREFABRICATED CONTAINER HOUSE**
(GENERAL NOTES, LEGEND AND DETAILS OF LUMINAIRES)

	BY	CHKD	DATE
DESIGNED			
DRAWN	ACLB		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

SUBMITTED: B. M. AGUILA, Project Engineer IV
RECOMMENDED: O. Z. C. LUGOD, JR., Manager, DPCD
APPROVED: N. G. SOMBILLERA, Manager, DDD

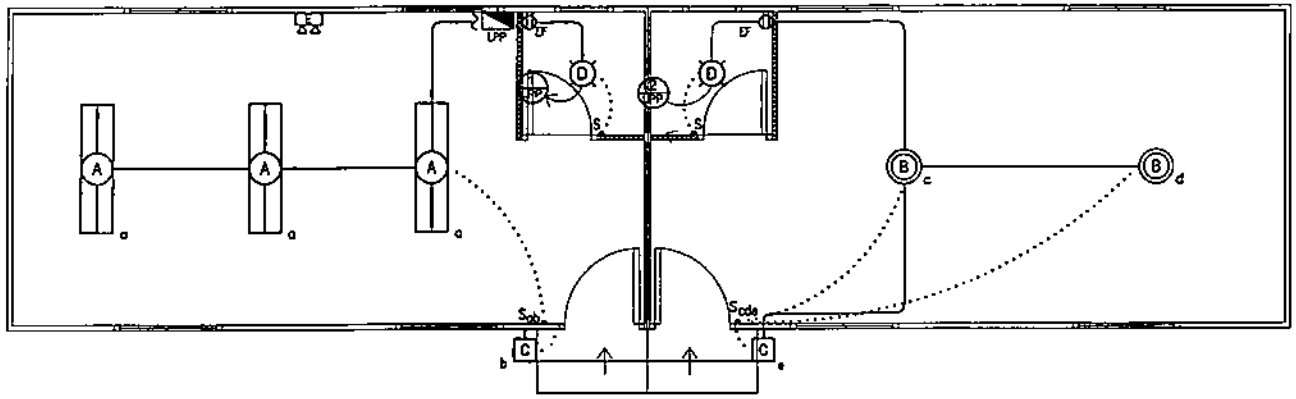
DWG. NO. BIsDPP-BDE-13.001 PR. NO. S1-BDP22-001

SCALE: AS SHOWN

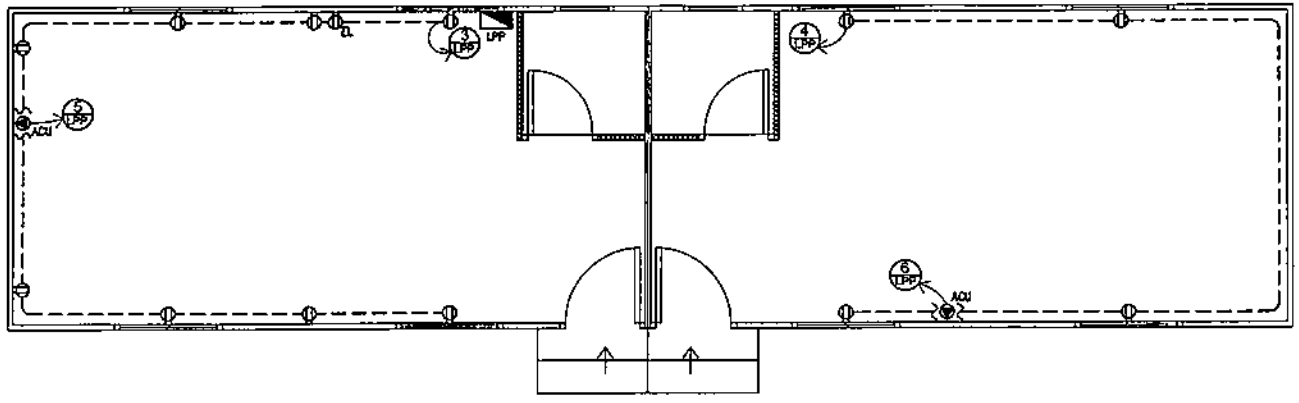
BID DRAWING

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.
2. THIS DRAWING SHALL BE WORKED WITH CIVIL AND MECHANICAL BID DRAWINGS.



LIGHTING LAYOUT
SCALE 1:50



POWER LAYOUT
SCALE 1:50

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECD.	APPD.

OWNER: NATIONAL POWER CORPORATION
AGHAM ROAD, DILIMAN, QUEZON CITY

PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES

LOCATION: BRGY. CABUNAN, BUSUANGA ISLAND, CUYO, PALAWAN

TITLE: PREFABRICATED CONTAINER HOUSE
(LIGHTING AND POWER LAYOUT)

	BY	CHKD	DATE
DESIGNED			
DRAWN	ACLB		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT.			
ELEC.			
MECH.			

SUBMITTED: B. M. AGUILA, Project Engineer
RECOMMENDED: E. Z. C. LUGOD, JR., Manager, GAUD
APPROVED: N. G. S[illegible], Manager, DDD

DWG. NO. BidDPP-BDE-13.002 PR NO. S1-BDP22-001

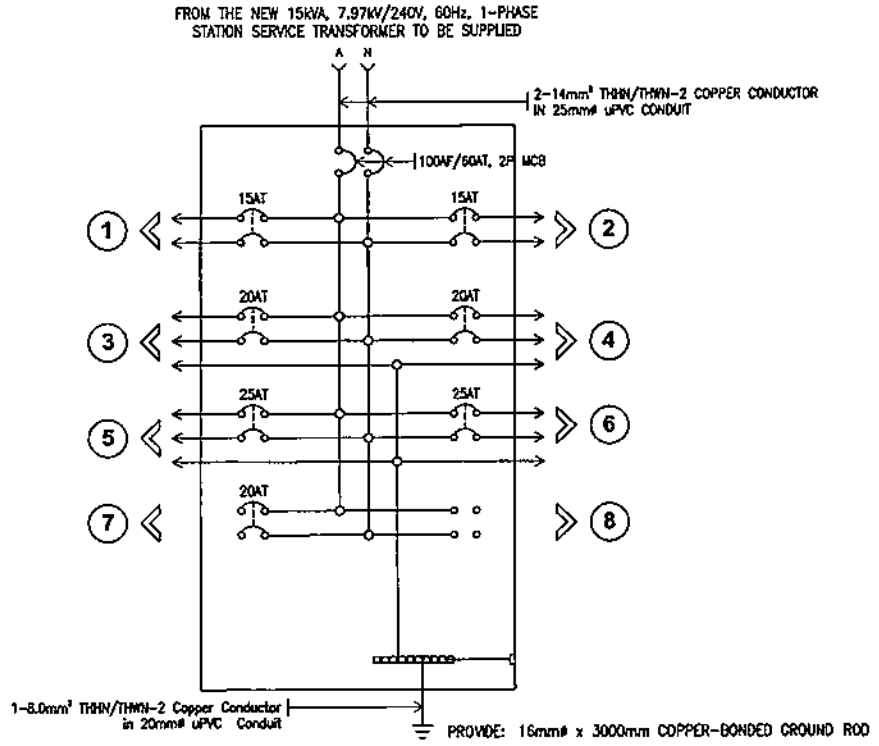
SCALE: AS SHOWN BID DRAWING REV. 0

SCHEDULE OF LOADS							
CKT NO.	DESCRIPTION	VA	V	A	SIZES		
					BREAKER	WIRE	CONDUIT
1	3 - 2 X 16W LED TUBE, TYPE A 1 - 12W LED LAMP, TYPE C 1 - 9W LED BULB, TYPE D 1 - 100VA OUTLET FOR EXHAUST FAN	246	230	1.07	50AF / 15AT	2 - 3.5mm² THHN/THWN-2	20mmØ uPVC
2	2 - 2 X 18W LED BULB, TYPE B 1 - 12W LED LAMP, TYPE C 1 - 9W LED BULB, TYPE D 1 - 100VA OUTLET FOR EXHAUST FAN	218	230	0.94	50AF / 15AT	2 - 3.5mm² THHN/THWN-2	20mmØ uPVC
3	8 - 200VA CONVENIENCE OUTLET 1 - 100VA OUTLET FOR EMERGENCY LIGHT	1700	230	7.39	50AF / 20AT	2 - 3.5mm² THHN/THWN-2 1 - 3.5mm² THHN/THWN-2	20mmØ uPVC
4	4 - 200VA CONVENIENCE OUTLET	800	230	3.48	50AF / 20AT	2 - 3.5mm² THHN/THWN-2 1 - 3.5mm² THHN/THWN-2	20mmØ uPVC
5	1 - 1.5HP AIR CONDITIONING UNIT	2300	230	10	50AF / 25AT	2 - 5.5mm² THHN/THWN-2 1 - 5.5mm² THHN/THWN-2	20mmØ uPVC
6	1 - 1.5HP AIR CONDITIONING UNIT	2300	230	10	50AF / 25AT	2 - 5.5mm² THHN/THWN-2 1 - 5.5mm² THHN/THWN-2	20mmØ uPVC
7	SPARE	1500	230	6.52	50AF / 20AT		
8	SPACE						
	TOTAL	9062	230	39.40			

PROVIDE: 100 AF / 60 AT, 2P MCB
WITH BRANCH CIRCUITS OF:
2 - 50AF/25AT, 2P, MCB
3 - 50AF/20AT, 2P, MCB
2 - 50AF/15AT, 2P, MCB

PROVIDE: 2 - 14 mm² THHN/THWN-2 Copper Conductor in 25mmØ uPVC Conduit

SCHEDULE OF LOADS
(LIGHTING AND POWER PANEL)



RISER DIAGRAM
(LIGHTING AND POWER PANEL)
SCALE NTS

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECD.	APPD.

OWNER: NATIONAL POWER CORPORATION
AGHAM ROAD, DILIMAN, QUEZON CITY

PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES

LOCATION: BRGY. CABUAYAN, BUGSAY ISLAND, CUYO, PALAWAN

TITLE: PREFABRICATED CONTAINER HOUSE
(SCHEDULE OF LOADS AND RISER DIAGRAM)

	BY	CHKD	DATE
DESIGNED			
DRAWN	ACLS		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

SUBMITTED: E. M. AGUILA, Project Engineer
RECOMMENDED: E. Z. C. LUGOD, JR., Manager, DOD
APPROVED: [illegible], Manager, DDO

DWG. NO. BIsDPP-BDE-13.003 PR NO. S1-BDP22-001

SCALE: AS SHOWN BID DRAWING REV. 0

GENERAL NOTES:

1. ALL WORKS SHALL BE DONE IN ACCORDANCE WITH THE LATEST PROVISIONS OF THE PHILIPPINE ELECTRICAL CODE, LAWS AND ORDINANCES OF THE LOCAL CODE ENFORCING AUTHORITIES.
2. POWER SUPPLY SHALL BE FROM EXISTING 230 VOLTS, 60 HERTZ, SINGLE PHASE POWER SOURCE.
3. METHOD OF WIRING SHALL BE IN PVC WITH PROPER FITTINGS, DEVICES, BOXES AND SUPPORTS, WORK SHALL BE AS PER PLAN AND SPECIFICATIONS AS TO LOCATION, TYPE AND USE.
4. ALL SWITCHES AND CONVENIENCE OUTLETS SHALL BE FLUSH-MOUNTED 1.37 METERS AND 0.30 METER RESPECTIVELY ABOVE THE FINISHED FLOOR.
5. CONDUIT RUNS ARE INDICATIVE ONLY. THE ACTUAL RUNS SHALL BE DETERMINED IN THE FIELD.
6. OUTLETS FOR EMERGENCY LIGHTING FIXTURE SHALL BE FLUSH-MOUNTED, 2.0 M ABOVE THE FINISHED FLOOR.
7. WIRES, BOXES, ELECTRICAL AS WELL AS NON-ELECTRICAL MATERIALS NOT INCLUDED IN THE PLANS AND SPECIFICATION BUT NECESSARY TO COMPLETE THE JOB SHALL BE FURNISHED AND INSTALLED BY THE SUPPLIER.
8. ALL ELECTRICAL MATERIALS TO BE USED IN THE INSTALLATION SHALL BE NEW, STANDARD AND APPROVED TYPE AS TO LOCATION, TYPES AND PURPOSE.
9. MINIMUM SIZE OF CONDUCTOR TO BE USED SHALL BE 3.5 mm^2 THHN/THWN-2 IN 20 mmϕ uPVC, SCH.40 CONDUIT UNLESS OTHERWISE SPECIFIED IN THE PLAN.
10. ELECTRICAL WORKS SHALL BE DONE UNDER THE DIRECT SUPERVISION OF A DULY LICENSED ELECTRICAL ENGINEER.
11. ALL ELECTRICAL MATERIALS TO BE USED IN THE INSTALLATION SHALL BE NEW, STANDARD AND APPROVED TYPE AS TO LOCATION, TYPES AND PURPOSE.
12. ELECTRICAL WORKS SHALL BE DONE UNDER THE DIRECT SUPERVISION OF A DULY LICENSED ELECTRICAL ENGINEER.

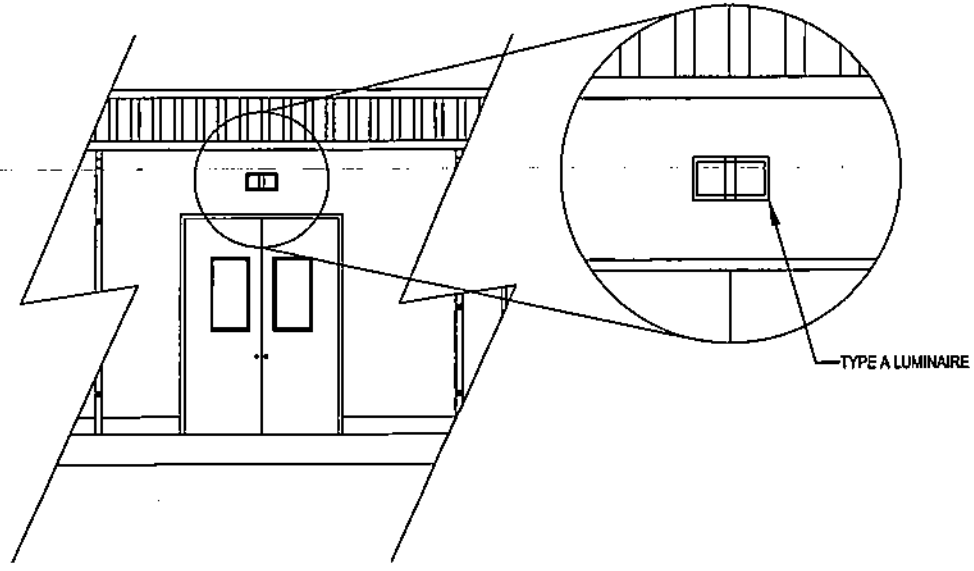
(A)	(B)	(C)	(D)
			
IP44 WALL MOUNTED LIGHTING FIXTURE, WITH STEEL BASE, WHITE SATINATED GLASS DIFFUSER AND 1 x 12 WATTS DAY LIGHT COMPACT LED LAMP	IP20 ROUND SURFACE MOUNTED LUMINAIRE, WITH 350 mm DIAMETER, WHITE STEEL BASE, WHITE OPAL GLASS DIFFUSER AND 2 x 18 WATTS, E27 BASE, FROSTED FINISH LED BULB	IP20 LED BULB, 1 x 9 WATTS COOL WHITE, CLASSIC GLOBE SHAPE, FROSTED FINISH, E27 BASE	PORTABLE EMERGENCY LIGHTING FIXTURE, 2 x 2 WATTS LED WARM WHITE WITH BUILT-IN SEALED LEAD ACID BATTERY. CHARGING TIME < 20 HRS; USAGE TIME <= 4 HRS

DETAILS OF LUMINAIRES

SCALE NTS

LEGEND:

- A – 1x12W LUMINAIRE TYPE A
- B – 2x18W LUMINAIRE TYPE B
- C – 1x9W LUMINAIRE TYPE C
- D – 2x2W LUMINAIRE TYPE D
- LPP – LIGHTING AND POWER PANELBOARD
- S – SINGLE GANG SWITCH
- S_{abc} – TRIPLE GANG SWITCH (SUBSCRIPT DENOTES LAMP BEING CONTROLLED)
- – CONVENIENCE OUTLET
- EF – EXHAUST FAN OUTLET
- EL – EMERGENCY LIGHT OUTLET
- ——— – CIRCUIT RUNNING UNDER GROUND
- ——— – CIRCUIT RUNNING ON CEILING
- . . . . . – CONTROL CIRCUIT



MOUNTING DETAIL A

SCALE NTS

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECD.	APPD.

OWNER: NATIONAL POWER CORPORATION
AGHAM ROAD, DILIMAN, QUEZON CITY

PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES
LOCATION: BRGY. SAN CALAAN, BALABAC, PALAWAN

TITLE: **PREFABRICATED CONTAINER HOUSE**
(GENERAL NOTES, LEGEND, DETAILS OF LUMINAIRES AND MOUNTING DETAIL A)

	BY	CHKD	DATE
DESIGNED			
DRAWN	RLD		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

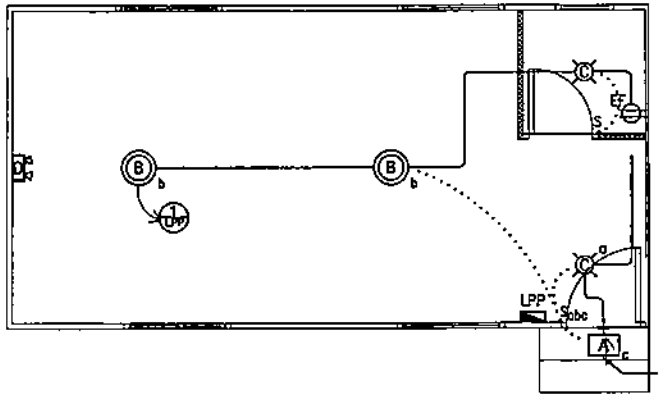
SUBMITTED: B. M. AGUILA, Project Engineer
RECOMMENDED: E. Z. C. LUGOD, JR., Manager, SDD
APPROVED: N. G. SEVILLENA, Manager, DDD

DWG. NO. BDPP-BDE-13.001 PR No. S1-BAC22-007

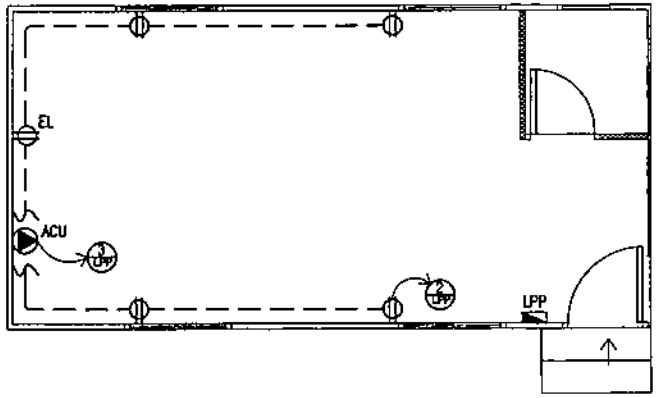
SCALE: AS SHOWN BID DRAWING REV. 0

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.
2. THIS DRAWING SHALL BE WORKED WITH CIVIL AND MECHANICAL BID DRAWINGS.



LIGHTING LAYOUT
SCALE 1:50



POWER LAYOUT
SCALE 1:50

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECD.	APPD.

OWNER: NATIONAL POWER CORPORATION
AGHAM ROAD, DILIMAN, QUEZON CITY

PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES
LOCATION: BRGY. BANCALAAN, BALABAC, PALAWAN

TITLE: PREFABRICATED CONTAINER HOUSE
(LIGHTING AND POWER LAYOUT)

	BY	CHKD	DATE
DESIGNED			
DRAWN	RLG		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

SUBMITTED: B. M. AGUILA, Design Engineer
RECOMMENDING: C. Z. C. LUGOD, JR., Manager, TEDO
APPROVED: N. G. [illegible], Manager, DDO

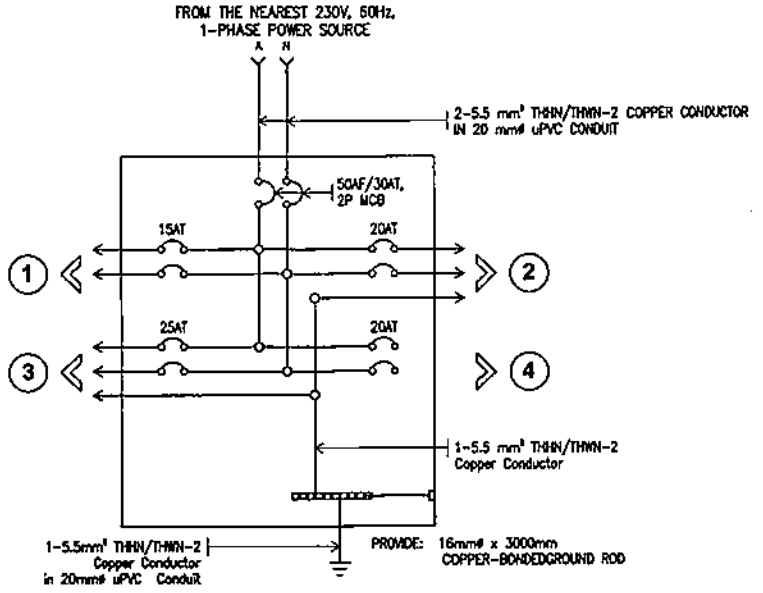
DWG. NO. BDPP-BDE-13.002 | PR No. S1-BAC22-007
SCALE: AS SHOWN | BID DRAWING | REV. 0

SCHEDULE OF LOADS							
CKT NO.	DESCRIPTION	VA	V	A	SIZES		
					BREAKER	WIRE	CONDUIT
1	1 – 1 x 12W LUMINAIRE TYPE A 2 – 2 x 18W LUMINAIRE TYPE B 2 – 1 x 9W LUMINAIRE TYPE C 1 – 100VA OUTLET FOR EXHAUST FAN	228	230	0.99	50AF / 15AT	2 – 3.5mm² THHN/THWN-2	20mmØ uPVC
2	4 – 200 VA CONVENIENCE OUTLET 1 – 100VA OUTLET FOR EMERGENCY LIGHT	900	230	3.91	50AF / 20AT	2 – 3.5mm² THHN/THWN-2 1 – 3.5mm² THHN/THWN-2	20mmØ uPVC
3	1 – 1.5 HP AIR CONDITIONING UNIT	2300	230	10.00	50AF / 25AT	2 – 5.5mm² THHN/THWN-2 1 – 5.5mm² THHN/THWN-2	20mmØ uPVC
4	SPARE	1500	230	6.52	50AF / 20AT		
	TOTAL	4928	230	21.43			

PROVIDE: 50 AF / 30 AT, 2P MCB
WITH BRANCH CIRCUITS OF:
1 – 50AF/25AT, 2P, MCB
2 – 50AF/20AT, 2P, MCB
1 – 50AF/15AT, 2P, MCB

PROVIDE: 2 – 5.5 mm² THHN/THWN-2 Copper Conductor &
1 – 5.5 mm² THHN/THWN-2 Copper Conductor
in 25mmØ uPVC Conduit

SCHEDULE OF LOADS
(LIGHTING AND POWER PANEL)



RISER DIAGRAM
(LIGHTING AND POWER PANEL)
SCALE NTS

OWNER: NATIONAL POWER CORPORATION
AGHAM ROAD, DILIMAN, QUEZON CITY

PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES
LOCATION: BRGY. BANGALAAN, BALABAC, PALAWAN

TITLE: PREFABRICATED CONTAINER HOUSE
(SCHEDULE OF LOADS AND RISER DIAGRAM)

	BY	CHKD	DATE
DESIGNED			
DRAWN	N.D		
REVIEWED	PRINCIPAL ENGTL / ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

SUBMITTED: B. M. AGUILA, Project Engineer A
RECOMMENDED: C. Z. C. LUGOD, JR., Manager, EEDD
APPROVED: N. G. [illegible], Manager, EDD

DWG. NO. BDPP-BDE-13.003 PR No. S1-BAC22-007
SCALE: AS SHOWN BID DRAWING REV. 0

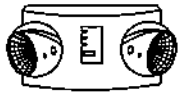
REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECD.	APPD.

GENERAL NOTES:

1. ALL WORKS SHALL BE DONE IN ACCORDANCE WITH THE LATEST PROVISIONS OF THE PHILIPPINE ELECTRICAL CODE, LAWS AND ORDINANCES OF THE LOCAL CODE ENFORCING AUTHORITIES.
2. POWER SUPPLY SHALL BE SINGLE PHASE, 240 VOLTS, 60 HERTZ, TWO (2) WIRE SYSTEM TO BE PROVIDED BY THE END-USER.
3. METHOD OF WIRING SHALL BE IN uPVC WITH PROPER FITTINGS, DEVICES, BOXES AND SUPPORTS. WORK SHALL BE AS PER PLAN AND SPECIFICATIONS AS TO LOCATION, TYPE AND USE.
4. ALL SWITCHES AND CONVENIENCE OUTLETS SHALL BE FLUSH-MOUNTED. SWITCHES SHALL BE 1.37 METERS ABOVE THE FINISHED FLOOR, WHILE CONVENIENCE OUTLET SHALL BE MOUNTED 0.30 METERS ABOVE THE FINISHED FLOOR AND 0.15 METERS ABOVE WORKING TABLE.
5. OUTLETS FOR EXHAUST FAN SHALL BE FLUSH-MOUNTED, 2.0 METERS ABOVE THE FINISHED FLOOR.
6. CONDUIT RUNS ARE INDICATIVE ONLY. THE ACTUAL RUNS SHALL BE DETERMINED IN THE FIELD.
7. WIRES, BOXES, ELECTRICAL AS WELL AS NON-ELECTRICAL MATERIALS NOT INCLUDED IN THE PLANS AND SPECIFICATIONS BUT NECESSARY TO COMPLETE THE JOB SHALL BE FURNISHED AND INSTALLED BY THE SUPPLIER.
8. ALL ELECTRICAL MATERIALS TO BE USED IN THE INSTALLATION SHALL BE NEW, STANDARD AND APPROVED TYPE AS TO LOCATION, TYPES AND PURPOSE.
9. MINIMUM SIZE OF CONDUCTOR TO BE USED SHALL BE 3.5 mm^2 THHN/THWN-2 IN 20 mmϕ SCH.40 uPVC CONDUIT UNLESS OTHERWISE SPECIFIED IN THE PLAN.
10. ELECTRICAL WORKS SHALL BE DONE UNDER THE DIRECT SUPERVISION OF A DULY LICENSED ELECTRICAL ENGINEER.

LEGEND:

- (A) – LUMINAIRE TYPE A
- [B] – LUMINAIRE TYPE B
- (C) – LUMINAIRE TYPE C
- D – LUMINAIRE TYPE D
- •S – SINGLE GANG WALL SWITCH
- $•S_{abc}$ – TRIPLE GANG WALL SWITCH (SUBSCRIPT DENOTES LAMP/S BEING CONTROLLED)
- – 200 VA, DUPLEX CONVENIENCE OUTLET
- EL – EMERGENCY LIGHT OUTLET
- EF – EXHAUST FAN OUTLET
- ACU – AIR CONDITIONING UNIT (ACU) OUTLET
- ——— – CIRCUIT RUNNING ON CEILING
- – – – – – CIRCUIT RUNNING ON WALL
- . . . . . – CONTROL CIRCUIT
- →① – CIRCUIT HOMERUN
- LPP – LIGHTING AND POWER PANEL

(A)	(B)	(C)	(D)
			
IP20 ROUND CEILING LIGHTING FIXTURE, SURFACE MOUNTED, 350 mm DIAMETER, WHITE STEEL BASE, WHITE OPAL GLASS DIFFUSER AND COMPLETE WITH 2 x 12 WATTS, E27 BASE, FROSTED FINISH LED BULB.	IP44 WALL MOUNTED LUMINAIRE, STEEL BASE, WHITE SATINATED GLASS DIFFUSER WITH 1 x 12 WATTS COMPACT LED LAMP	IP20 1 x 9 WATTS COOL WHITE, CLASSIC GLOBE SHAPE, FROSTED FINISH, E27 BASE, LED BULB.	PORTABLE EMERGENCY LIGHTING FIXTURE, 2 x 2 WATTS LED WARM WHITE WITH BUILT-IN SEALED LEAD ACID BATTERY CHARGING TIME < 20 HRS; USAGE TIME >= 4 HRS

DETAILS OF LUMINAIRES

SCALE NTS

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECD.	APPD.

OWNER: NATIONAL POWER CORPORATION
AGHAM ROAD, DILIMAN, QUEZON CITY

PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES
LOCATION: CASIAN, TAYTAY, PALAWAN

TITLE: PREFABRICATED CONTAINER HOUSE
(GENERAL NOTES, LEGEND AND DETAILS OF LUMINAIRES)

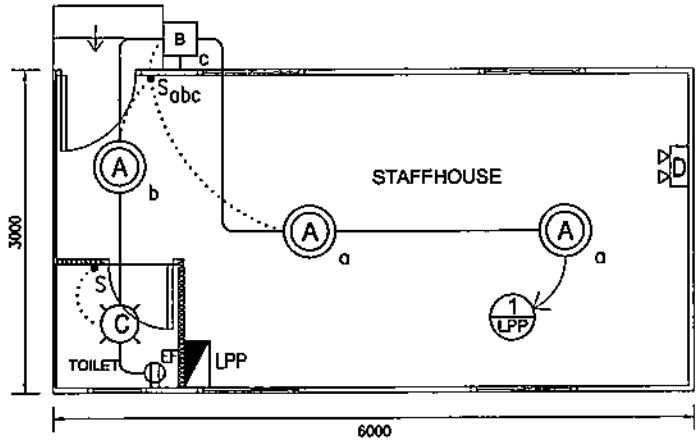
	BY	CHKD	DATE
DESIGNED			
DRAWN	JAC		
REVIEWED	PRINCIPAL ENGTR. / ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

SUBMITTED: B. M. AGUILA, PROJECT ENGINEER, EDCD
RECOMMENDED: C. Z. C. LUGOD, JR., MANAGER, EDCD
APPROVED: [illegible], MANAGER, EDCD

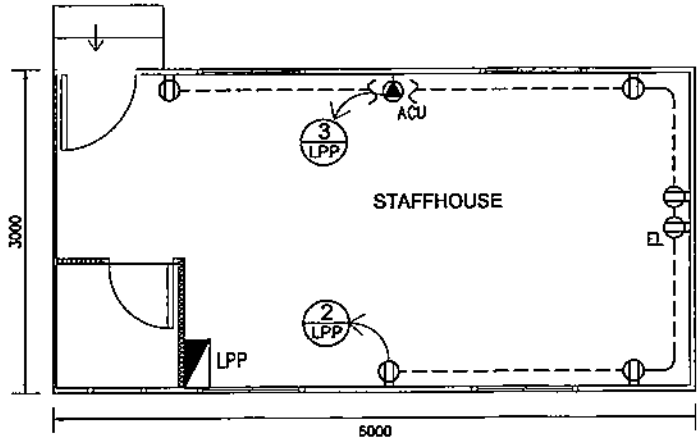
DWG. NO. CasDPP-BDE-13.001 PR NO. S1-CSN22-001
SCALE: AS SHOWN BID DRAWING REV. 0

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.
2. THIS DRAWING SHALL BE WORKED WITH CIVIL AND MECHANICAL BID DRAWINGS.



LIGHTING LAYOUT
SCALE 1:50



POWER LAYOUT
SCALE 1:50

OWNER: NATIONAL POWER CORPORATION
AGHAM ROAD, DILIMAN, QUEZON CITY

PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES
LOCATION: CASIAN, TAYTAY, PALAWAN

TITLE: PREFABRICATED CONTAINER HOUSE
(LIGHTING AND POWER LAYOUT)

	BY	CHKD	DATE
DESIGNED			
DRAWN	AC		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT			
ELEC.	MPP		
MECH.			

SUBMITTED: B. M. AGUILA, PRINCIPAL ENGINEER/C, EECD
RECOMMENDED: C. Z. C. LUGOD, JR., MANAGER, EECD
APPROVED: R. G. [illegible], MANAGER, ODD

DWG. NO. CasDPP-BDE-13.002 PR NO. S1-CSN22-001
SCALE: AS SHOWN BID DRAWING REV. 0

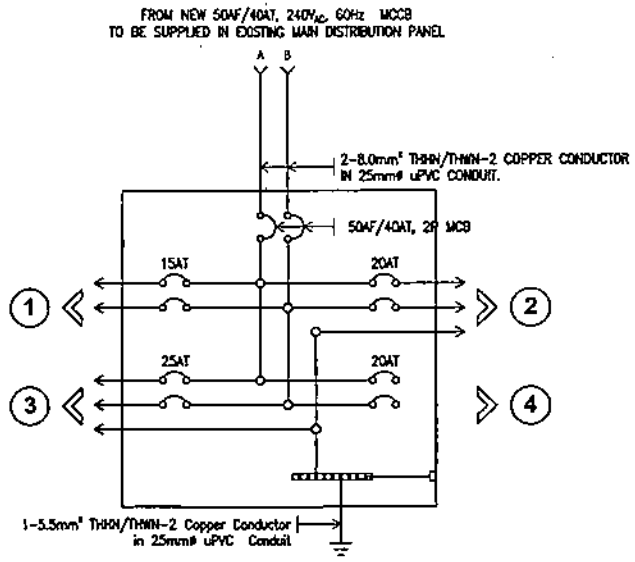
REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECO.	APPD.

SCHEDULE OF LOADS							
CKT NO.	DESCRIPTION	VA	V	A	SIZES		
					BREAKER	WIRE	CONDUIT
1	3 – 2 X 12W LED BULB, TYPE A 1 – 12W LED LAMP, TYPE B 1 – 9W COMPACT LED BULB, TYPE C 1 – 100VA OUTLET FOR EXHAUST FAN	216	230	0.94	50AF / 15AT	2 – 3.5mm² THHN/THWN-2	20mmØ uPVC
2	5 – 200VA CONVENIENCE OUTLET 1 – 100VA OUTLET FOR EMERGENCY LIGHT	1100	230	4.78	50AF / 20AT	2 – 3.5mm² THHN/THWN-2 1 – 3.5mm² THHN/THWN-2	20mmØ uPVC
3	1 – 1.5HP WINDOW TYPE AIR CONDITIONING UNIT	2300	230	10.00	50AF / 25AT	2 – 3.5mm² THHN/THWN-2 1 – 3.5mm² THHN/THWN-2	20mmØ uPVC
4	SPARE	1500	230	6.52	50AF / 20AT		
	TOTAL	5116	230	22.24			

PROVIDE: 50AF / 40AT, 2P MCB
WITH BRANCH CIRCUITS OF:
1 – 50AF/25AT, 2P, MCB
2 – 50AF/20AT, 2P, MCB
1 – 50AF/15AT, 2P, MCB

PROVIDE: 2 – 8.0 mm² THHN/THWN-2 Copper Conductor &
1 – 5.5 mm² THHN/THWN-2 Copper Conductor
in 25mmØ uPVC Conduit

SCHEDULE OF LOADS
(LIGHTING AND POWER PANEL)



PROVIDE: 16mmØ x 3000mm COPPER-BONDED GROUND ROD

RISER DIAGRAM
(LIGHTING AND POWER PANEL)
SCALE NTS

OWNER: NATIONAL POWER CORPORATION
AGHAM ROAD, DILIMAN, QUEZON CITY

PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED / COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES
LOCATION: CASIAN, TAYTAY, PALAWAN

TITLE: PREFABRICATED CONTAINER HOUSE
(SCHEDULE OF LOADS AND RISER DIAGRAM)

	BY	CHKD	DATE
DESIGNED			
DRAWN	JAC		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT			
ELEC.	NJP		
MECH.			

SUBMITTED: B. M. AGUILA, PROJECT ENGINEER A, RECD
RECOMMENDED: C. Z. C. LUGOD, JR., MANAGER, RECD
APPROVED: R. C. [illegible], MANAGER, DDD

DWG. NO. CasDPP-BDE-13.003 PR. NO. S1-CSN22-001
SCALE: AS SHOWN BID DRAWING REV. 0

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECD.	APPD.

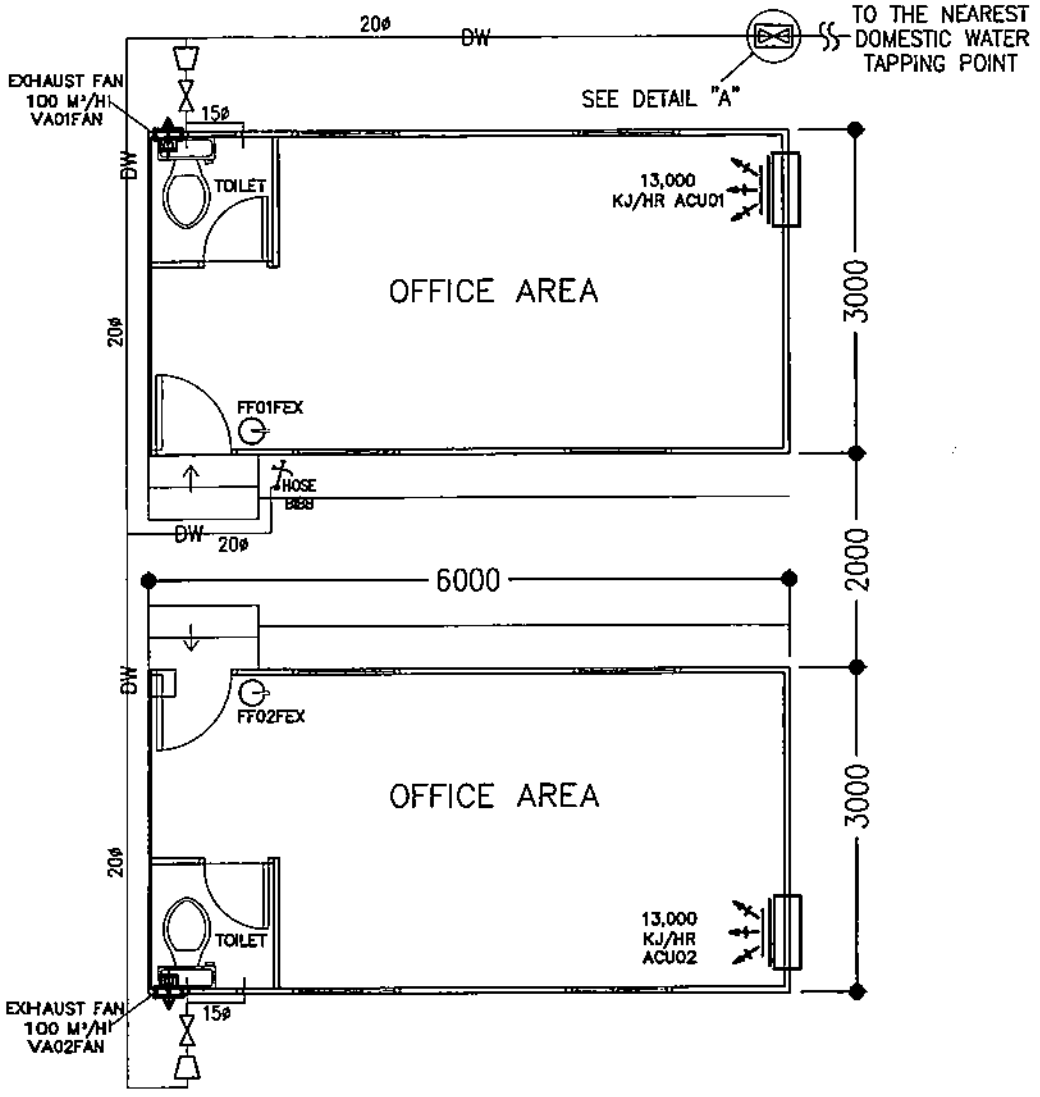
SECTION IX

BID DRAWINGS FOR MECHANICAL WORKS

SECTION IX – BID DRAWINGS

MW – MECHANICAL WORKS

DRAWING NO.	TITLE
POD-BDM-13.001	AIR CONDITIONING, VENTILATION, FIRE FIGHTING & DOMESTIC WATER SUPPLY SYSTEM (Package 1)
Nang-BDM-13.001	AIR CONDITIONING, VENTILATION, FIRE FIGHTING & DOMESTIC WATER SUPPLY SYSTEM (Package 2)
BisDPP-BDM-13.001	AIR CONDITIONING, VENTILATION, FIRE FIGHTING & DOMESTIC WATER SUPPLY SYSTEM (Package 3)
BDPP-BDM-13.001	AIR CONDITIONING, VENTILATION, FIRE FIGHTING & DOMESTIC WATER SUPPLY SYSTEM (Package 4)
CasDPP-BDM-13.001	AIR CONDITIONING, VENTILATION, FIRE FIGHTING & DOMESTIC WATER SUPPLY SYSTEM (Package 5)

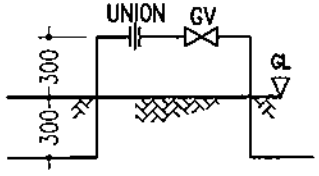


LEGEND:

- HOSE BIBB
- REDUCER
- GATE VALVE
- WINDOW TYPE AIR CONDITIONING UNIT (INVERTER)
- EXHAUST FAN (WALL MOUNTED)
- PORTABLE FIRE EXTINGUISHER (7.1KG OR HALOTRON)

NOTES:

1. THIS DRAWING IS FOR BIDDING PURPOSES ONLY.
2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
3. EQUIPMENT TO BE FURNISHED SHALL BE DESIGNED & CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SPECIFICATIONS & SHALL FIT INTO THE SPACE AVAILABLE WITH PROPER REGARD TO ACCESSIBILITY, PASSAGEWAY, HANDLING AND STRUCTURE LIMITATIONS.
4. ALL WORKS SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE TECHNICAL SPECIFICATIONS.
5. ALL EXHAUST FAN AND AIRCONDITIONING EQUIPMENT BROCHURES/CATALOGUES SHALL BE SUBMITTED BY THE SUPPLIER, FOR NPC'S REVIEW AND APPROVAL, PRIOR TO PROCUREMENT/INSTALLATION.
6. ALL PIPES, CABLES, FITTINGS, AND ANGLE SUPPORTS SHALL BE INSTALLED FOR THE EFFICIENT AND PROPER OPERATION OF THE AIRCONDITIONING SYSTEM.
7. PIPING LAID UNDERGROUND SHALL NOT BE LESS THAN 300MM FROM THE GROUND SURFACE TO THE BOTTOM OF PIPE.
8. FOR PIPES THAT CROSSES ROADWAYS, PIPE SLEEVE OF STEEL MATERIAL SHALL BE PROVIDED.
9. ALL PIPES, VALVES, VALVE BOXES, FITTINGS, AND PIPE SUPPORTS SHALL BE INSTALLED FOR THE EFFICIENT AND PROPER OPERATION OF THE SYSTEM.
10. ALL PIPES, VALVES AND OTHER EQUIPMENT BROCHURES/CATALOGUES SHALL BE SUBMITTED BY THE SUPPLIER, FOR NPC'S REVIEW AND APPROVAL, PRIOR TO PROCUREMENT/INSTALLATION.
11. FINAL DETAILS AND ADJUSTMENT SHALL BE DONE IN THE FIELD BY THE SUPPLIER DURING INSTALLATION TO SUIT ACTUAL SITE CONDITIONS. ALL WORKS SHALL BE EXECUTED IN CLOSE COORDINATION WITH ALL TRADES.
12. ALL PVC/PE PIPE DIMENSIONS SHOWN ARE IN NOMINAL DIAMETER (MM) WITH THE FOLLOWING EQUIVALENTS:
    - 20MM (3/4") = 25MM O.D. (OUTSIDE DIAMETER)
    - 15MM (1/2") = 20MM O.D.



"ISOLATION VALVE"
DETAIL "A"

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECOD.	APPD.

OWNER: NATIONAL POWER CORPORATION
AGHAM ROAD, DILIMAN, QUEZON CITY

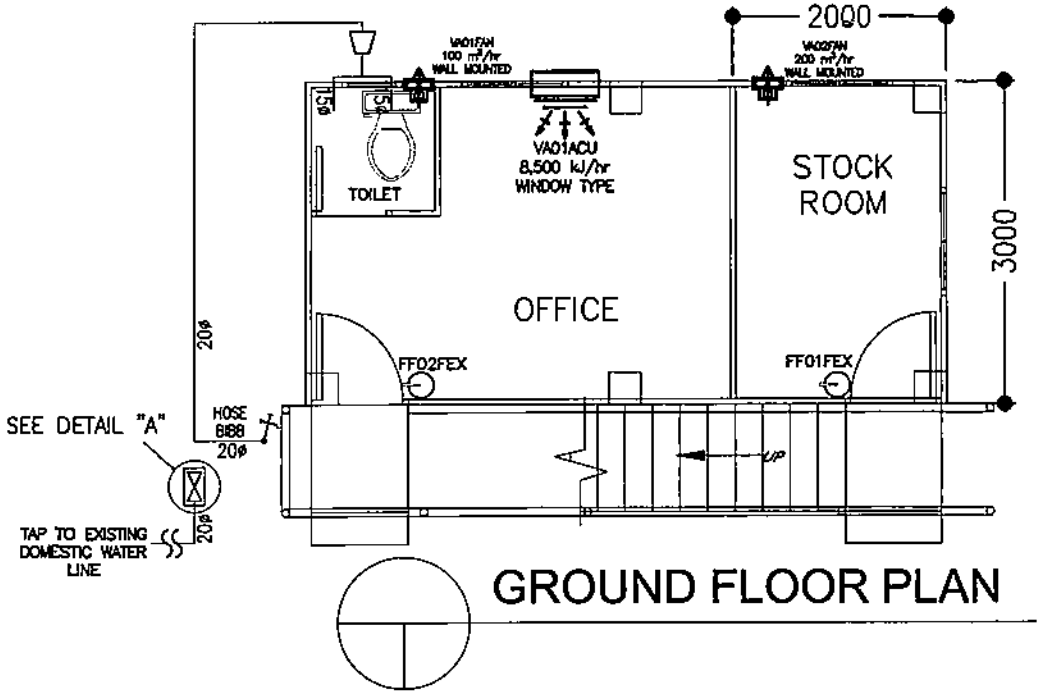
PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED/ COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES
LOCATION: POD, PUERTO PRINCESA, PALAWAN

TITLE: AIR CONDITIONING, VENTILATION, FIRE FIGHTING AND DOMESTIC WATER SUPPLY SYSTEM
(PACKAGE 1)

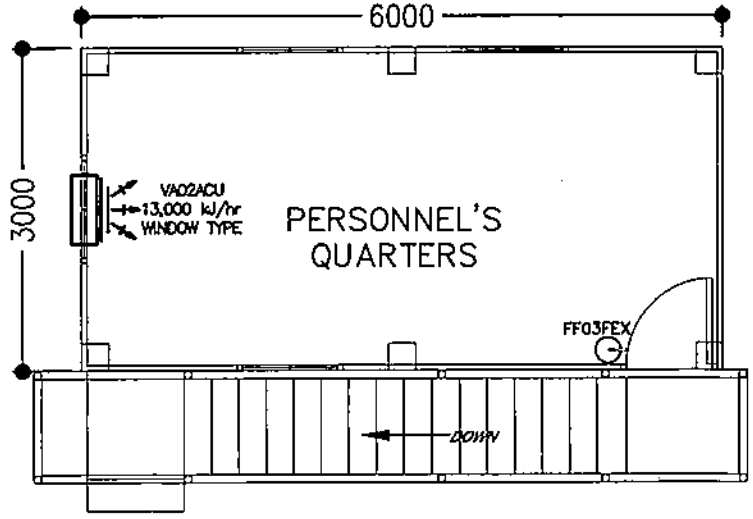
	BY	CHKD	DATE
DESIGNED	LACR		
DRAWN	LACR		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

SUBMITTED: R. M. CADSAWAN, Principal Engineer II
RECOMMENDED: J. A. TAPEL, JR., Manager, OED
APPROVED: N. G. [illegible], Manager, OOD

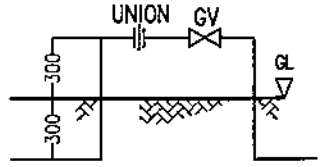
DWG. NO. POD-BDM-13.001 | PR. NO. S1-PWN22-018
SCALE: 1:50 | BID DRAWING | REV. 0



GROUND FLOOR PLAN



SECOND FLOOR PLAN



"ISOLATION VALVE"
DETAIL "A"

NOTES:

1. THIS DRAWING IS FOR BIDDING PURPOSES ONLY.
2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
3. EQUIPMENT TO BE FURNISHED SHALL BE DESIGNED & CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SPECIFICATIONS & SHALL FIT INTO THE SPACE AVAILABLE WITH PROPER REGARD TO ACCESSIBILITY, PASSAGEWAY, HANDLING AND STRUCTURE LIMITATIONS.
4. ALL WORKS SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE TECHNICAL SPECIFICATIONS.
5. ALL EXHAUST FAN AND AIRCONDITIONING EQUIPMENT BROCHURES/CATALOGUES SHALL BE SUBMITTED BY THE SUPPLIER, FOR NPC'S REVIEW AND APPROVAL, PRIOR TO PROCUREMENT/INSTALLATION.
6. ALL PIPES, CABLES, FITTINGS, AND ANGLE SUPPORTS SHALL BE INSTALLED FOR THE EFFICIENT AND PROPER OPERATION OF THE AIRCONDITIONING SYSTEM.
7. PIPING LAID UNDERGROUND SHALL NOT BE LESS THAN 300MM FROM THE GROUND SURFACE TO THE BOTTOM OF PIPE.
8. FOR PIPES THAT CROSSES ROADWAYS, PIPE SLEEVE OF STEEL MATERIAL SHALL BE PROVIDED.
9. ALL PIPES, VALVES, VALVE BOXES, FITTINGS, AND PIPE SUPPORTS SHALL BE INSTALLED FOR THE EFFICIENT AND PROPER OPERATION OF THE SYSTEM.
10. ALL PIPES, VALVES AND OTHER EQUIPMENT BROCHURES/CATALOGUES SHALL BE SUBMITTED BY THE SUPPLIER, FOR NPC'S REVIEW AND APPROVAL, PRIOR TO PROCUREMENT/INSTALLATION.
11. FINAL DETAILS AND ADJUSTMENT SHALL BE DONE IN THE FIELD BY THE SUPPLIER DURING INSTALLATION TO SUIT ACTUAL SITE CONDITIONS. ALL WORKS SHALL BE EXECUTED IN CLOSE COORDINATION WITH ALL TRADES.
12. ALL PVC/PE PIPE DIMENSIONS SHOWN ARE IN NOMINAL DIAMETER (MM) WITH THE FOLLOWING EQUIVALENTS:
    - 20MM (3/4") = 25MM O.D. (OUTSIDE DIAMETER)
    - 15MM (1/2") = 20MM O.D.

LEGEND:

- HOSE BIBB
- REDUCER
- GATE VALVE
- WINDOW TYPE AIR CONDITIONING UNIT (INVERTER)
- EXHAUST FAN (WALL MOUNTED)
- PORTABLE FIRE EXTINGUISHER (7.1KG HCFC OR HALOTRON)

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECD.	APPD.

OWNER: **NATIONAL POWER CORPORATION**
AGHAM ROAD, DILIMAN, QUEZON CITY

PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES
LOCATION: BRGY. MANGALAO, LINAPACAN, PALAWAN

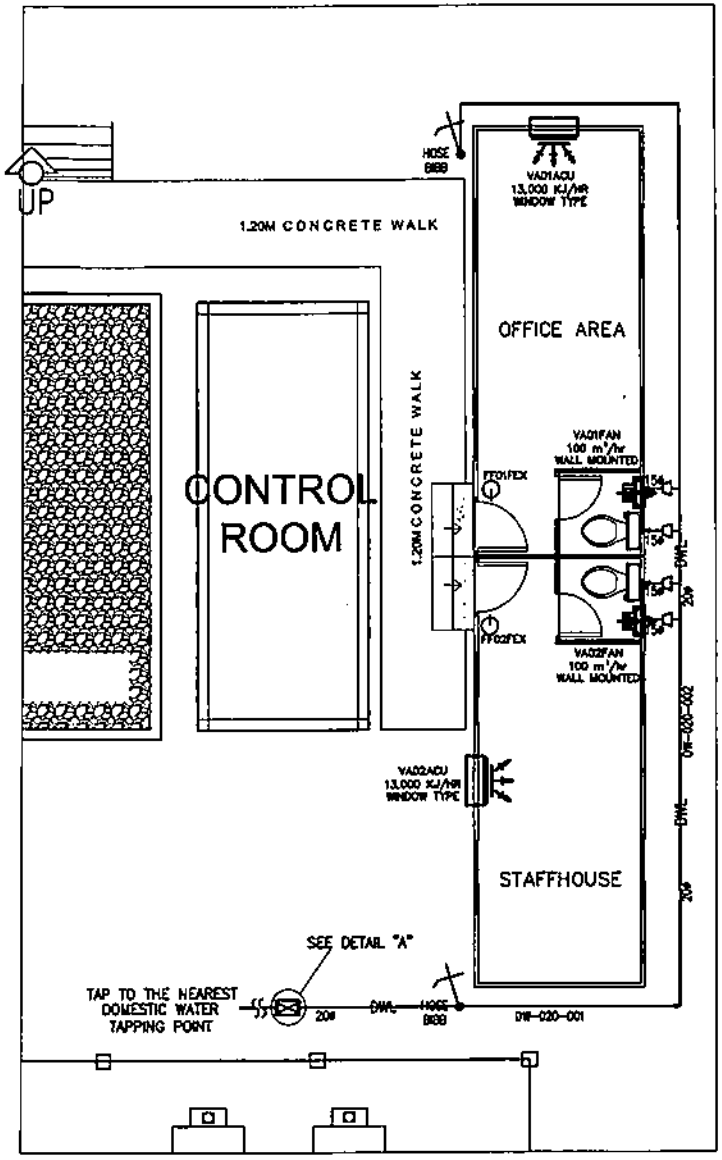
TITLE: **AIR CONDITIONING, VENTILATION, FIRE FIGHTING AND DOMESTIC WATER SUPPLY SYSTEM**
(PACKAGE 2)

	BY	CHKD	DATE
DESIGNED	MAN		
DRAWN	MAN		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

SUBMITTED: R.M. CABUSAWAN, Principal Engineer A
RECOMMENDED: J. A. TAPEL, JR., Manager, PMD
APPROVED: N.G. SOMBILLERA, Manager, OSD

DWG. NO. Nang-BDM-13.001 PR. NO. S1-NGL22-001

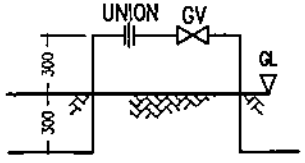
SCALE: 1:50 **BID DRAWING** REV. 0



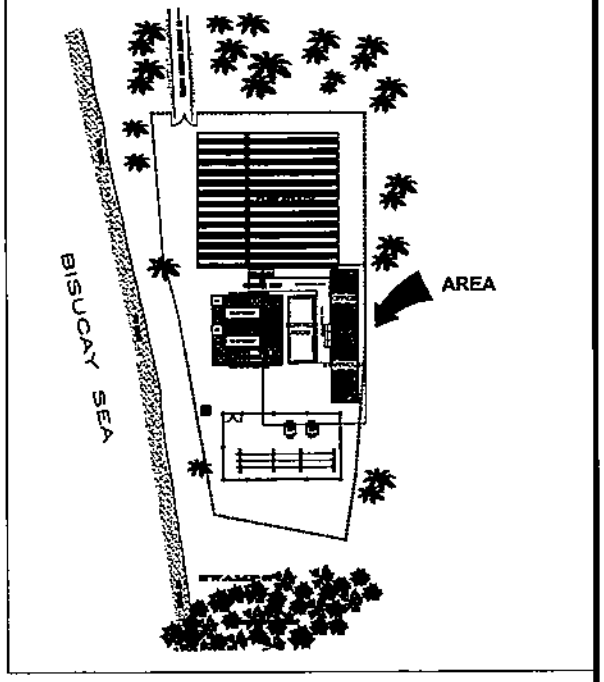
NOTES:

1. THIS DRAWING IS FOR BIDDING PURPOSES ONLY.
2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
3. EQUIPMENT TO BE FURNISHED SHALL BE DESIGNED & CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SPECIFICATIONS & SHALL FIT INTO THE SPACE AVAILABLE WITH PROPER REGARD TO ACCESSIBILITY, PASSAGEWAY, HANDLING AND STRUCTURE LIMITATIONS.
4. ALL WORKS SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE TECHNICAL SPECIFICATIONS.
5. ALL PIPES, VALVES, EXHAUST FAN, AND AIR CONDITIONING EQUIPMENT BROCHURES/CATALOGUES SHALL BE SUBMITTED BY THE CONTRACTOR FOR NPC'S REVIEW AND APPROVAL PRIOR TO PROCUREMENT/INSTALLATION.
6. ALL PIPES, CABLES, FITTINGS, AND ANGLE SUPPORTS SHALL BE INSTALLED FOR THE EFFICIENT AND PROPER OPERATION OF THE AIRCONDITIONING SYSTEM.
7. FINAL DETAILS AND ADJUSTMENT SHALL BE DONE IN THE FIELD BY THE CONTRACTOR DURING INSTALLATION TO SUIT ACTUAL SITE CONDITIONS. ALL WORKS SHALL BE EXECUTED IN CLOSE COORDINATION WITH ALL TRADES.
8. PIPING LAID UNDERGROUND SHALL NOT BE LESS THAN 300MM FROM THE GROUND SURFACE TO THE BOTTOM OF PIPE.
9. FOR PIPES THAT CROSSES ROADWAYS, PIPE SLEEVE OF STEEL MATERIAL SHALL BE PROVIDED.
10. ALL PIPES, VALVES, VALVE BOXES, FITTINGS, AND PIPE SUPPORTS SHALL BE INSTALLED FOR THE EFFICIENT AND PROPER OPERATION OF THE SYSTEM.
11. ALL PVC/PE PIPE DIMENSIONS SHOWN ARE IN NOMINAL DIAMETER (MM) WITH THE FOLLOWING EQUIVALENTS:

25MM (1")	=	32MM O.D. (OUTSIDE DIAMETER)
20MM (3/4")	=	25MM O.D.
15MM (1/2")	=	20MM O.D.



"ISOLATION VALVE"
DETAIL "A"



LEGEND:

- HOSE BIBB
- REDUCER
- GATE VALVE
- WINDOW TYPE AIR CONDITIONING UNIT (INVERTER)
- EXHAUST FAN (WALL MOUNTED)
- PORTABLE FIRE EXTINGUISHER (7.1KG OR HALOTRON)

OWNER: NATIONAL POWER CORPORATION
AGHAM ROAD, DILIMAN, QUEZON CITY

PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED/ COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES
LOCATION: BRGY. CABUSAN, BISUCAY ISLAND, CUYO PALAWAN

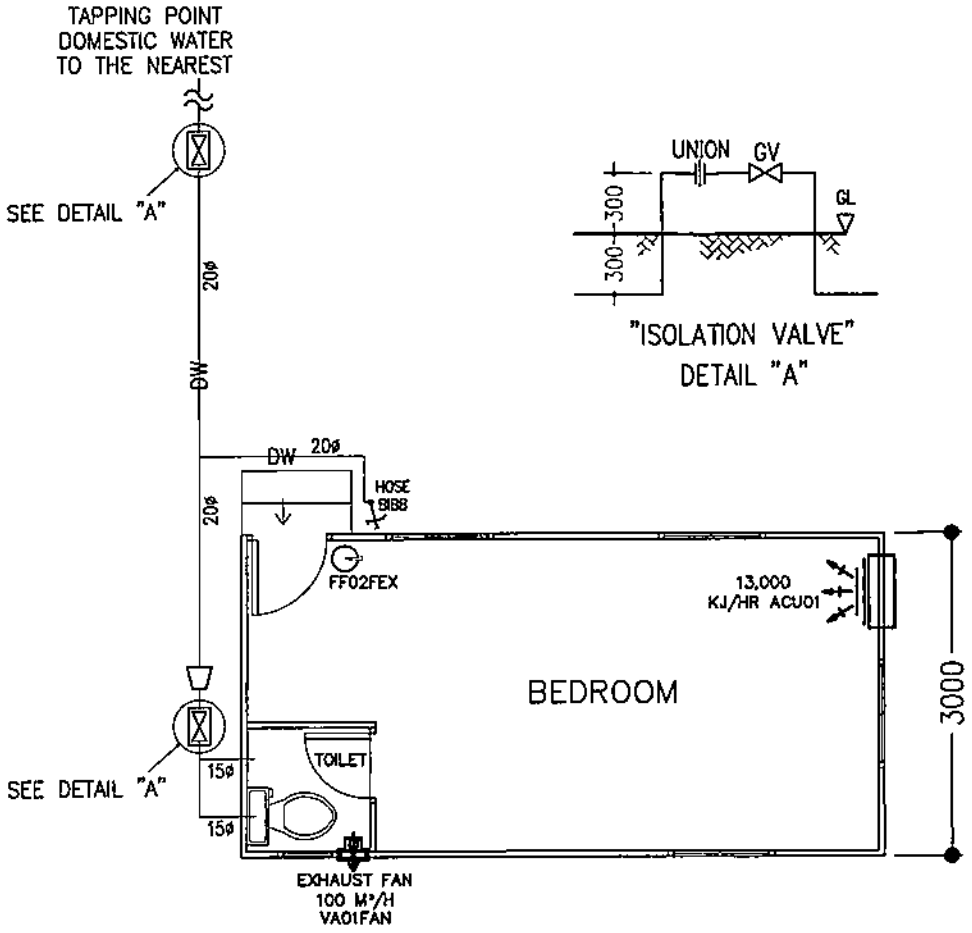
TITLE: AIR CONDITIONING, VENTILATION, FIRE FIGHTING AND DOMESTIC WATER SUPPLY SYSTEM
(PACKAGE 3)

	BY	CHKD	DATE
DESIGNED	MAN		
DRAWN	MAN		
REVIEWED	PRINCIPAL ENGR. FARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

SUBMITTED: R. N. BADSAWAN, Project Engineer A
RECOMMENDED: J. A. TAPEJUR, Manager, PEMD
APPROVED: N. G. SCHWARZKOPF, Manager - DOO

DWG. NO. BisDPP-BDM-13.001 PR. NO. S1-BDP22-001
SCALE: 1:75 BID DRAWING REV. 0

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECD.	APPD.



"ISOLATION VALVE"
DETAIL "A"

NOTES:

1. THIS DRAWING IS FOR BIDDING PURPOSES ONLY.
2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
3. EQUIPMENT TO BE FURNISHED SHALL BE DESIGNED & CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SPECIFICATIONS & SHALL FIT INTO THE SPACE AVAILABLE WITH PROPER REGARD TO ACCESSIBILITY, PASSAGEWAY, HANDLING AND STRUCTURE LIMITATIONS.
4. ALL WORKS SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE TECHNICAL SPECIFICATIONS.
5. ALL EXHAUST FAN AND AIRCONDITIONING EQUIPMENT BROCHURES/CATALOGUES SHALL BE SUBMITTED BY THE SUPPLIER, FOR NPC'S REVIEW AND APPROVAL, PRIOR TO PROCUREMENT/INSTALLATION.
6. ALL PIPES, CABLES, FITTINGS, AND ANGLE SUPPORTS SHALL BE INSTALLED FOR THE EFFICIENT AND PROPER OPERATION OF THE AIRCONDITIONING SYSTEM.
7. PIPING LAID UNDERGROUND SHALL NOT BE LESS THAN 300MM FROM THE GROUND SURFACE TO THE BOTTOM OF PIPE.
8. FOR PIPES THAT CROSSES ROADWAYS, PIPE SLEEVE OF STEEL MATERIAL SHALL BE PROVIDED.
9. ALL PIPES, VALVES, VALVE BOXES, FITTINGS, AND PIPE SUPPORTS SHALL BE INSTALLED FOR THE EFFICIENT AND PROPER OPERATION OF THE SYSTEM.
10. ALL PIPES, VALVES AND OTHER EQUIPMENT BROCHURES/CATALOGUES SHALL BE SUBMITTED BY THE SUPPLIER, FOR NPC'S REVIEW AND APPROVAL, PRIOR TO PROCUREMENT/INSTALLATION.
11. FINAL DETAILS AND ADJUSTMENT SHALL BE DONE IN THE FIELD BY THE SUPPLIER DURING INSTALLATION TO SUIT ACTUAL SITE CONDITIONS. ALL WORKS SHALL BE EXECUTED IN CLOSE COORDINATION WITH ALL TRADES.
12. ALL PVC/PE PIPE DIMENSIONS SHOWN ARE IN NOMINAL DIAMETER (MM) WITH THE FOLLOWING EQUIVALENTS:
    - 20MM (3/4") = 25MM O.D. (OUTSIDE DIAMETER)
    - 15MM (1/2") = 20MM O.D.

LEGEND:

- – HOSE BIBB
- – REDUCER
- – GATE VALVE
- – WINDOW TYPE AIR CONDITIONING UNIT (INVERTER)
- – EXHAUST FAN (WALL MOUNTED)
- – PORTABLE FIRE EXTINGUISHER (7.1KG OR HALOTRON)

OWNER: **NATIONAL POWER CORPORATION**
AGHAM ROAD, DILIMAN, QUEZON CITY

PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES
LOCATION: BRGY. BANCALAAN, BALABAC, PALAWAN

TITLE: **AIR CONDITIONING, VENTILATION, FIRE FIGHTING AND DOMESTIC WATER SUPPLY SYSTEM**
(PACKAGE 4)

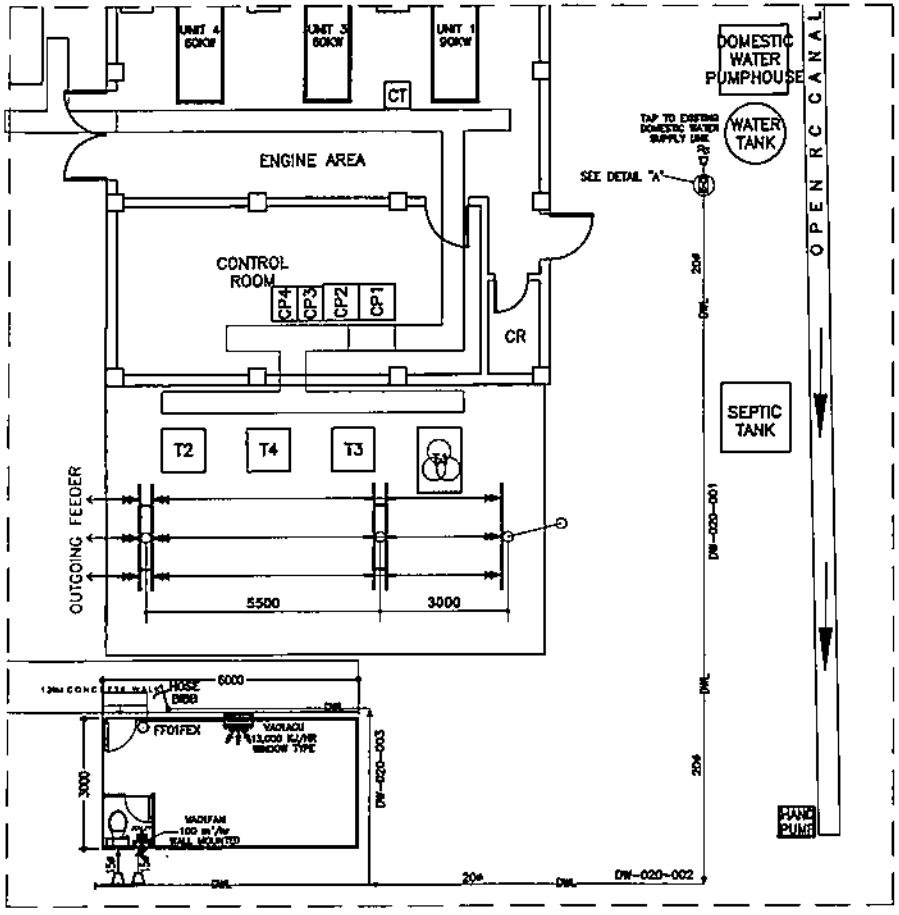
	BY	CHKD	DATE
DESIGNED	SRRG		
DRAWN	SRRG		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

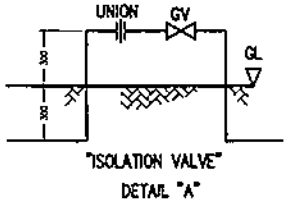
SUBMITTED: R. M. GADSAWAN, Principal Engineer A
RECOMMENDED: K. A. PAPEL, JR., Manager, OIC
APPROVED: N. G. GONZALES, Manager, OIC

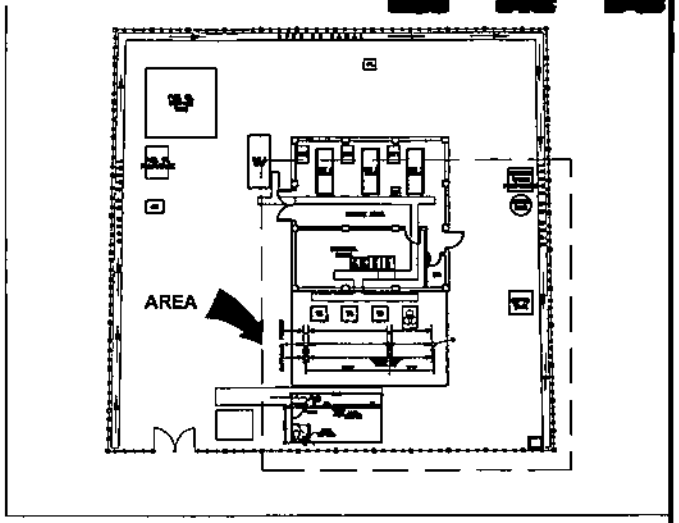
DWG. NO. BDPP-BDM-13.001 | PR. NO. S1-BAC22-007

SCALE: 1:50 | **BID DRAWING** | REV. 0

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECD.	APPD.







NOTES:

1. THIS DRAWING IS FOR BIDDING PURPOSES ONLY.
2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
3. EQUIPMENT TO BE FURNISHED SHALL BE DESIGNED & CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SPECIFICATIONS & SHALL FIT INTO THE SPACE AVAILABLE WITH PROPER REGARD TO ACCESSIBILITY, PASSAGEWAY, HANDLING AND STRUCTURE LIMITATIONS.
4. ALL WORKS SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE TECHNICAL SPECIFICATIONS.
5. ALL PIPES, VALVES, EXHAUST FAN, AND AIR CONDITIONING EQUIPMENT BROCHURES/CATALOGUES SHALL BE SUBMITTED BY THE CONTRACTOR FOR NPC'S REVIEW AND APPROVAL PRIOR TO PROCUREMENT/INSTALLATION.
6. ALL PIPES, CABLES, FITTINGS, AND ANGLE SUPPORTS SHALL BE INSTALLED FOR THE EFFICIENT AND PROPER OPERATION OF THE AIRCONDITIONING SYSTEM.
7. FINAL DETAILS AND ADJUSTMENT SHALL BE DONE IN THE FIELD BY THE CONTRACTOR DURING INSTALLATION TO SUIT ACTUAL SITE CONDITIONS. ALL WORKS SHALL BE EXECUTED IN CLOSE COORDINATION WITH ALL TRADES.
8. PIPING LAID UNDERGROUND SHALL NOT BE LESS THAN 300MM FROM THE GROUND SURFACE TO THE BOTTOM OF PIPE.
9. FOR PIPES THAT CROSSES ROADWAYS, PIPE SLEEVE OF STEEL MATERIAL SHALL BE PROVIDED.
10. ALL PIPES, VALVES, VALVE BOXES, FITTINGS, AND PIPE SUPPORTS SHALL BE INSTALLED FOR THE EFFICIENT AND PROPER OPERATION OF THE SYSTEM.
11. ALL PVC/PE PIPE DIMENSIONS SHOWN ARE IN NOMINAL DIAMETER (MM) WITH THE FOLLOWING EQUIVALENTS:

25MM (1")	= 32MM O.D. (OUTSIDE DIAMETER)
20MM (3/4")	= 25MM O.D.
15MM (1/2")	= 20MM O.D.

LEGEND:

- HOSE BIBB
- REDUCER
- GATE VALVE
- WINDOW TYPE AIR CONDITIONING UNIT (INVERTER)
- EXHAUST FAN (WALL MOUNTED)
- PORTABLE FIRE EXTINGUISHER (7.1KG HCFC OR HALOTRON)

OWNER: NATIONAL POWER CORPORATION
AGHAM ROAD, DILIMAN, QUEZON CITY

PROJECT: SUPPLY, DELIVERY AND INSTALLATION OF CONTAINERIZED/ COLLAPSIBLE OFFICE / STAFFHOUSE / STOCKROOM FOR VARIOUS PALAWAN SPUG AREAS IN FIVE (5) PACKAGES
LOCATION: CASIAN, TAYTAY, PALAWAN

TITLE: AIR CONDITIONING, VENTILATION, FIRE FIGHTING AND DOMESTIC WATER SUPPLY SYSTEM (PACKAGE 5)

	BY	CHKD	DATE
DESIGNED	MAN		
DRAWN	MAN		
REVIEWED	PRINCIPAL ENGR. / ARCHT.		
CIVIL/ARCHT			
ELEC.			
MECH.			

SUBMITTED: R. M. CADBAWAN, Principal Engineer A
RECOMMENDED: J. A. TAPEL JR., Manager - SEMV
APPROVED: N. G. SOMBERITA, Manager - DDD

DWG. NO. CasDPP-BDM-13.001 | PR. NO. S1-CSN22-001
SCALE: 1:125 | BID DRAWING | REV. 0

REV.	DATE	NATURE OF REVISION	BY	CHKD.	RECD.	APPD.