



NATIONAL POWER CORPORATION

MinGen

PHILIPPINE BIDDING DOCUMENTS
(Procurement of INFRASTRUCTURE PROJECTS)

FOR

CONCRETING OF 1-LANE ACCESS ROAD INSIDE
MINGEN CENTRAL WAREHOUSE COMPOUND

P.R. No.: MG-LGD23-016

Contracts Management Office
Logistics Division

Sixth Edition

July 2020

Rev.2

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Glossary of Terms, Abbreviations, and Acronyms

ABC – Approved Budget for the Contract.

ARCC – Allowable Range of Contract Cost.

BAC – Bids and Awards Committee.

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

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

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

BIR – Bureau of Internal Revenue.

BSP – Bangko Sentral ng Pilipinas.

CDA – Cooperative Development Authority.

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

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

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

CPI – Consumer Price Index,

DOLE – Department of Labor and Employment.

DTI – Department of Trade and Industry.

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

GFI – Government Financial Institution.

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

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

GOP – Government of the Philippines.

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

LGUs – Local Government Units.

NFCC – Net Financial Contracting Capacity.

NGA – National Government Agency.

PCAB – Philippine Contractors Accreditation Board.

PhilGEPS - Philippine Government Electronic Procurement System.

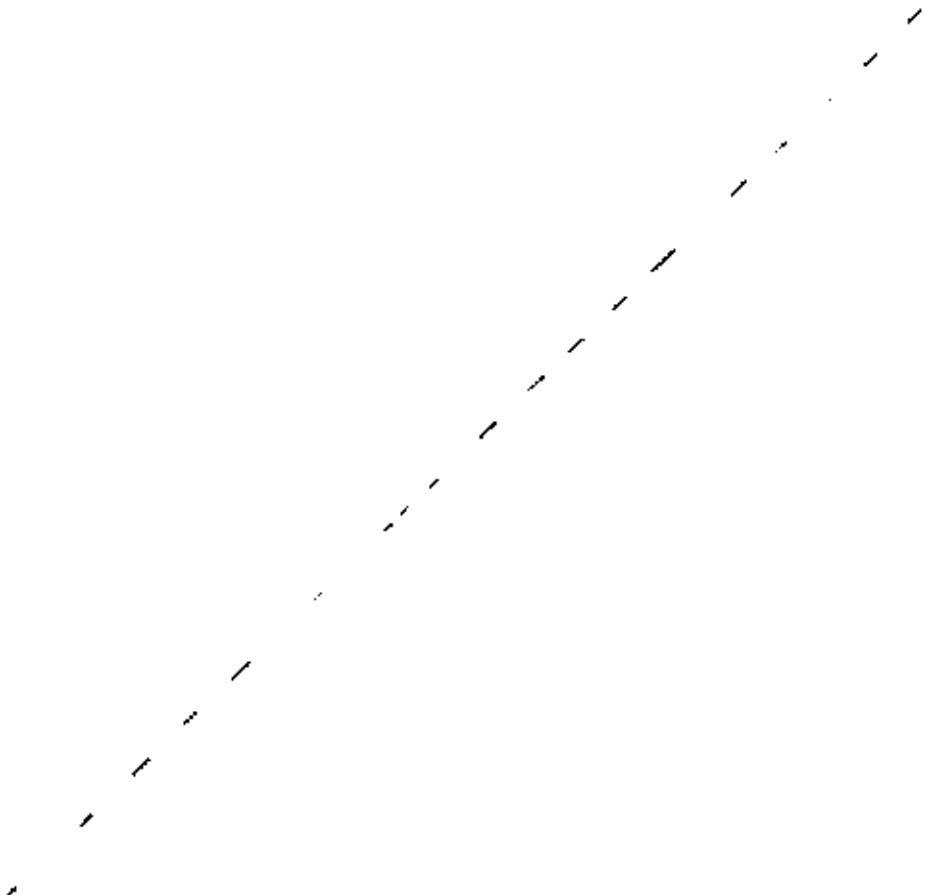
Procurement Project – refers to a specific or identified procurement covering goods, infrastructure project or consulting services. A Procurement Project shall be described, detailed, and scheduled in the Project Procurement Management Plan prepared by the agency which shall be consolidated in the procuring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

PSA – Philippine Statistics Authority.

SEC – Securities and Exchange Commission.

SLCC – Single Largest Completed Contract.

UN – United Nations.



BID DOCUMENTS

SECTION I- INVITATION TO BID

NAME OF PROJECT : CONCRETING OF 1-LANE ACCESS ROAD INSIDE
MINGEN CENTRAL WAREHOUSE COMPOUND
PR NO/REF. NO.: MG-LGD23-018/INFRA2023-LOG-044

Section I. Invitation to Bid



NATIONAL POWER CORPORATION

MinGen

Invitation to Bid for Concreting of 1-Lane Access Road Inside MinGen Central Warehouse Compound

The *NATIONAL POWER CORPORATION-MINDANAO GENERATION*, through the approved Corporate Budget of NPC for CY 2022 intends to apply the sum of *One Million Four Hundred Ninety Four Thousand Five Hundred Forty One and 39/100 Pesos (PHP 1,494,541.39)* being the Approved Budget for the Contract (ABC) to payments under the contract for *Concreting of 1-Lane Access Road Inside MinGen Central Warehouse Compound (INFRA2023-LOG-044)*. Bids received in excess of the ABC shall be automatically rejected at bid opening.

1. The *NATIONAL POWER CORPORATION-MINDANAO GENERATION* now invites bids for the above Procurement Project. Completion of the Works is required *Forty (40) calendar days*. Bidders should have completed a contract similar to the Project. The description of an eligible bidder is contained in the Bidding Documents, particularly, in Section II (Instructions to Bidders).
2. Bidding will be conducted through open competitive bidding procedures using non-discretionary "*pass/fail*" criterion as specified in the 2016 revised Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 9184.
3. Interested bidders may obtain further information from *BAC Secretariat, NATIONAL POWER CORPORATION-MINDANAO GENERATION* and inspect the Bidding Documents at the address given below from *8:00 AM – 5:00 PM Monday to Friday*.
4. A complete set of Bidding Documents may be acquired by interested Bidders on **August 11-30, 2023** from the given address and website(s) below and upon payment of the applicable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB, in the amount of *Three Thousand Pesos (PHP3,000.00)*. The Procuring Entity shall allow the bidder to pay online and present its proof of payment for the fees *in person, by facsimile, or through electronic means. For those prospective bidders who wish to pay online, below are the details of the account:*


Landbank Account name : NPC GENCO 5 COLLECTIONS FUND
 Landbank Account number : 0321-1689-14

- It may also be downloaded free of charge from the website of the Philippine Government Electronic Procurement System (PhilGEPS) provided that Bidders shall pay the applicable fee for the Bidding Documents not later than the submission of their bids.
5. The *NATIONAL POWER CORPORATION–MINDANAO GENERATION* will hold a Pre-Bid Conference on *August 18, 2023 at 1:30 PM at Bidding Room, NPC-Mindanao Generation Headquarters, Maria Cristina, Iligan City* and/or through videoconferencing/webcasting via *ZOOM*, which shall be open to prospective bidders. Interested online attendees are required to pre-register one (1) day before the scheduled pre-bidding conference. For pre-registration, contact tel. no. (063)-222-3459 or email *logistics_afd_mingen@napocor.gov.ph*.
 6. Bids must be duly received by the BAC Secretariat through manual submission at the office address as indicated below, on or before *August 30, 2023 at 9:30 AM*. Late bids shall not be accepted.
 7. All bids must be accompanied by a bid security in any of the acceptable forms and in the amount stated in ITB Clause 15.
 8. Bid opening shall be on *August 30, 2023 at 9:30 AM* at the *Bidding Room, NPC-Mindanao Generation Headquarters, Maria Cristina, Iligan City*. Bids will be opened in the presence of the bidders' representatives who choose to attend the activity.
 9. *This project requires submission of at least:*
 - *Certificate of Site Inspection*
 10. The *NATIONAL POWER CORPORATION– MINDANAO GENERATION* reserves the right to reject any and all bids, declare a failure of bidding, or not award the contract at any time prior to contract award in accordance with Sections 35.6 and 41 of the 2016 revised Implementing Rules and Regulations (IRR) of RA No. 9184, without thereby incurring any liability to the affected bidder or bidders.
 11. For further information, please refer to:


*BAC Secretariat
 Contracts Management Office
 Logistics Division
 Mindanao Generation Headquarters
 National Power Corporation
 Maria Cristina, Iligan City
 logistics_afd_mingen@napocor.gov.ph
 Tel. No.: (063)222-3459
 Fax No.: (063)223-8355/(063)223-4604
 www.napocor.gov.ph*

12. You may visit the following websites:

For downloading of Bidding Documents: <https://www.philgeps.gov.ph/> or
<https://www.napocor.gov.ph/BCSD/bids.php>

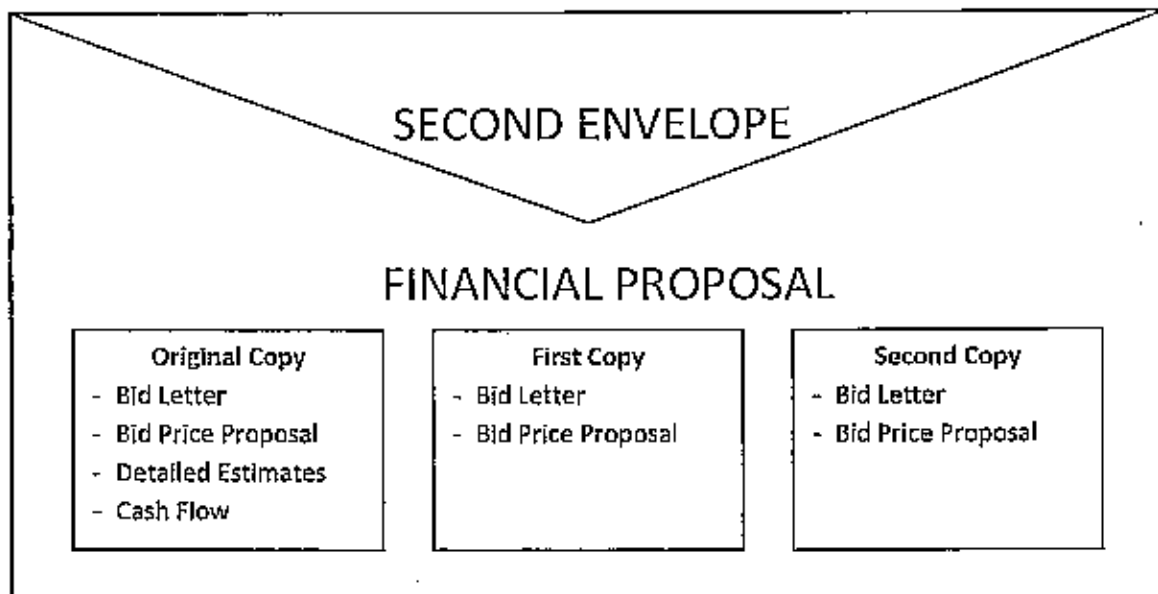
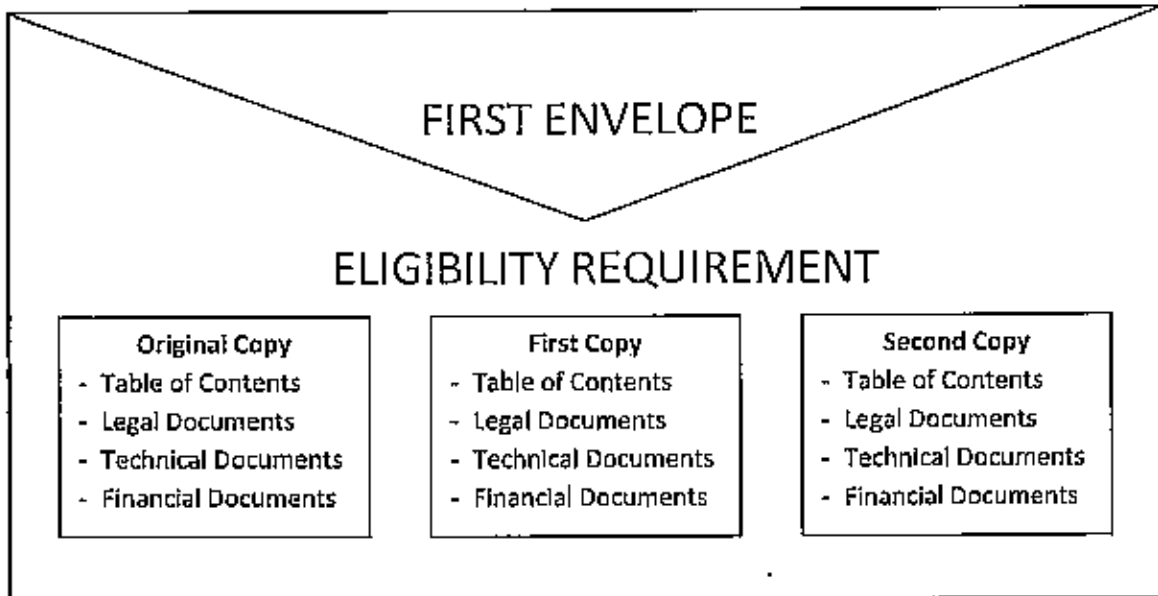


R. T. CIRUELA
Chairman, Bids and Awards Committee
Mindanao Generation Headquarters



Date of PhilGEPS Publication: 11 August 2023

REQUIRED BID DOCUMENTS



Section II. Instructions to Bidders

1. Scope of Bid

The Procuring Entity, **NATIONAL POWER CORPORATION-MINDANAO GENERATION** invites Bids for the *Concreting of 1-Lane Access Road Inside MinGen Central Warehouse Compound, with Project Identification Number INFRA2023-LOG-044.*

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

2. Funding Information

- 2.1. The GOP through the source of funding as indicated below for CY 2022 in the amount of *One Million Five Hundred Pesos (PHP1,500,000.00)*
- 2.2. The source of funding is:
 - a. GOCC and GFIs, the proposed Corporate Operating Budget.

3. Bidding Requirements

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

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

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

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

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

5. Eligible Bidders

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

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

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

5.3. For Foreign-funded Procurement, the Procuring Entity and the foreign government/foreign or international financing institution may agree on another track record requirement, as specified in the Bidding Document prepared for this purpose.

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

6. Origin of Associated Goods

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

7. Subcontracts

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

The Procuring Entity has prescribed that:

- a. Subcontracting is not allowed.

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

11. Documents Comprising the Bid: Financial Component

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

12. Alternative Bids

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

13. Bid Prices

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

14. Bid and Payment Currencies

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

15. Bid Security

- 15.1. The Bidder shall submit a Bid Securing Declaration or any form of Bid Security in the amount indicated in the **BDS**, which shall be not less than the percentage of the ABC in accordance with the schedule in the **BDS**.
- 15.2. The Bid and bid security shall be valid until *One Hundred Twenty (120) Calendar Days from the Scheduled Bid Opening*. Any bid not accompanied by

an acceptable bid security shall be rejected by the Procuring Entity as non-responsive.

16. Sealing and Marking of Bids

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

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

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

17. Deadline for Submission of Bids

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

18. Opening and Preliminary Examination of Bids

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

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

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

19. Detailed Evaluation and Comparison of Bids

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

19.2. If the Project allows partial bids, all Bids and combinations of Bids as indicated in the BDS shall be received by the same deadline and opened and evaluated simultaneously so as to determine the Bid or combination of Bids offering the

lowest calculated cost to the Procuring Entity. Bid Security as required by ITB Clause 16 shall be submitted for each contract (lot) separately.

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

20. Post Qualification

Within a non-extendible period of five (5) calendar days from receipt by the Bidder of the notice from the BAC that it submitted the Lowest Calculated Bid, the Bidder shall submit its latest income and business tax returns filed and paid through the BIR Electronic Filing and Payment System (eFPS), and other appropriate licenses and permits required by law and stated in the BDS.

21. Signing of the Contract

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

Section III. Bid Data Sheet

Bid Data Sheet

| ITB Clause | | | | | | | | | | | | | | | | | | | |
|--|--|--|--------------------------|----------------------------|----------------------|-------------------------|---|--------------------------|---------------------------------|--|--|---------------------------------------|---|--|--------------|---|--|-------------------------------|--|
| 5.2 | For this purpose, contracts similar to the Project refer to contracts which have the same major categories of work, which shall be: Construction of Horizontal Structure | | | | | | | | | | | | | | | | | | |
| 7.1 | Subcontracting is not allowed. | | | | | | | | | | | | | | | | | | |
| 10.3 | None | | | | | | | | | | | | | | | | | | |
| 10.4 | The key personnel must meet the required minimum years of experience set below: | | | | | | | | | | | | | | | | | | |
| | <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;"><u>Key Personnel</u></th> <th style="text-align: left; border-bottom: 1px solid black;"><u>General Expertise</u></th> <th style="text-align: left; border-bottom: 1px solid black;"><u>Relevant Experience</u></th> </tr> </thead> <tbody> <tr> <td style="vertical-align: top;">1 - Project Engineer</td> <td style="vertical-align: top;">Licensed Civil Engineer</td> <td style="vertical-align: top;">At least five (5) years experience in related works</td> </tr> <tr> <td style="vertical-align: top;">1 - Construction Foreman</td> <td style="vertical-align: top;">B.S. Civil Engineering Graduate</td> <td style="vertical-align: top;">At least three (3) years experience in similar works</td> </tr> <tr> <td></td> <td style="vertical-align: top;">Civil Engineering Technology Graduate</td> <td style="vertical-align: top;">At least five (5) years experience in similar works</td> </tr> <tr> <td></td> <td style="vertical-align: top;">Non-graduate</td> <td style="vertical-align: top;">At least five (5) years working experience as Construction Foreman in similar works</td> </tr> <tr> <td style="vertical-align: top;">1 - Construction Safety and Health Officer (SO2)</td> <td style="vertical-align: top;">Construction Safety Officer 2</td> <td style="vertical-align: top;">At least forty (40) hours of Construction Safety and Health (COSH) Training from Occupational Safety and Health Center (OSHC) or Safety Training Organizations (STOs) accredited by the Department of Labor and Employment (DOLE). Must be present during the whole duration of the project)</td> </tr> </tbody> </table> | <u>Key Personnel</u> | <u>General Expertise</u> | <u>Relevant Experience</u> | 1 - Project Engineer | Licensed Civil Engineer | At least five (5) years experience in related works | 1 - Construction Foreman | B.S. Civil Engineering Graduate | At least three (3) years experience in similar works | | Civil Engineering Technology Graduate | At least five (5) years experience in similar works | | Non-graduate | At least five (5) years working experience as Construction Foreman in similar works | 1 - Construction Safety and Health Officer (SO2) | Construction Safety Officer 2 | At least forty (40) hours of Construction Safety and Health (COSH) Training from Occupational Safety and Health Center (OSHC) or Safety Training Organizations (STOs) accredited by the Department of Labor and Employment (DOLE). Must be present during the whole duration of the project) |
| <u>Key Personnel</u> | <u>General Expertise</u> | <u>Relevant Experience</u> | | | | | | | | | | | | | | | | | |
| 1 - Project Engineer | Licensed Civil Engineer | At least five (5) years experience in related works | | | | | | | | | | | | | | | | | |
| 1 - Construction Foreman | B.S. Civil Engineering Graduate | At least three (3) years experience in similar works | | | | | | | | | | | | | | | | | |
| | Civil Engineering Technology Graduate | At least five (5) years experience in similar works | | | | | | | | | | | | | | | | | |
| | Non-graduate | At least five (5) years working experience as Construction Foreman in similar works | | | | | | | | | | | | | | | | | |
| 1 - Construction Safety and Health Officer (SO2) | Construction Safety Officer 2 | At least forty (40) hours of Construction Safety and Health (COSH) Training from Occupational Safety and Health Center (OSHC) or Safety Training Organizations (STOs) accredited by the Department of Labor and Employment (DOLE). Must be present during the whole duration of the project) | | | | | | | | | | | | | | | | | |

| | <p><i>The following key personnel information indicated above must be included in Standard Form NPCMGNSF-INFRA-05: List of Key personnel proposed to be assigned to the Contract. Filled up Standard Form NPCMGNSF-INFRA-05 must be included in the technical component envelope.</i></p> <p>Project Engineer or Foreman and Construction Safety & Health Officer maybe one person, as long as he meets the requirements of the two positions. Provided however, that there is no overlapping of projects undertaken by the same contractor and supervised by the same person.</p> <p>The above key personnel must be either employed by the applicant or contracted by the applicant to be employed for the contract to be bid.</p> | | | | | | | | | | | | | | | | | | |
|----------------------------|--|------------------------|-----------------|------------------------|-----------|------------|---------|------------|---------|---------|-------------|--------|---------|----------------|----------|---------|----------------------------|------|---------|
| 10.5 | <p>The minimum equipment requirements are the following:</p> <table border="0" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;"><u>Equipment</u></th> <th style="text-align: center;"><u>Capacity</u></th> <th style="text-align: center;"><u>Number of Units</u></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Payloader</td> <td style="text-align: center;">0.80 cu.m.</td> <td style="text-align: center;">One (1)</td> </tr> <tr> <td style="text-align: center;">Dump Truck</td> <td style="text-align: center;">3 cu.m.</td> <td style="text-align: center;">One (1)</td> </tr> <tr> <td style="text-align: center;">Road Roller</td> <td style="text-align: center;">8 Tons</td> <td style="text-align: center;">One (1)</td> </tr> <tr> <td style="text-align: center;">Concrete Mixer</td> <td style="text-align: center;">I-bagger</td> <td style="text-align: center;">One (1)</td> </tr> <tr> <td style="text-align: center;">Pen Type Concrete Vibrator</td> <td style="text-align: center;">4 HP</td> <td style="text-align: center;">One (1)</td> </tr> </tbody> </table> | <u>Equipment</u> | <u>Capacity</u> | <u>Number of Units</u> | Payloader | 0.80 cu.m. | One (1) | Dump Truck | 3 cu.m. | One (1) | Road Roller | 8 Tons | One (1) | Concrete Mixer | I-bagger | One (1) | Pen Type Concrete Vibrator | 4 HP | One (1) |
| <u>Equipment</u> | <u>Capacity</u> | <u>Number of Units</u> | | | | | | | | | | | | | | | | | |
| Payloader | 0.80 cu.m. | One (1) | | | | | | | | | | | | | | | | | |
| Dump Truck | 3 cu.m. | One (1) | | | | | | | | | | | | | | | | | |
| Road Roller | 8 Tons | One (1) | | | | | | | | | | | | | | | | | |
| Concrete Mixer | I-bagger | One (1) | | | | | | | | | | | | | | | | | |
| Pen Type Concrete Vibrator | 4 HP | One (1) | | | | | | | | | | | | | | | | | |
| 12 | N/A | | | | | | | | | | | | | | | | | | |
| 15.1 | <p>The bid security shall be in the form of a Bid Securing Declaration or any of the following forms and amounts:</p> <ol style="list-style-type: none"> a. The amount of not less than PHP29,890.83 (2% of ABC), if bid security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit; b. The amount of not less than PHP74,727.07 (5% of ABC), if bid security is in Surety Bond. | | | | | | | | | | | | | | | | | | |
| 19.2 | Partial bids are allowed, as follows: | | | | | | | | | | | | | | | | | | |
| 20 | <p>Additional documents to be submitted during Post-Qualification:</p> <ol style="list-style-type: none"> 1. Other appropriate licenses and permits required by law and stated in the Bidding documents. <ol style="list-style-type: none"> a. Original Bank Statement year ending prior to bid opening; b. Valid and updated PhilGEPS Registration (Platinum Membership) (all pages); | | | | | | | | | | | | | | | | | | |

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| | <ul style="list-style-type: none"> c. <i>Registration Certificate from Securities and Exchange Commission (SEC), Department of Trade and Industry (DTI) for sole proprietorship, or Cooperative Development Authority (CDA) for cooperatives or its equivalent document;</i> d. <i>Mayor's or Business permit issued by the city or municipality where the principal place of business of the prospective bidder is located, or the equivalent document for Exclusive Economic Zones or Areas;</i> e. <i>Valid Tax clearance per E.O. No. 398, s. 2005, as finally reviewed and approved by the Bureau of Internal Revenue (BIR). Quarterly Income Tax Returns filed and paid through the BIR Electronic Filing and Payment System (eFPS);</i> f. <i>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;</i> g. <i>Philippine Contractors Accreditation Board (PCAB) License;</i> h. <i>Board of Accountancy (BOA) Certificate;</i> <p>2. <i>Contract and/or Notice of Award as supporting documents for NPC MinGen Form No. NPCMGNSF-INFRA-01, if applicable;</i></p> <p>3. <i>(a) Valid Professional Regulation Commission (PRC) license for professional personnel; (b) Certificate of Training with accreditation from DOLE for the Construction Safety & Health Officer; (c) TESDA Training Certificate (NC II) of Welders or Electrician; and (d) Diploma and/or Service Record/Certificate of Employment of previous and/or current employer for Construction Foreman, Welders, Electrician & Plumber - as supporting documents for NPC MinGen Form No. NPCMGNSF-INFRA-05, if applicable.</i></p> <p>4. <i>Certificate of Site Inspection issued by Plant/Department Manager or his authorized representative.</i></p> |
| 21 | <p>Additional contract documents relevant to the Project that may be required by existing laws and/or the Procuring Entity, <u>prior to contract signing</u>, such as:</p> <ul style="list-style-type: none"> a) Approved construction schedule and S-curve b) Approved manpower schedule c) Construction methods d) Approved equipment utilization schedule e) Construction safety and health program approved by the DOLE f) Approved Project Evaluation Review Technique/Critical Path Method (PERT/CPM) |

Section IV. General Conditions of Contract

1. Scope of Contract

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

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

2. Sectional Completion of Works

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

3. Possession of Site

- 4.1. The Procuring Entity shall give possession of all or parts of the Site to the Contractor based on the schedule of delivery indicated in the **SCC**, which corresponds to the execution of the Works. If the Contractor suffers delay or incurs cost from failure on the part of the Procuring Entity to give possession in accordance with the terms of this clause, the Procuring Entity's Representative shall give the Contractor a Contract Time Extension and certify such sum as fair to cover the cost incurred, which sum shall be paid by Procuring Entity.
- 4.2. If possession of a portion is not given by the above date, the Procuring Entity will be deemed to have delayed the start of the relevant activities. The resulting adjustments in contract time to address such delay may be addressed through contract extension provided under Annex "E" of the 2016 revised IRR of RA No. 9184.

4. The Contractor's Obligations

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

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

5. Performance Security

- 5.1. Within ten (10) calendar days from receipt of the Notice of Award from the Procuring Entity but in no case later than the signing of the contract by both parties, the successful Bidder shall furnish the performance security in any of the forms prescribed in Section 39 of the 2016 revised IRR.
- 5.2. The Contractor, by entering into the Contract with the Procuring Entity, acknowledges the right of the Procuring Entity to institute action pursuant to RA No. 3688 against any subcontractor be they an individual, firm, partnership, corporation, or association supplying the Contractor with labor, materials and/or equipment for the performance of this Contract.

6. Site Investigation Reports

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

7. Warranty

- 7.1. In case the Contractor fails to undertake the repair works under Section 62.2.2 of the 2016 revised IRR, the Procuring Entity shall forfeit its performance security, subject its property(ies) to attachment or garnishment proceedings, and perpetually disqualify it from participating in any public bidding. All payables of the GOP in his favor shall be offset to recover the costs.
- 7.2. The warranty against Structural Defects/Failures, except that occasioned-on force majeure, shall cover the period from the date of issuance of the Certificate of Final Acceptance by the Procuring Entity. Specific duration of the warranty is found in the SCC.

8. Liability of the Contractor

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

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

9. Termination for Other Causes

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

10. Dayworks

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

11. Program of Work

- 11.1. The Contractor shall submit to the Procuring Entity's Representative for approval the said Program of Work showing the general methods, arrangements, order, and timing for all the activities in the Works. The submissions of the Program of Work are indicated in the SCC.
- 11.2. The Contractor shall submit to the Procuring Entity's Representative for approval an updated Program of Work at intervals no longer than the period stated in the SCC. If the Contractor does not submit an updated Program of Work within this period, the Procuring Entity's Representative may withhold the amount stated in the SCC from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program of Work has been submitted.

12. Instructions, Inspections and Audits

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

13. Advance Payment

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

14. Progress Payments

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

15. Operating and Maintenance Manuals

- 15.1. If required, the Contractor will provide "as built" Drawings and/or operating and maintenance manuals as specified in the SCC.
- 15.2. If the Contractor does not provide the Drawings and/or manuals by the dates stated above, or they do not receive the Procuring Entity's Representative's approval, the Procuring Entity's Representative may withhold the amount stated in the SCC from payments due to the Contractor.

Section V. Special Conditions of Contract

Special Conditions of Contract

| GCC Clause | |
|------------|--|
| 2 | Sectional completion is not specified. |
| 4.1 | The Procuring Entity shall give possession of the Site to the Contractor <i>on the start date.</i> |
| 6 | The site investigation reports are: NONE |
| 7.2 | Fifteen (15) years |
| 10 | Dayworks are not applicable to the contract. |
| 11.1 | The Contractor shall submit the Program of Work to the Procuring Entity's Representative <u>upon contract signing</u> or within <u>three (3) days</u> of delivery of the Notice of Award. |
| 11.2 | The amount to be withheld for late submission of an updated Program of Work is Fifty (50) % of the billed amount. The updating of Program of Work shall be done bi-monthly. |
| 13 | The amount of the advance payment is 15% of contract amount and paid in lump sum. |
| 14 | No further instruction. |
| 15.1 | The date by which operating and maintenance manuals are required is upon completion of the project. The date by which "as built" drawings are required is upon completion of the project. |
| 15.2 | The amount to be withheld for failing to produce "as built" drawings and/or operating and maintenance manuals by the date required is one hundred percent (100%) of the final billing. |

Section VI. Specifications

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PROJECT HIGHLIGHTS

PH 1.0 GENERAL

The project is funded by NPC Mindanao Generation. This project aims to provide a concrete access road leading to MinGen Central Warehouse. This is also to preserve and to improve the assets of NPC.

The Contractor shall furnish all labor, materials, equipment, tools and other incidental matters necessary to complete the works in accordance with the contracts and approved detailed engineering activities; and other existing laws, rules and regulations relative thereto.

PH 2.0 PROJECT LOCATION

The project is located at Central Warehouse MingenHQ Compound, Maria Cristina, Iligan City.

PH 3.0 SCOPE OF WORK

The works and services to be performed by the Contractor for this undertaking shall essentially consist of, but not limited to the Supply of Labor, Materials & Equipment for the Concreting of 1-Lane Access Road Inside MinGen Central Warehouse Compound, Maria Cristina, Iligan City with the following scope of works:

- A. CONSTRUCTION SAFETY & HEALTH PROGRAM
- B. CONCRETING OF 1-LANE ACCESS ROAD
 - I. MOBILIZATION
 - II. EARTHWORKS (SITE PREPARATION)
 - a. CLEARING AND GRUBBING
 - b. EMBANKMENT FROM BORROW
 - c. SUBGRADE PREPARATION (COMMON MATERIAL)
 - d. AGGREGATE SUBBASE COARSE (0.20M THK.)
 - III. PCC PAVEMENT (UNREINFORCED), 0.20 THK.
- C. CONSTRUCTION OF NEW GUARD POST
 - I. EARTHWORKS (SITE PREPARATION)
 - a. EXCAVATION
 - b. GRAVEL BED
 - II. STRUCTURAL CONCRETE WORKS
 - III. WALLING AND CEILING WORKS
 - IV. ROOFING AND STEEL WORKS
 - V. ELECTRICAL WORKS
 - VI. PAINTING WORKS (WALLING & GUARDRAILS)
- D. INSTALLATION CYCLONE WIRE
 - I. STEEL WORKS
 - II. DEMOBILIZATION

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PH 4.0 CONTRACT PERIOD

The contractor shall complete the works as specified in Clause 3 within **Forty (40) calendar days**. The total contract duration is inclusive of six (6) unworkable days considered unfavorable for the execution of work at site. The contract period shall be reckoned from the date of contract effective as specified in the Notice to Proceed.

PH 5.0 CONTRACTOR'S CLASSIFICATION

The Contractor must have a valid Philippine Contractors Accreditation Board (PCAB) license of at least **Category C or D – General Engineering** with inter-agency registration of at least **Small B – Road, Highways, Pavement**.

The Contractor must have undertaken similar contracts that involves construction/rehabilitation/expansion of commercial, industrial or office building provided that the contract cost shall be at least equivalent to 50% of ABC.

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TECHNICAL SPECIFICATIONS**TS-1.0 General Construction Facilities****Scope**

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

Moving-in

The Contractor shall bring to the site all his necessary construction equipment and plant and install all stationary construction equipment and plant at location and in the manner approved by NPC. The Contractor 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 NPC.

Contractor's Camp Facilities

The Contractor shall construct and maintain the service roads, and related work that may be necessary, to the various work area, and other areas such as access to the camps, stores, plants, disposal areas and other facilities related to the work.

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

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

Water Supply

The Contractor 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 NPC.

Sewerage Disposal and Sanitation

The Contractor shall, at his own expense, be responsible for the installation, operation and maintenance of an 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 Contractor 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 NPC.



Fire Protection

The Contractor shall observe all necessary precautions against fire shall provide and maintain at his own expense, portable firefighting 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 Contractor's operation, the Contractor 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 Contractor shall indemnify NPC against all liabilities, claims, damages and/or lawsuits arising thereto.

Construction Power

The Contractor 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 contractor elect to utilise 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.

Camp Security

The Contractor 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 Contractor from full responsibility for the maintenance of peace and order and protection of life and property in all areas where he operates.

Construction Material Storage

The Contractor is required to put up cement warehouse (s) with capacities sufficient to store 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.

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 Contractor, including its water supply systems, electric distribution system, quarters, warehouses, shops, dining halls, commissaries, temporary shed and other facilities therein shall be removed by the Contractor. The site shall be cleared and cleaned as directed by NPC.

Measurement and Payment

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

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TS-2.0 CARE OF WATER DURING CONSTRUCTION**Scope**

In accordance with the specifications contained in this section or otherwise directed, the Contractor 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.

Drainage and Dewatering

The Contractor shall be responsible for dewatering foundations areas so that work can be carried out on a suitably dry condition. The Contractor 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 Contractor shall remove all pumping equipment and shall remove, fill or plug all temporary drainage structures as directed, all at his expense.

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 of temporary drainage structures, pumping systems and other dewatering devices necessary to keep construction operations free from water, shall be included in the various pay items in the Bill of Quantities for structures where such care of water is required.

TS-3.0 CONSTRUCTION SAFETY AND HEALTH PROGRAM**Scope**

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

General Conditions

The Contractor 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 Construction Safety 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);

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SECTION VI- SPECIFICATIONS

- Stockpile (and cover if possible) or haul to the designated and/or pre developed dump sites that shall be provided with suitable drainage-equipped with sediments traps, stripped top soil, 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 off, through DENR-accredited transporter/treater, hazardous waste i.e. used oils, paints, thinner and etc.
- d. Limit construction activities that generate excessive, grading and excavation during dry weather.
 - e. As far as practicable, undertake site stripping, grading and excavation 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 vegetable cover especially cutting of existing trees; and to re-vegetate disturbed areas.
 - h. Spray water, whenever and wherever necessary, to minimize dust generation.
 - i. Provide PPE's and other safety provisions required by DOLE, for its project/site works.

Measurement and Payment

Work prescribed herein shall not be measured and paid separately; same shall be deemed to be included in pay items for other items for work.

TS-4.0 SITE DEVELOPMENT AND EXCAVATION WORKS**General**

The work to be executed under this section shall include the furnishing of all labor, tools and other facilities necessary for the satisfactory performance of all work necessary to complete the works specified in this specifications.

This item shall include necessary diverting of live streams, bailing, pumping, draining, sheeting, bracing, and the necessary construction of cribs and cofferdams, and furnishing the materials therefore, and the subsequent removal of cribs and cofferdams and the placing of all necessary backfill.

It shall also include the furnishing and placing of approved foundation fill material to replace unsuitable material encountered below the foundation elevation of structures.

The contractor shall rest stake out batter accurately established the elevation shown on the plan before any excavation is done. The basic batter board and reference mark shall be erected to such places where they will not disturb during excavation and construction of all wall foundation.

Construction Requirements

The Contractor shall notify the Engineer sufficiently in advance of the beginning of any excavation so that cross-sectional elevations and measurements may be taken on the undisturbed ground. The natural ground adjacent to the structure not be disturbed without permission of the Engineer.

Trenches or foundation pits for structures or structure footings shall be excavated to the lines and grades or elevations shown on the Plans or as staked by the Engineer. They shall be of sufficient size to permit the placing of structures or structure footings of the full width and

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SECTION VI- SPECIFICATIONS

length shown. The elevations of the bottoms of footings, as shown on the Plans, shall be considered as approximate only and the Engineer may order, in writing, such changes in dimensions or elevations of footings as may be deemed necessary, to secure a satisfactory foundation.

Boulders, logs, and other objectionable materials encountered in excavation shall be removed.

After each excavation is completed, the Contractor shall notify the Engineer to that effect and no footing, bedding material or pipe culvert shall be placed until the Engineer has approved the depth of excavation and the character of the foundation materials.

After rock or other hard foundation materials shall be cleaned all loose materials, and cut to a firm surface, either level, stepped, or serrated as directed by the Engineer. All seams or crevices shall be removed.

When the footing is to rest on material other than rock, excavation to final grade shall not be made until just before the footing is to be placed. When the foundation material is soft or mucky or otherwise unsuitable, as determined by the Engineer, the Contractor shall remove the unsuitable material and backfill with approved granular material. This foundation fill shall be placed and compacted in 150 mm (6 inches) layers up to the foundation elevation.

Utilization of Excavated Materials

All excavated materials, so far as suitable, shall be utilized as backfill or embankment. The surplus materials shall be disposed off in such manner as not to obstruct the stream or otherwise impair the efficiency or appearance of the structure. No excavated materials shall be deposited at any time so as to endanger the partly finished structure.

Measurement and Payment

Measurement and payment shall be made at the contract unit price or lot price as specified in the Bid Price Schedule. Payment shall include all cost in furnishing labor, materials, tool equipment and other incidentals necessary for the satisfactory completion of the project.

TS. 5-0 CLEARING AND GRUBBING**Description**

This item shall consist of clearing, grubbing, removing and disposing all vegetation and debris as designated in the Contract, except those objects that are designated to remain in place or are to be removed in consonance with other provisions of this Specification. The work shall also include the preservation from injury or defacement of all objects designated to remain.

Construction Requirements**General**

The Engineer will establish the limits of work and designate all trees, shrubs, plants and other things to remain. The Contractor shall preserve all objects designated to remain. Paint required for cut or scarred surface of trees or shrubs selected for retention shall be an approved asphaltum base paint prepared especially for tree surgery.

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Clearing shall extend one (1) meter beyond the toe of the fill slopes or beyond rounding of cut slopes as the case maybe for the entire length of the project unless otherwise shown on the plans or as directed by the Engineer and provided it is within the right of way limits of the project, with the exception of trees under the jurisdiction of the Forest Management Bureau (FMB).

Clearing and Grubbing

All surface objects and all trees, stumps, roots and other protruding obstructions, not designated to remain, shall be cleared and/or grubbed, including mowing as required, except as provided below:

(1) Removal of undisturbed stumps and roots and nonperishable solid objects with a minimum depth of one (1) meter below subgrade or slope of embankment will not be required.

(2) In areas outside of the grading limits of cut and embankment areas, stumps and nonperishable solid objects shall be cut off not more than 150 mm (6 inches) above the ground line or low water level.

(3) In areas to be rounded at the top of cut slopes, stumps shall be cut off flush with or below the surface of the final slope line.

(4) Grubbing of pits, channel changes and ditches will be required only to the depth necessitated by the proposed excavation within such areas.

(5) In areas covered by cogon/talahib, wild grass and other vegetations, top soil shall be cut to a maximum depth of 150 mm below the original ground surface or as designated by the Engineer, and disposed outside the clearing and grubbing limits as indicated in the typical roadway section.

Except in areas to be excavated, stump holes and other holes from which obstructions are removed shall be backfilled with suitable material and compacted to the required density.

If perishable material is burned, it shall be burned under the constant care of component watchmen at such times and in such a manner that the surrounding vegetation, other adjacent property, or anything designated to remain on the right of way will not be jeopardized. If permitted, burning shall be done in accordance with applicable laws, ordinances, and regulation.

The Contractor shall use high intensity burning procedures, (i.e., incinerators, high stacking or pit and ditch burning with forced air supplements) that produce intense burning with little or no visible smoke emission during the burning process. At the conclusion of each burning session, the fire shall be completely extinguished so that no smoldering debris remains.

In the event that the Contractor is directed by the Engineer not to start burning operations or to suspend such operations because of hazardous weather conditions, material to be burned which interferes with subsequent construction operations shall be moved by the Contractor to temporary locations clear of construction operations and later, if directed by the Engineer, shall be placed on a designated spot and burned.

Materials and debris which cannot be burned and perishable materials may be disposed off by methods and at locations approved by the Engineer, on or off the project. If disposal is by burying, the debris shall be placed in layers with the material so disturbed to avoid nesting. Each layer shall be covered or mixed with earth material by the land-fill method to fill all voids. The top layer of material buried shall be covered with at least 300 mm (12 inches) of earth or other

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approved material and shall be graded, shaped and compacted to present a pleasing appearance. If the disposal location is off the project, the Contractor shall make all necessary arrangements with property owners in writing for obtaining suitable disposal locations which are outside the limits of view from the project. The cost involved shall be included in the unit bid price. A copy of such agreement shall be furnished to the Engineer. The disposal areas shall be seeded, fertilized and mulched at the Contractor's expense.

Woody material may be disposed off by chipping. The wood chips may be used for mulch, slope erosion control or may be uniformly spread over selected areas as directed by the Engineer. Wood chips used as mulch for slope erosion control shall have a maximum thickness of 12 mm (1/2 inch) and faces not exceeding 3900 mm² (6 square inches) on any individual surface area. Wood chips not designated for use under other sections shall be spread over the designated areas in layers not to exceed 75 mm (3 inches) loose thickness. Diseased trees shall be buried or disposed off as directed by the Engineer.

All merchantable timber in the clearing area which has not been removed from the right of way prior to the beginning of construction, shall become the property of the Contractor, unless otherwise provided.

Low hanging branches and unsound or unsightly branches on trees or shrubs designated to remain shall be trimmed as directed. Branches of trees extending over the roadbed shall be trimmed to give a clear height of 6 m (20 feet) above the roadbed surface. All trimming shall be done by skilled workmen and in accordance with good tree surgery practices.

Timber cut inside the area staked for clearing shall be felled within the area to be cleared.

Individual Removal of Trees or Stumps

Individual trees or stumps designated by the Engineer for removal and located in areas other than those established for clearing and grubbing and roadside cleanup shall be removed and disposed off as specified under Subsection Clearing and Grubbing except trees removed shall be cut as nearly flush with the ground as practicable without removing stumps.

Method of Measurement

Measurement will be by one or more of the following alternate methods:

1. Area Basis. The work to be paid for shall be the number of hectares and fractions thereof acceptably cleared and grubbed within the limits indicated on the Plans or as may be adjusted in field staking by the Engineer. Areas not within the clearing and grubbing limits shown on the Plans or not staked for clearing and grubbing will not be measured for payment.

2. Lump-Sum Basis. When the Bill of Quantities contains a Clearing and Grubbing lump-sum item, no measurement of area will be made for such item.

3. Individual Unit Basis (Selective Clearing). The diameter of trees will be measured at a height of 1.4 m (54 inches) above the ground. Trees less than 150 mm (6 inches) in diameter will not be measured for payment. When Bill of Quantities indicates measurement of trees by individual unit basis, the units will be designated and measured in accordance with the following schedule of sizes:

| Diameter at height of 1.4 m | Pay Item Designation |
|-----------------------------|----------------------|
| Over 150 mm to 900 mm | Small |
| Over 900 mm | Large |

Basis of Payment

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The accepted quantities, measured as prescribed in Section 100.3, shall be paid for at the Contract unit price for each of the Pay Items listed below that is included in the Bill of Quantities, which price and payment shall be full compensation for furnishing all labor, equipment, tools and incidentals necessary to complete the work prescribed in this Item.

Payment will be made under:

| Description | Unit of Measurement |
|------------------------------------|---------------------|
| Clearing and Grubbing | Hectare |
| Clearing and Grubbing | Lump Sum |
| Individual Removal of Trees, Small | Each |
| Individual removal of Trees, Large | Each |

TS. 6.0 EMBANKMENT FROM BORROW

Description

This Item shall consist of the construction of embankment in accordance with this Specification and in conformity with the lines, grades and dimensions shown on the Plans or established by the Engineer.

Material Requirements

Embankments shall be constructed of suitable materials, in consonance with the following definitions:

1. Suitable Material – Material which is acceptable in accordance with the Contract and which can be compacted in the manner specified in this Item. It can be common material or rock. Selected Borrow, for topping – soil of such gradation that all particles will pass a sieve with 75 mm (3 inches) square openings and not more than 15 mass percent will pass the 0.075 mm (No. 200) sieve, as determined by AASHTO T 11. The material shall have a plasticity index of not more than 6 as determined by ASSHTO T 90 and a liquid limit of not more than 30 as determined by AASHTO T 89.

2. Unsuitable Material – Material other than suitable materials such as:

(a) Materials containing detrimental quantities of organic materials, such as grass, roots and sewerage.

(b) Organic soils such as peat and muck.

(c) Soils with liquid limit exceeding 80 and/or plasticity index exceeding 55.

(d) Soils with a natural water content exceeding 100%.

(e) Soils with very low natural density, 800 kg/m³ or lower.

(f) Soils that cannot be properly compacted as determined by the Engineer.

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Construction Requirements

General

Prior to construction of embankment, all necessary clearing and grubbing in that area shall have been performed in conformity with Item Clearing and Grubbing.

Embankment construction shall consist of constructing roadway embankments, including preparation of the areas upon which they are to be placed; the construction of dikes within or adjacent to the roadway; the placing and compacting of approved material within roadway areas where unsuitable material has been removed; and the placing and compacting of embankment material in holes, pits, and other depressions within the roadway area.

Embankments and backfills shall contain no muck, peat, sod, roots or other deleterious matter. Rocks, broken concrete or other solid, bulky materials shall not be placed in embankment areas where piling is to be placed or driven.

Where shown on the Plans or directed by the Engineer, the surface of the existing ground shall be compacted to a depth of 150 mm (6 inches) and to the specified requirements of this Item.

Where provided on the Plans and Bill of Quantities the top portions of the roadbed in both cuts and embankments, as indicated, shall consist of selected borrow for topping from excavations.

Methods of Construction

Where there is evidence of discrepancies on the actual elevations and that shown on the Plans, a preconstruction survey referred to the datum plane used in the approved Plan shall be undertaken by the Contractor under the control of the Engineer to serve as basis for the computation of the actual volume of the embankment materials.

When embankment is to be placed and compacted on hillsides, or when new embankment is to be compacted against existing embankments, or when embankment is built one-half width at a time, the existing slopes that are steeper than 3:1 when measured at right angles to the roadway shall be continuously benched over those areas as the work is brought up in layers. Benching will be subject to the Engineer's approval and shall be of sufficient width to permit operation of placement and compaction equipment. Each horizontal cut shall begin at the intersection of the original ground and the vertical sides of the previous cuts. Material thus excavated shall be placed and compacted along with the embankment material in accordance with the procedure described in this Section.

Unless shown otherwise on the Plans or special Provisions, where an embankment of less than 1.2 m (4 feet) below subgrade is to be made, all sod and vegetable matter shall be removed from the surface upon which the embankment is to be placed, and the cleared surfaced shall be completely broken up by plowing, scarifying, or steeping to a minimum depth of 150 mm except as provided in Subsection Conservation of Topsoil. This area shall then be compacted as provided in Subsection Compaction. Sod not required to be removed shall be thoroughly disc harrowed or scarified before construction of embankment. Wherever a compacted road surface containing granular materials lies within 900 mm (36 inches) of the subgrade, such old road

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surface shall be scarified to a depth of at least 150 mm (6 inches) whenever directed by the Engineer. This scarified materials shall then be compacted as provided in Subsection Compaction.

When shoulder excavation is specified, the roadway shoulders shall be excavated to the depth and width shown on the Plans. The shoulder material shall be removed without disturbing the adjacent existing base course material, and all excess excavated materials shall be disposed off as provided in Subsection Utilization of Excavated Materials. If necessary, the areas shall be compacted before being backfilled.

Roadway embankment of earth material shall be placed in horizontal layers not exceeding 200 mm (8 inches), loose measurement, and shall be compacted as specified before the next layer is placed. However, thicker layer maybe placed if vibratory roller with high compactive effort is used provided that density requirement is attained and as approved by the Engineer. Trial section to this effect must be conducted and approved by the Engineer. Effective spreading equipment shall be used on each lift to obtain uniform thickness as determined in the trial section prior to compaction. As the compaction of each layer progresses, continuous leveling and manipulating will be required to assure uniform density. Water shall be added or removed, if necessary, in order to obtain the required density. Removal of water shall be accomplished through aeration by plowing, blading, discing, or other methods satisfactory to the Engineer.

Where embankment is to be constructed across low swampy ground that will not support the mass of trucks or other hauling equipment, the lower part of the fill may be constructed by dumping successive loads in a uniformly distributed layer of a thickness not greater than necessary to support the hauling equipment while placing subsequent layers.

When excavated material contains more than 25 mass percent of rock larger than 150 mm in greatest diameter and cannot be placed in layers of the thickness prescribed without crushing, pulverizing or further breaking down the pieces resulting from excavation methods, such materials may be placed on the embankment in layers not exceeding in thickness the approximate average size of the larger rocks, but not greater than 600 mm (24 inches).

Even though the thickness of layers is limited as provided above, the placing of individual rocks and boulders greater than 600 mm in diameter will be permitted provided that when placed, they do not exceed 1200 mm (48 inches) in height and provided they are carefully distributed, with the interstices filled with finer material to form a dense and compact mass.

Each layer shall be leveled and smoothed with suitable leveling equipment and by distribution of spalls and finer fragments of earth. Lifts of material containing more than 25 mass percent of rock larger than 150 mm in greatest dimensions shall not be constructed above an elevation 300 mm (12 inches) below the finished subgrade. The balance of the embankment shall be composed of suitable material smoothed and placed in layers not exceeding 200 mm (8 inches) in loose thickness and compacted as specified for embankments.

Dumping and rolling areas shall be kept separate, and no lift shall be covered by another until compaction complies with the requirements of Subsection Compaction.

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Hauling and leveling equipment shall be so routed and distributed over each layer of the fill in such a manner as to make use of compaction effort afforded thereby and to minimize rutting and uneven compaction.

Compaction

Compaction Trials

Before commencing the formation of embankments, the Contractor shall submit in writing to the Engineer for approval his proposals for the compaction of each type of fill material to be used in the works. The proposals shall include the relationship between the types of compaction equipment, and the number of passes required and the method of adjusting moisture content. The Contractor shall carry out full scale compaction trials on areas not less than 10 m wide and 50 m long as required by the Engineer and using his proposed procedures or such amendments thereto as may be found necessary to satisfy the Engineer that all the specified requirements regarding compaction can be consistently achieved. Compaction trials with the main types of fill material to be used in the works shall be completed before work with the corresponding materials will be allowed to commence.

Throughout the periods when compaction of earthwork is in progress, the Contractor shall adhere to the compaction procedures found from compaction trials for each type of material being compacted, each type of compaction equipment employed and each degree of compaction specified.

Earth

The Contractor shall compact the material placed in all embankment layers and the material scarified to the designated depth below subgrade in cut sections, until a uniform density of not less than 95 mass percent of the maximum dry density determined by AASHTO T 99 Method C, is attained, at a moisture content determined by Engineer to be suitable for such density. Acceptance of compaction may be based on adherence to an approved roller pattern developed as set forth in Item Compaction Equipment and Density Control Strips.

The Engineer shall during progress of the Work, make density tests of compacted material in accordance with AASHTO T 191, T 205, or other approved field density tests, including the use of properly calibrated nuclear testing devices. A correction for coarse particles may be made in accordance with AASHTO T 224. If, by such tests, the Engineer determines that the specified density and moisture conditions have not been attained, the Contractor shall perform additional work as may be necessary to attain the specified conditions.

At least one group of three in-situ density tests shall be carried out for each 500 m of each layer of compacted fill.

Protection of Roadbed During Construction

During the construction of the roadway, the roadbed shall be maintained in such condition that it will be well drained at all times. Side ditches or gutters emptying from cuts to embankments or otherwise shall be so constructed as to avoid damage to embankments by erosion.

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Protection of Structure

If embankment can be deposited on one side only of abutments, wing walls, piers or culvert headwalls, care shall be taken that the area immediately adjacent to the structure is not compacted to the extent that it will cause overturning of, or excessive pressure against the structure. When noted on the Plans, the fill adjacent to the end bent of a bridge shall not be placed higher than the bottom of the backfill of the bent until the superstructure is in place. When embankment is to be placed on both sides of a concrete wall or box type structure, operations shall be so conducted that the embankment is always at approximately the same elevation on both sides of the structure.

Finishing Roadbed and Slopes

After the roadbed has been substantially completed, the full width shall be conditioned by removing any soft or other unstable material that will not compact properly or serve the intended purpose. The resulting areas and all other low sections, holes or depressions shall be brought to grade with suitable selected material. Scarifying, blading, dragging, rolling, or other methods of work shall be performed or used as necessary to provide a thoroughly compacted road bed shaped to the grades and cross-sections shown on the Plans or as staked by the Engineer.

All earth slopes shall be left with roughened surfaces but shall be reasonably uniform, without any noticeable break, and in reasonably close conformity with the Plans or other surfaces indicated on the Plans or as staked by the Engineer, with no variations there from readily discernible as viewed from the road.

The quantity of embankment to be paid for shall be the volume of material compacted in place, accepted by the Engineer and formed with material obtained from any source.

Material from excavation which is used in embankment and accepted by the Engineer will be paid under Embankment and such payment will be deemed to include the cost of excavating, hauling, stockpiling and all other costs incidental to the work.

Material for Selected Borrow topping will be measured and paid for under the same conditions specified in the preceding paragraph.

Basis of Payment

The accepted quantities, shall be paid for at the Contract unit price for each of the Pay Items listed below that is included in the Bill of Quantities. The payment shall continue full compensation for placing and compacting all materials including all labor, equipment, tools and incidentals necessary to complete the work prescribed in this Item.

Payment will be made under:

| Description | Unit of Measurement |
|--------------------------------------|---------------------|
| Embankment | Cubic Meter |
| Selected, Borrow for topping, Case 1 | Cubic Meter |
| Selected Borrow for topping, Case 2 | Cubic Meter |
| Earth Berm | Meter |

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TS.-7.0 SUBGRADE PREPARATION

Description

This Item shall consist of the preparation of the subgrade for the support of overlying structural layers. It shall extend to full width of the roadway. Unless authorized by the Engineer, subgrade preparation shall not be done unless the Contractor is able to start immediately the construction of the pavement structure.

Material Requirements

Unless otherwise stated in the Contract and except when the subgrade is in rock cut, all materials below subgrade level to a depth 150 mm or to such greater depth as may be specified shall meet the requirements of Selected Borrow for Topping.

Construction Requirements

Prior Works

Prior to commencing preparation of the subgrade, all culverts, cross drains, ducts and the like (including their fully compacted backfill), ditches, drains and drainage outlets shall be completed. Any work on the preparation of the subgrade shall not be started unless prior work herein described shall have been approved by the Engineer.

Subgrade Level Tolerances

The finished compacted surface of the subgrade shall conform to the allowable tolerances as specified hereunder:

| | |
|---|---------|
| Permitted variation from design LEVEL OF SURFACE | + 20 mm |
| | - 30 mm |
| Permitted SURFACE IRREGULARITY MEASURED BY 3-m STRAIGHT EDGE | 30 mm |
| Permitted variation from design CROSSFALL OR CAMBER | ± 0.5 % |
| Permitted variation from design LONGITUDINAL GRADE over 25 m length | ± 0.1 % |

Subgrade in Common Excavation

Unless otherwise specified, all materials below subgrade level in earth cuts to a depth 150 mm or other depth shown on the Plans or as directed by the Engineer shall be excavated. The material, if suitable, shall be set aside for future use or, if unsuitable, shall be disposed off in accordance with the requirements of Subsection Removal of Unsuitable Material.

Where material has been removed from below subgrade level, the resulting surface shall be compacted to a depth of 150 mm and in accordance with other requirements of Subsection Compaction.

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All materials immediately below subgrade level in earth cuts to a depth of 150 mm, or to such greater depth as may be specified, shall be compacted in accordance with the requirements of Subsection Compaction.

Subgrade on Embankment

After the embankment has been completed, the full width shall be conditioned by removing any soft or other unstable material that will not compacted properly. The resulting areas and all other low sections, holes, or depressions shall be brought to grade with suitable material. The entire roadbed shall be shaped and compacted to the requirements of Subsection Compaction. Scarifying, blading, dragging, rolling, or other methods of work shall be performed or used as necessary to provide a thoroughly compacted roadbed shaped to the cross-sections shown on the Plans.

Protection of Completed Work

The Contractor shall be required to protect and maintain at his own expense the entire work within the limits of his Contract in good condition satisfactory to the Engineer from the time he first started work until all work shall have been completed. Maintenance shall include repairing and recompacting ruts, ridges, soft spots and deteriorated sections of the subgrade caused by the traffic of the Contractor's vehicle/equipment or that of the public.

Templates and Straight-edges

The Contractor shall provide for use of the Engineer, approved templates and straightedges in sufficient number to check the accuracy of the work, as provided in this Specification.

Method of Measurement**Measurement of Items for payment shall be provided only for:**

1. The compaction of existing ground below subgrade level in cuts of common material as specified in Subsection Subgrade in Common Excavation.

Payment for all work for the preparation of the subgrade, including shaping to the required levels and tolerances, other than as specified above shall be deemed to be included in the Pay Item for Embankment.

Basis of Payment

The accepted quantities, measured as prescribed in Section Method of Measurement, shall be paid for at the appropriate contract unit price for Pay Item listed below that is included in the Bill of Quantities which price and payment shall be full compensation for the placing or removal and disposal of all materials including all labor, equipment, tools and incidentals necessary to complete the work prescribed in this Item.

Payment will be made under:

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| Description | Unit of Measurement |
|---|---------------------|
| Subgrade Preparation (Common Material) | Square Meter |
| Subgrade Preparation (Existing Pavement) | Square Meter |
| Subgrade Preparation (Unsuitable Material) | Square Meter |

TS. -8.0 AGGREGATE SUBBASE COARSE (0.2 M THK.)

AGGREGATE SUBBASE COURSE

Description

This item shall consist of furnishing, placing and compacting an aggregate sub base course on a prepared subgrade in accordance with this Specification and the lines, grades and cross-sections shown on the Plans, or as directed by the Engineer.

Material Requirements

Aggregate for sub base shall consist of hard, durable particles or fragments of crushed stone, crushed slag, or crushed or natural gravel and filler of natural or crushed sand or other finely divided mineral matter. The composite material shall be free from vegetable matter and lumps or balls of clay, and shall be of such nature that it can be compacted readily to form a firm, stable sub base.

The sub base material shall conform to Table 8.1, Grading Requirements

Table 8.1 – Grading Requirements

| Sieve Designation | | Mass Percent Passing |
|-------------------|-----------------------|----------------------|
| Standard, mm | Alternate US Standard | |
| 50 | 2" | 100 |
| 25 | 1" | 55 – 85 |
| 9.5 | 3/8" | 40 – 75 |
| 0.075 | No. 200 | 0 - 12 |

The fraction passing the 0.075 mm (No. 200) sieve shall not be greater than 0.66 (two thirds) of the fraction passing the 0.425 mm (No. 40) sieve.

The fraction passing the 0.425 mm (No. 40) sieve shall have a liquid limit not greater than 35 and plasticity index not greater than 12 as determined by AASHTO T 89 and T 90, respectively.

The coarse portion, retained on a 2.00 mm (No. 10) sieve, shall have a mass percent of wear not exceeding 50 by the Los Angeles Abrasion Tests as determined by AASHTO T 96.

The material shall have a soaked CBR value of not less than 25% as determined by AASHTO T 193. The CBR value shall be obtained at the maximum dry density and determined by AASHTO T 180, Method D.

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Construction Requirements

Preparation of Existing Surface

The existing surface shall be graded and finished as provided under Item SUBGRADE PREPARATION, Subgrade Preparation, before placing the subbase material.

Placing

The aggregate subbase material shall be placed at a uniform mixture on a prepared subgrade in a quantity which will provide the required compacted thickness. When more than one layer is required, each layer shall be shaped and compacted before the succeeding layer is placed.

The placing of material shall begin at the point designated by the Engineer. Placing shall be from vehicles especially equipped to distribute the material in a continuous uniform layer or windrow. The layer or windrow shall be of such size that when spread and compacted the finished layer be in reasonably close conformity to the nominal thickness shown on the Plans.

When hauling is done over previously placed material, hauling equipment shall be dispersed uniformly over the entire surface of the previously constructed layer, to minimize rutting or uneven compaction.

Spreading and Compacting

When uniformly mixed, the mixture shall be spread to the plan thickness, for compaction.

Where the required thickness is 150 mm or less, the material may be spread and compacted in one layer. Where the required thickness is more than 150 mm, the aggregate subbase shall be spread and compacted in two or more layers of approximately equal thickness, and the maximum compacted thickness of any layer shall not exceed 150 mm. All subsequent layers shall be spread and compacted in a similar manner.

The moisture content of subbase material shall, if necessary, be adjusted prior to compaction by watering with approved sprinklers mounted on trucks or by drying out, as required in order to obtain the required compaction.

Immediately following final spreading and smoothing, each layer shall be compacted to the full width by means of approved compaction equipment. Rolling shall progress gradually from the sides to the center, parallel to the centerline of the road and shall continue until the whole surface has been rolled. Any irregularities or depressions that develop shall be corrected by loosening the material at these places and adding or removing material until surface is smooth and uniform. Along curbs, headers, and walls, and at all places not accessible to the roller, the subbase material shall be compacted thoroughly with approved tampers or compactors.

If the layer of subbase material, or part thereof, does not conform to the required finish, the Contractor shall, at his own expense, make the necessary corrections. Compaction of each layer shall continue until a field density of at least 100 percent of the maximum dry density determined in accordance with AASHTO T 180, Method D has been achieved. In-place density determination shall be made in accordance with AASHTO T 191.

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Trial Sections

Before subbase construction is started, the Contractor shall spread and compact trial sections as directed by the Engineer. The purpose of the trial sections is to check the suitability of the materials and the efficiency of the equipment and construction method which is proposed to be used by the Contractor. Therefore, the Contractor must use the same material, equipment and procedures that he proposes to use for the main work. One trial section of about 500 m² shall be made for every type of material and/or construction equipment/procedure proposed for use.

After final compaction of each trial section, the Contractor shall carry out such field density tests and other tests required as directed by the Engineer.

If a trial section shows that the proposed materials, equipment or procedures in the Engineer's opinion are not suitable for subbase, the material shall be removed at the Contractor's expense, and a new trial section shall be constructed.

If the basic conditions regarding the type of material or procedure change during the execution of the work, new trial sections shall be constructed.

Tolerances

Aggregate subbase shall be spread with equipment that will provide a uniform layer which when compacted will conform to the designed level and transverse slopes as shown on the Plans. The allowable tolerances shall be as specified hereunder:

| | |
|--|------------------|
| Permitted variation from design THICKNESS OF LAYER | ± 20 mm |
| Permitted variation from design LEVEL OF SURFACE | +10 mm -20 mm |
| Permitted SURFACE IRREGULARITY Measured by 3-m straight-edge | 20 mm |
| Permitted variation from design CROSSFALL OR CAMBER | ±0.3% |
| Permitted variation from design LONGITUDINAL GRADE over 25 m in length | ±0.1% |

Method of Measurement

Aggregate Subbase Course will be measured by the cubic meter (m³).

The quantity to be paid for shall be the design volume compacted in-place as shown on the Plans, and accepted in the completed course. No allowance will be given for materials placed outside the design limits shown on the crosssections. Trial sections shall not be measured separately but shall be included in the quantity of subbase herein measured.

Basis of Payment

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The accepted quantities, measured as prescribed in Section Method of Measurement, shall be paid for at the contract unit price for Aggregate Subbase Course which price and payment shall be full compensation for furnishings and placing all materials, including all labor, equipment, tools and incidentals necessary to complete the work prescribed in this Item.

Payment will be made under:

| Description | Unit of Measurement |
|--------------------------|---------------------|
| Aggregate Subbase Course | Cubic Meter |

TS. -9.0 PCC PAVEMENT (UNREINFORCED), 0.2 THK.

Description

This Item shall consist of pavement of Portland Cement Concrete, with or without reinforcement, constructed on the prepared base in accordance with this Specification and in conformity with lines, grades, thickness and typical crosssection shown on the Plans.

Material Requirements

Portland Cement

It shall conform to the applicable requirements of Item 700, Hydraulic Cement. Only Type I Portland Cement shall be used unless otherwise provided for in the Special Provisions. Different brands or the same brands from different mills shall not be mixed nor shall they be used alternately unless the mix is approved by the Engineer. However, the use of Portland Pozzolan Cement Type IP meeting the requirements of AASHTO M 240/ASTM C 695, Specifications for Blended Hydraulic Cement shall be allowed, provided that trial mixes shall be done and that the mixes meet the concrete strength requirements, the AASHTO/ASTM provisions pertinent to the use of Portland Pozzolan Type IP shall be adopted.

Cement which for any reason, has become partially set or which contains lumps of caked cement will be rejected. Cement salvaged from discarded or used bags shall not be used. Samples of Cement shall be obtained in accordance with AASHTO T 127. 311.2.2 Fine Aggregate It shall consist of natural sand, stone screenings or other inert materials with similar characteristics, or combinations thereof, having hard, strong and durable particles. Fine aggregate from different sources of supply shall not be mixed or stored in the same pile nor used alternately in the same class of concrete without the approval of the Engineer. It shall not contain more than three (3) mass percent of material passing the 0.075 mm (No. 200 sieve) by washing nor more than one (1) mass percent each of clay lumps or shale. The use of beach sand will not be allowed without the approval of the Engineer. If the fine aggregate is subjected to five (5) cycles of the sodium sulfate soundness test, the weighted loss shall not exceed 10 mass percent. The fine aggregate shall be free from injurious amounts of organic impurities. If subjected to the colorimatic test for organic impurities and a color darker than the standard is produced, it shall be rejected. However, when tested for the effect of organic impurities of strength of mortar by AASHTO T 71, the fine aggregate may be used if the relative strength at 7 and 28 days is not

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less than 95 mass percent. The fine aggregate shall be well-graded from coarse to fine and shall conform to

Table 9.1 – Grading Requirements for Fine Aggregate

| Sieve Designation | Mass Percent Passing |
|--------------------|----------------------|
| 9.5 mm (3/8 in) | 100 |
| 4.75 mm (No. 4) | 95 – 100 |
| 2.36 mm (No. 8) | - |
| 1.18 mm (No. 16) | 45 – 80 |
| 0.600 mm (No. 30) | - |
| 0.300 mm (No. 50) | 5 – 30 |
| 0.150 mm (No. 100) | 0 – 10 |

Coarse Aggregate

It shall consist of crushed stone, gravel, blast furnace slag, or other approved inert materials of similar characteristics, or combinations thereof, having hard, strong, durable pieces and free from any adherent coatings.

It shall contain not more than one (1) mass percent of material passing the 0.075 mm (No. 200) sieve, not more than 0.25 mass percent of clay lumps, nor more than 3.5 mass percent of soft fragments. If the coarse aggregate is subjected to five (5) cycles of the sodium sulfate soundness test, the weighted loss shall not exceed 12 mass percent. It shall have a mass percent of wear not exceeding 40 when tested by AASHTO T 96. If the slag is used, its density shall not be less than 1120 kg/m³ (70 lb./cu. ft.). The gradation of the coarse aggregate shall conform to Table 9.2. Only one grading specification shall be used from any one source.

Table 9.2 – Grading Requirement for Coarse Aggregate

| Sieve Designation | | Mass Percent Passing | | |
|-------------------|--------------------------|----------------------|-----------|-----------|
| Standard Mm | Alternate U. S. Standard | Grading A | Grading B | Grading C |
| 75.00 | 3 in. | 100 | - | - |
| 63.00 | 2-1/2 in. | 90-100 | 100 | 100 |
| 50.00 | 2 in. | - | 90-100 | 95-100 |
| 37.5 | 1-1/2 in. | 25-60 | 35-70 | - |
| 25.0 | 1 in. | - | 0-15 | 35-70 |
| 19.0 | ¾ in. | 0-10 | - | - |
| 12.5 | ½ in. | 0-5 | 0-5 | 10-30 |
| 4.75 | No. 4 | - | - | 0-5 |

Water

Water used in mixing, curing or other designated application shall be reasonably clean and free of oil, salt, acid, alkali, grass or other substances injurious to the finished product. Water will be tested in accordance with and shall meet the requirements of Item Water. Water which is drinkable may be used without test. Where the source of water is shallow, the intake shall be so enclosed as to exclude silt, mud, grass or other foreign materials.

Reinforcing Steel

It shall conform to the requirements of Item Reinforcing Steel. Dowels and tie bars shall conform to the requirements of AASHTO M 31 or M 42, except that rail steel shall not be used for tie bars that are to be bent and restraightened during construction. Tie bars shall be deformed bars. Dowels shall be plain round bars. Before delivery to the site of work, one-half of the length of each dowel shall be painted with one coat of approved lead or tar paint.

The sleeves for dowel bars shall be metal of approved design to cover 50 mm (2 inches), plus or minus 5 mm (1/4 inch) of the dowel, with a closed end, and with a suitable stop to hold the end of the sleeve at least 25 mm (1 inch) from the end of the dowel. Sleeves shall be of such design that they do not collapse during construction.

Joint Fillers

Poured joint fillers shall be mixed asphalt and mineral or rubber filler conforming to the applicable requirements of Item Joint Materials. Preformed joint filler shall conform to the applicable requirements of Item 705 Joint Materials. It shall be punched to admit the dowels where called for in the Plans. The filler for each joint shall be furnished in a single piece for the full depth and width required for the joint.

Admixtures

Air-entraining admixture shall conform to the requirements of AASHTO M 154. Chemical admixtures, if specified or permitted, shall conform to the requirements of AASHTO M 194. Fly Ash, if specified or permitted as a mineral admixture and as 20% partial replacement of Portland Cement in concrete mix shall conform to the requirements of ASTM C 618. Admixture should be added only to the concrete mix to produce some desired modifications to the properties of concrete where necessary, but not as partial replacement of cement.

Curing Materials

Curing materials shall conform to the following requirements as specified;

- | | |
|--------------------------------------|----------------|
| a) Burlap cloth | - AASHTO M 182 |
| b) Liquid membrane forming compounds | - AASHTO M 148 |
| c) Sheeting (film) materials | - AASHTO M 171 |

Cotton mats and water-proof paper can be used.

Calcium Chloride/Calcium Nitrate

It shall conform to AASHTO M 144, if specified or permitted by the Engineer, as accelerator.

Storage of Cement and Aggregate

All cement shall be stored, immediately upon delivery at the Site, in weatherproof building which will protect the cement from dampness. The floor shall be raised from the ground. The buildings shall be placed in locations approved by the Engineer. Provisions for storage shall

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be ample, and the shipments of cement as received shall be separately stored in such a manner as to allow 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 a 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 retest is ordered by the Engineer. At the time of use, all cement shall be free-flowing and free of lumps.

The handling and storing of concrete aggregates shall be such as to prevent segregation or the inclusion of foreign materials. The Engineer may require that aggregates be stored on separate platforms at satisfactory locations. In order to secure greater uniformity of concrete mix, the Engineer may require that the coarse aggregate be separated into two or more sizes. Different sizes of aggregate shall be stored in separate bins or in separate stockpiles sufficiently removed from each other to prevent the material at the edges of the piles from becoming intermixed.

Proportioning, Consistency and Strength of Concrete

The Contractor shall prepare the design mix based on the absolute volume method as outlined in the American Concrete Institute (ACI) Standard 211.1, "Recommended Practice for Selecting Proportions for Normal and Heavyweight Concrete".

It is the intent of this Specification to require at least 364 kg of cement per cubic meter of concrete to meet the minimum strength requirements. The Engineer shall determine from laboratory tests of the materials to be used, the cement content and the proportions of aggregate and water that will produce workable concrete having a slump of between 40 and 75 mm (1-1/2 and 3 inches) if not vibrated or between 10 and 40 mm (1/2 and 1-1/2 inches) if vibrated, and a flexural strength of not less than 3.8 MPa (550 psi) when tested by the third-point method or 4.5 MPa (650 psi) when tested by the mid-point method at fourteen (14) days in accordance with AASHTO T97 and T177, respectively; or a compressive strength of 24.1 MPa (3500 psi) for cores taken at fourteen (14) days and tested in accordance with AASHTO T24.

Slump shall be determined using AASHTO T 119.

The designer shall consider the use of lean concrete (econcrete) mixtures using local materials or specifically modified conventional concrete mixes in base course and in the lower course composite, monolithic concrete pavements using a minimum of 75 mm (3 inches) of conventional concrete as the surface course.

The mix design shall be submitted to the Engineer for approval and shall be accompanied with certified test data from an approved laboratory demonstrating the adequacy of the mix design. A change in the source of materials during the progress of work may necessitate a new design mix.

Equipment

Equipment and tools necessary for handling materials and performing all parts of the work shall be approved by the Engineer as to design, capacity and mechanical condition. The

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equipment shall be at the jobsite sufficiently ahead of the start of construction operations to be examined thoroughly and approved

1. Mixers.

1.a. General. Concrete may be mixed at the Site of construction or at a central plant, or wholly or in part in truck mixers. Each mixer shall have a manufacturer's plate attached in a prominent place showing the capacity of the drum in terms of volume of mixed concrete and the speed of rotation of the mixing drum or blades.

1.b. Mixers at Site of Construction. Mixing shall be done in an approved mixer capable of combining the aggregates, cement and water into a thoroughly mixed and uniform mass within the specified mixing period and discharging and distributing the mixture without segregation on the prepared grade. The mixer shall be equipped with an approved timing device which will automatically lock the discharge lever when the drum has been charged and released it at the end of the mixing period. In case of failure of the timing device, the mixer may be used for the balance of the day while it is being repaired, provided that each batch is mixed 90 seconds. The mixer shall be equipped with a suitable nonresettable batch counter which shall correctly indicate the number of the batches mixed.

1.c. Truck Mixer and Truck Agitators. Truck mixers used for mixing and hauling concrete, and truck agitators used for hauling central-mixed concrete, shall conform to the requirements of AASHTO M 157.

1.d. Non-Agitator Truck. Bodies of non-agitating hauling equipment for concrete shall be smooth, mortar-tight metal containers and shall be capable of discharging the concrete at a satisfactory controlled rate without segregation.

3. Paving and Finishing Equipment

The concrete shall be placed with an approved paver designed to spread, consolidate, screed and float finish the freshly placed concrete in one complete pass of the machine in such a manner that a minimum of hand finishing will be necessary to provide a dense and homogeneous pavement in conformance with the Plans and Specifications.

The finishing machine shall be equipped with at least two (2) oscillating type transverse screed.

Vibrators shall operate at a frequency of 8,300 to 9,600 impulses per minute under load at a maximum spacing of 60 cm.

4. Concrete Saw

The Contractor shall provide sawing equipment in adequate number of units and power to complete the sawing with a watercooled diamond edge saw blade or an abrasive wheel to the required dimensions and at the required rate. He shall provide at least one (1) stand-by saw in good working condition and with an ample supply of saw blades.

5. Forms

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Forms shall be of steel, of an approved section, and of depth equal to the thickness of the pavement at the edge. The base of the forms shall be of sufficient width to provide necessary stability in all directions. The flange braces must extend outward on the base to not less than 2/3 the height of the form. All forms shall be rigidly supported on bed of thoroughly compacted material during the entire operation of placing and finishing the concrete. Forms shall be provided with adequate devices for secure setting so that when in place, they will withstand, without visible spring or settlement, the impact and vibration of the consolidation and finishing or paving equipment.

Preparation of Grade

After the subgrade of base has been placed and compacted to the required density, the areas which will support the paving machine and the grade on which the pavement is to be constructed shall be trimmed to the proper elevation by means of a properly designed machine extending the prepared work areas compacted at least 60 cm beyond each edge of the proposed concrete pavement. If loss of density results from the trimming operations, it shall be restored by additional compaction before concrete is placed. If any traffic is allowed to use the prepared subgrade or base, the surface shall be checked and corrected immediately ahead of the placing concrete.

The subgrade or base shall be uniformly moist when the concrete is placed.

Setting Forms

1. Base Support. The foundation under the forms shall be hard and true to grade so that the form when set will be firmly in contact for its whole length and at the specified grade. (Any roadbed, which at the form line is found below established grade, shall be filled with approved granular materials to grade in lifts of three (3) cm or less, and thoroughly rerolled or tamped.) Imperfections or variations above grade shall be corrected by tamping or by cutting as necessary.

2. Form Setting. Forms shall be set sufficiently in advance of the point where concrete is being placed. After the forms have been set to correct grade, the grade shall be thoroughly tamped, mechanically or by hand, at both the inside and outside edges of the base of the forms. The forms shall not deviate from true line by more than one (1) cm at any point.

3. Grade and Alignment. The alignment and grade elevations of the forms shall be checked and corrections made by the Contractor immediately before placing the concrete. Testing as to crown and elevation, prior to placing of concrete can be made by means of holding an approved template in a vertical position and moved backward and forward on the forms. When any form has been disturbed or any grade has become unstable, the form shall be reset and rechecked.

Conditioning of Subgrade or Base Course

When side forms have been securely set to grade, the subgrade or base course shall be brought to proper cross-section. High areas shall be trimmed to proper elevation. Low areas shall be filled and compacted to a condition similar to that of surrounding grade. The finished grade shall be maintained in a smooth and compacted condition until the pavement is placed.

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Unless waterproof subgrade or base course cover material is specified, the subgrade or base course shall be uniformly moist when the concrete is placed. If it subsequently becomes too dry, the subgrade or base course shall be sprinkled, but the method of sprinkling shall not be such as to form mud or pools of water.

Mixing Concrete

The concrete may be mixed at the site of the work in a central-mix plant, or in truck mixers. The mixer shall be of an approved type and capacity. Mixing time will be measured from the time all materials, except water, are in the drum. Ready-mixed concrete shall be mixed and delivered in accordance with requirements of AASHTO M 157, except that the minimum required revolutions at the mixing speed for transit-mixed concrete may be reduced to not less than that recommended by the mixer manufacturer. The number of revolutions When mixed at the site or in a central mixing plant, the mixing time shall not be less than fifty (50) seconds nor more than ninety (90) seconds, unless mixer performance tests prove adequate mixing of the concrete is a shorter time period.

Four (4) seconds shall be added to the specified mixing time if timing starts at the instant the skip reaches its maximum raised positions. Mixing time ends when the discharge chute opens. Transfer time in multiple drum mixers is included in mixing time. The contents of an individual mixer drum shall be removed before a succeeding batch is emptied therein.

Limitation of Mixing

No concrete shall be mixed, placed or finished when natural light is insufficient, unless an adequate and approved artificial lighting system is operated. During hot weather, the Engineer shall require that steps be taken to prevent the temperature of mixed concrete from exceeding a maximum temperature of 900F (320C) Concrete not in place within ninety (90) minutes from the time the ingredients were charged into the mixing drum or that has developed initial set shall not be used. Retempering of concrete or mortar which has partially hardened, that is remixing with or without additional cement, aggregate, or water, shall not be permitted. In order that the concrete may be properly protected against the effects of rain before the concrete is sufficiently hardened, the Contractor will be required to have available at all times materials for the protection of the edges and surface of the unhardened concrete.

Placing Concrete

Concrete shall be deposited in such a manner to require minimal rehandling. Unless truck mixers or non-agitating hauling equipment are equipped with means to discharge concrete without segregation of the materials, the concrete shall be unloaded into an approved spreading device and mechanically spread on the grade in such a manner as to prevent segregation. Placing shall be continuous between transverse joints without the use of intermediate bulkheads. Necessary hand spreading shall be done with shovels, not rakes. Workmen shall not be allowed to walk in the freshly mixed concrete with boots or shoes coated with earth or foreign substances. When concrete is to be placed adjoining a previously constructed lane and mechanical equipment will be operated upon the existing lane, that previously constructed lane shall have attained the strength for fourteen (14) day concrete. If only finishing equipment is carried on the existing lane, paving in adjoining lanes may be permitted after three (3) days.

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Concrete shall be thoroughly consolidated against and along the faces of all forms and along the full length and on both sides of all joint assemblies, by means of vibrators inserted in the concrete. Vibrators shall not be permitted to come in contact with a joint assembly, the grade, or a side form. In no case shall the vibrator be operated longer than fifteen (15) seconds in any one location. Concrete shall be deposited as near as possible to the expansion and contraction joints without disturbing them, but shall not be dumped from the discharge bucket or hopper into a joint assembly unless the hopper is well centered on the joint assembly. Should any concrete material fall on or be worked into the surface of a complete slab, it shall be removed immediately.

Test Specimens

As work progresses, at least one (1) set consisting of three (3) concrete beam test specimens, 150 mm x 150 mm x 525 mm or 900 mm shall be taken from each 330 m² of pavement, 230 mm depth, or fraction thereof placed each day. Test specimens shall be made under the supervision of the Engineer, and the Contractor shall provide all concrete and other facilities necessary in making the test specimens and shall protect them from damage by construction operations. Cylinder samples shall not be used as substitute for determining the adequacy of the strength of concrete. The beams shall be made, cured, and tested in accordance with AASHTO T 23 and T 97.

Strike-off of Concrete and Placement of Reinforcement

Following the placing of the concrete, it shall be struck off to conform to the cross-section shown on the Plans and to an elevation such that when the concrete is properly consolidated and finished, the surface of the pavement will be at the elevation shown on the Plans. When reinforced concrete pavement is placed in two (2) layers, the bottom layer shall be struck off and consolidated to such length and depth that the sheet of fabric or bar mat may be laid full length on the concrete in its final position without further manipulation. The reinforcement shall then be placed directly upon the concrete, after which the top layer of the concrete shall be placed, struck off and screeded. Any portion of the bottom layer of concrete which has been placed more than 30 minutes without being covered with the top layer shall be removed and replaced with freshly mixed concrete at the Contractor's expense. When reinforced concrete is placed in one layer, the reinforcement may be firmly positioned in advance of concrete placement or it may be placed at the depth shown on the Plans in plastic concrete, after spreading by mechanical or vibratory means. Reinforcing steel shall be free from dirt, oil, paint, grease, mill scale and loose or thick rust which could impair bond of the steel with the concrete.

Removal of Forms

After forms for concrete shall remain in place undisturbed for not less than twenty four (24) hours after concrete pouring. In the removal of forms, crowbars should be used in pulling out nails and pins. Care should be taken so as not to break the edges of the pavement. In case portions of the concrete are spalled, they shall be immediately repaired with fresh mortar mixed in the proportion of one part of Portland Cement and two parts fine aggregates. Major honeycomb areas will be considered as defective work and shall be removed and replaced at the expense of the Contractor. Any area or section so removed shall not be less than the distance between weakened plane joint nor less than the full width of the lane involved.

Method of Measurement

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The area to be paid for under this Item shall be the number of square meters (m²) of concrete pavement placed and accepted in the completed pavement. The width for measurements will be the width from outside edge to outside edge of completed pavement as placed in accordance with the Plans or as otherwise required by the Engineer in writing. The length will be measured horizontally along the center line of each roadway or ramp. Any curb and gutter placed shall not be included in the area of concrete pavement measured.

Basis of Payment

The accepted quantity, measured as prescribed in Section Method of Measurement, shall be paid for at the contract unit price for Portland Cement Concrete Pavement, which price and payment shall be full compensation for preparation of roadbed and finishing of shoulders, unless otherwise provided by the Special Provisions, furnishing all materials, for mixing, placing, finishing and curing all concrete, for furnishing and placing all joint materials, for sawing weakened plane joints, for fitting the prefabricated center metal joint, for facilitating and controlling traffic, and for furnishing all labor, equipment, tools and incidentals necessary to complete the Item.

| Description | Unit of Measurement |
|---------------------------|---------------------|
| PCC Pavement (Plain) | Square meter |
| PCC Pavement (Reinforced) | Square meter |

TS. -10.0 GRAVEL BEDDING

Scope

This item shall consist of furnishing, placing and compacting gravel bed in accordance with the Specification and in conformity with the lines, grades and dimensions shown on the Plans or established by the Engineer.

Materials

Aggregate shall consist of hard, durable particles or fragments of natural gravel. The composite material shall be free from vegetable matter and lumps or balls of clay, and shall be of such nature that it can be compacted readily to form a firm, stable sub-base.

Workmanship

The existing surface shall be spread that will provide a uniform layer which will conform to the designed level as provided on the Plans.

Measurement And Payment

Grave Bed will be measured by cubic meter (cu.m.). The quantity to be paid for shall be the design volume compacted in-place as shown on the Plans and accepted in the completed course.

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TS -11.0 STRUCTURAL CONCRETE WORKS

Scope

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

Class of Concrete

Class of concrete or strength shall be as indicated on the drawings. Unless specified, the comprehensive strength of concrete shall conform to the requirement indicated on the provision of NSCP for Concrete and/or shall be less than 20.7 MPa.

Materials

Cement

Cement for concrete works shall be furnished by the Contractor and shall conform to the requirement of the latest edition of the Standard Specifications for Portland Cement (ASTMC150). Unless otherwise specified, concrete shall be ordinary Portland Cement. Type I 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.

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.

Fine Aggregates

Fine aggregates shall conform to the requirements of the latest edition of ASTM C33 and shall consist of hard, tough, durable and uncoated particles. Fine aggregates shall generally be rounded or cubical and reasonably free from flat or elongated particles. A thin, flat and elongated particle is defined as a particle having a maximum dimension greater than 5 times its maximum dimension.

Fine aggregate shall be well graded from coarse to fine, and gradation shall conform to the following requirements:

| Sieve Designation U.S | Percentage by (Standard Square Mesh) Weight Passing |
|-----------------------|--|
| 9.5 mm (3/8") | 100 |
| 4.76 mm (No. 4) | 95-100 |
| 1.19 mm (No. 16) | 50-85 |
| 0.297 (No. 50) | 10-30 |

0.149 mm (No. 100)

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Coarse Aggregates

Coarse aggregates shall conform to the requirements of the latest edition of ASTM C33 and shall consist of hard, tough, durable and clean, uncoated particles. All foreign materials and dust shall be removed by processing. Coarse aggregates shall generally be rounded and reasonably free from thin, flat and elongated particles (as Defined in CW-4.3.4 above) in all sizes.

Coarse aggregates shall be well graded from coarse to fine and gradation shall conform to the following requirements:

| Size Group | Percentage by Weight Passing | | |
|-----------------------------|------------------------------|---------------|-----------|
| | 19.1 mm | 38.1 mm | 76.2 mm |
| Sieve Designation | 19.1 mm | 38.1 mm | 76.2 mm |
| U.S Std. Square Mesh | (3/4") max. | (1-1/2") max. | (3") max. |
| 88.9 mm (3-1/2") | - | - | 100 |
| 76.2 mm (3") | - | - | 90-100 |
| 50.8 mm (2") | - | 100 | 20-55 |
| 38.1 mm (1-1/2") | - | 90-100 | 0-15 |
| 25.4 mm (1") | 100 | 20-55 | 0-5 |
| 19.1 mm (3/4") | 90-100 | 0-15 | - |
| 9.5 mm (3/8") | 20-55 | 0-5 | - |
| 4.76 mm (No. 4) | 0-15 | - | - |
| 2.38 mm (No. 8) | 0-5 | - | - |

General Use Minimum General Aggregate Diameter

| | |
|---|------------------|
| Massive Concrete | 76.2 mm (3") |
| Heavy walls and slabs (0.75 m thick or more) | 76.2 mm (3") |
| Walls, slabs, beams (0.30 m to 0.75 m thick) | 38.1 mm (1 1/2") |
| Thin walls, slabs, beam (Less than 0.30 m thickness) | 19.1 mm (3/4") |

Mixing Concrete

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

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. These shall be no vertical drop greater than 1.5 meters except where suitable equipment like metal be 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 every limited or isolated sections of the work.

Earth surface, upon which concrete shall be placed, shall be cleaned, dry and thoroughly compacted before placing the concrete.

Rock surfaces, 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.

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.

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.

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.

Sampling and Testing of Concrete

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SECTION VI- SPECIFICATIONS

No concrete 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.

As work progresses, test cylinder shall be fabricated from the concrete samples and tested in accordance with ASTM C31 and ASTM C39. At least one set of four (4) cylinders shall be made from each 75 cu.m of the concrete placed of each class. Also at least one set shall be made per day for each class of concrete placed each day.

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.

Concrete deemed to be not acceptable using the above criteria maybe rejected unless the Contractor 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.

Tolerances and Repair for Concrete Construction

Concrete structure 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 a new by the Contractor at no additional cost to NPC.

Repairs shall be made at surface imperfection 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 or repair appropriately established.

Measurement And Payment

Measurement for payment for Concrete (except concrete which shall not be measurement for separate payment) will be based on the volume of concrete placed and accepted within the neat lines of 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.

Payment will be made at the corresponding contract unit price for the various items of concrete shown in the Bill of Quantities. Payment shall cover all costs for furnishing all labor, materials, including equipment and tools required for concreting work. Payment shall also include care of water.

TS12.0 REINFORCEMENT STEEL BAR WORKS**Scope**

This item shall consist of furnishing, bending, fabricating and placing of steel reinforcement of the type, size, shape and grade required in accordance with this Specification

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and in conformity with the requirements shown on the Plans or as directed by the NPC Engineer.

Materials

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

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

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

Dowel and tie bars shall conform to the requirements of AASHTO M 31 (ASTM A 615/PNS 49) or AASHTO M 42 except that rail steel shall not be used for tie bars that are to be bent and restraightened during construction. Tie bars shall be deformed bars. Dowel bars shall be plain round bars. They shall be free from burring or other deformation restricting slippage in the concrete. Before delivery to the site of the work, a minimum of one half (1/2) the length of each dowel bar shall be painted with one coat of approved lead or tar paint.

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

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

Workmanship

All steel reinforcement shall be accurately placed in the position shown on the Plans or as required by the NPC Engineer and firmly held there during the placing and setting of the concrete. Bars shall be tied at all intersections except where 238 spacing is less than 300 mm in each directions, in which case, alternate intersections shall be tied. Ties shall be fastened on the inside.

Steel reinforcement shall be stored above the surface of the ground upon platforms, skids, or other supports and shall be protected as far as practicable from mechanical injury and

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SECTION VI- SPECIFICATIONS

surface deterioration caused by exposure to conditions producing rust. When placed in the work, reinforcement shall be free from dirt, detrimental rust, loose scale, paint, grease, oil, or other foreign materials. Reinforcement shall be free from injurious defects such as cracks and laminations.

All reinforcement shall be furnished in the full lengths indicated on the Plans. Splicing of bars, except where shown on the Plans, will not be permitted without the written approval of the Engineer. 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 Plans.

Measurement And Payment

The quantity of concrete to be paid shall be the quantity shown in the Bid Schedule in kilogram.

The accepted quantity, measured as prescribed in the Bid Schedule, shall be paid for at the contract unit price for Reinforcing Steel which price and payment shall be full compensation for furnishing and placing all materials, including all labor, equipment, tools and incidentals necessary to complete the work prescribed in this Item.

TS-13.0 WALLING AND CEILING WORKS**Scope**

This specification covers the furnishing of materials and labor including equipment necessary to complete the installation of fiber cement board panels/ceiling as shown on the drawings and as specified herein.

Materials**1. FIBER CEMENT BOARD**

Shall be Fiber Cement Sheets, Auto-cleaved, single faced sheets containing Portland cement, ground sand, cellulose fiber and water. Fiber Cement sheets shall be manufactured from asbestos-free materials.

- a. 3.5 mm thick for ceiling
- b. Composition: Fiber cement board shall be asbestos free, fiber-reinforced cement sheets.
- c. Density: 1380 kg/m³ minimum

2. STEEL FRAMING

Metal Furring: Ga. 25 minimum thickness of uncoated metal galvanized C-shaped or as otherwise indicated.

3. FASTENERS

- a. Provide fasteners of type, material size, corrosion resistance, holding power and other properties required for fastening furring and framing members to substrates indicated.
- b. Trim Accessories: Provide metal trims accessories of profile and materials as shown on the drawings, or as otherwise required by the NPC Engineer.

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4. MISCELLANEOUS FRAMING AND SUPPORTS

- a. General: Provide steel framing and supports for applications indicated.
- b. Fabricate units to sizes, shapes, and profiles indicated and required to receive adjacent other construction retained by framing and supports. Fabricate from structural steel shapes, plates and steel bars of welded construction using mitered joints for field connection. Cut, drill, and tap units to receive hardware, hangers, and similar items.
 - (1) Equip units with integrally welded anchors for casting into concrete or building into masonry. Furnish insert, if units must be installed after concrete is placed.
 - (2) Except as otherwise indicated, space anchors at 600 mm O.C. and provides minimum anchor units in the form of steel straps 32 mm wide by 6 mm by 200 mm long.

5. MISCELLANEOUS MATERIALS

- a. General: Provide auxiliary materials for fiber cement board construction, which comply with reference standards and the recommendations of the manufacturer of the fiber cement board.
- b. Fastening Adhesive for Metal: Special adhesive recommended by manufacturer. c. Screws: As per recommendation by manufacturer.
- d. Bedding and Topping Cement: As per recommendation by manufacturer.
- e. Perforated Paper Reinforcing Tape: As per recommendation by manufacturer.
- f. Trim Accessories: Provide galvanized steel edge corner and joint trims as shown or otherwise required by the NPC Engineer as standard details.

Execution**EXAMINATION**

- a. Examine substrates to which fiber cement panel construction attaches or abuts, preset hollow metal frames, cast-in anchors, and structural framing, with installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of fiber cement panel construction. Do not proceed with installation until unsatisfactory conditions have been corrected.

PREPARATION

- a. General: Follow specifications of manufacturer.

INSTALLATION OF STEEL FRAMING GENERAL

- a. General: Follow specification by manufacturer.
- b. Install supplementary framing, blocking and bracing at terminations in the work and for support of fixture, equipment services, heavy trim, furnishings, and similar construction to comply with details indicated and with recommendations of fiber cement board manufacturer.
- c. Isolate steel framing from building structure to prevent transfer of loading imposed by structural movement, at locations indicated below to comply with details shown on drawings.

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- d. Do not bridge building expansion and control joints with steel framing or furring members; independently frame both sides of joints with framing or furring members or as indicated.

INSTALLATION OF STEEL FRAMING

- a. Installation Tolerances: Install each steel furring members so that fastening surface do not vary more than 3 mm from plane of faces of adjacent framing.
- b. Extend steel furring full height to structural supports or substrates above suspended ceilings, except where partitions are indicated to terminate at suspended ceilings. Continue framing over frames for doors and openings and frame around ducts penetrating partitions above ceiling to provide support for fiber cement board.

APPLICATION AND FINISHING OF FIBER CEMENT PANELS GENERAL

- a. Apply and finish fiber cement panels as per specifications by manufacturer for flush-jointed applications.
- b. Install fiber cement panels in manner which minimizes the number of end-butt joints or avoids them entirely where possible.
- c. Install exposed fiber cement panel with face side out. Do not install imperfect, damages or damp boards. Bat boards together for slight contact at edges and ends with not more than 1.5 mm open space between boards. Do not force into place.
- d. Locate either edge or end joints over supports, except in horizontal applications where intermediate support is provided behind end joints. Position boards so that like edges abut, tapered edges against tapered ends. Do not place tapered edges against cut edges or ends. Stagger vertical joints over different studs on opposite sides of partitions.
- e. Attach fiber cement panel for supplementary framing and blocking provided for additional support at openings and cutouts.
- f. Space fasteners in fiber cement boards in accordance with referenced application and finishing standard and manufacturer specifications.

METHODS OF FIBER CEMENT PANEL APPLICATION

- a. General: Follow specifications by manufacturer.
- b. Single-layer Application: Install fiber cement panel as follows, and as indicated on the drawings.
- c. Single-layer fastening Methods: Apply fiber cement panels to supports as follows: (1) Fasten to steel framing with adhesive and supplementary screws as per recommendation by manufacturer.

INSTALLATION OF TRIM ACCESSORIES

- a. General: Where feasible, use the same fasteners to anchor trim accessory flanges as required to fasten fiber cement board to the supports. Otherwise, fasten flanges to comply with specification by the manufacturer.
- b. Install corner boards at external corners.
- c. Install metal edge trim whenever edge of fiber cement board would otherwise be exposed or semi-exposed.

(1) Install U-type trim where edge is exposed, revealed, gasketed, or sealantfilled. 3.8

FINISHING OF FIBER CEMENT BOARDS

- a. General: Apply to joint treatment at fiber cement panels joints (both directions); penetrations; fasteners head, surface defects and elsewhere as required to prepare works for decoration.

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b. Finish fiber cement panels as per recommendation by manufacturer. 3.9

PROTECTION

Provide final protection and maintain conditions, in a manner suitable to installer that ensures, fiber cement panel construction being without damage or deterioration at time of substantial completion.

Method Of Measurement

Fiber cement board shall be measured by actual area in square meters installed and accepted to the satisfaction of the NPC Engineer/End-user.

The quantity measured as provided in Method of Measurement shall be paid for at the contract unit price per square meter of Fiber Cement Board which price and payment shall constitute full compensation for furnishing and placing all materials and for all labor, equipment, tools and incidentals to complete the work prescribed in this Section. Payment will be made in accordance with the Bill of Quantities.

TS.-14.0 ROOFING AND STEEL WORKS

Scope

This Item shall consist of furnishing, fabricating and placing all steel trusses in accordance with the AISC "Manual of Steel Construction" and pre-painted metal sheet materials, tools and equipment, plant including labor required in undertaking the proper installation complete as shown on the Plans and in accordance with this Specification.

Materials

Materials for steel trusses shall be of the best quality of their kind, well graded and within the all allowable distortions, however, they shall be free from flakes, corrosion, scale of fragments that could reduce the resistance and durability or injure the external appearance.

Pre-painted roofing sheets shall be fabricated from cold rolled galvanized iron sheets specially tempered steel for extra strength and durability. It shall conform to the material requirements defined in PNS 67: 1985. Profile section in identifying the architectural moulded rib to be used are as follows: Regular corrugated, Quad-rib, Tri-wave, Rib-wide, twin-rib, etc. Desired color shall be subject to the approval of the Architect/Engineer.

Gutters, Valleys, Flashings Hip and Ridge roll shall be fabricated from gauge 24 (.600 mm thick) cold-rolled plain galvanized iron sheets specially tempered steel. Profile section shall be as indicated on the Plans.

Fastening hardware shall be of galvanized iron straps and rivets. G.I. straps are of .500 mm thick x 16 mm wide x 267 mm long (gauge 26 x 5/8" x 10-1/2") and standard rivets.

Workmanship

Materials shall conform to the respective specifications specified herein. Materials not otherwise specified herein shall conform to the AISC "manual of Steel Construction".

Structural Steel: ASTM A36

Steel Pipe: ASTM A53, Type E or S, Grade B, ASTM A501.

Steel W-Shape Piles

(Soldier Piles): ASTM A328

All welding works shall be as indicated on the drawings and shall conform to AWS D1.1 77 "Structural Welding Code". Unless specified on the drawings, fillet welds shall be a minimum of 5mm (3/16") and welding electrodes shall be with a tensile strength of 485 MPa.

All welding works shall be executed by the AWS D1.1 qualified welders, welding operators and trackers, whose workmanship shall be subject to the approval of NPC.

Roofing installation shall start by placing the first sheet in position with the downturned edge in line with other building elements and fastened to supports as recommended.

Place the downturned edge of the next sheet over the edge of the first sheet, to provide side lap and hold the side lap firmly in place. Continue the same procedure for subsequent sheets until the whole roofing area is covered and/or (Adopt installation procedure provided in the instruction manual for each type of Architectural molded rib profile section).

Pre-painted steel roofing, walling products and accessories should be delivered to the jobsite in strapped bundles. Sheets and/or bundles shall be neatly stacked in the ground and if left in the open it shall be protected by covering the stack materials with loose tarpaulin.

Where so indicated on the Plans, structural members shall be joined by welding. The welds shall be of the size and type indicated and shall be made by competent operators.

Measurement And Payment

The unit of measure shall be in lot.

The accepted quantity, measured as prescribed in the Bid Schedule, shall be paid for at the contract unit price which price and payment shall be full compensation for furnishing and placing all materials, including all labor, equipment, tools and incidentals necessary to complete the work prescribed in this Item.

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TS-15.0 ELECTRICAL WORKS**General**

The work to be done under this section consist of furnishing and installation of complete wiring, lighting, switches & outlet system of the 3-unit CR of CDD Building indicated in the plans and specified herein.

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 Standard 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)

Lighting System

The lighting system covered by this specification includes lighting and power outlets (convenience and power), switches, associated conduits conductors, lighting fixtures, fittings, etc.

The device/materials furnished shall be in accordance with 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 Contractor and shall be furnished at no additional cost to NPC.

Cables/Wires

Cable shall be stranded annealed copper conductor suitable for continuous temperature of 90 deg. C when used in wet or dry location and 90 degrees when exposed to oil or coolant. The minimum size of conductor to be used shall be 5.5mm².

The cables shall be designed for trouble free service for the highest system voltage. All cables and their accessories 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 are normally expected to occur in the power system in which the cable is to be employed, due to switching operations, sudden load variation, faults, etc.

The cables and accessories shall be constructed to fulfil the requirements when operating with full load factor and is suitable for use in ducts, trays and/or direct burial in ground.

Lighting Fixtures, Luminaires and Accessories**Lighting Fixtures**

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

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The hangers, power conductors, supports, channels, frames and brackets of all kinds for safety and proper installation of lighting fixtures shall be furnished and installed by the contractor at his own expense.

Lighting fixtures 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 lighting fixtures shall be protected from damage during installation. Any broken lighting fixtures, gloves, receptacles, stems and the like shall be replaced with parts, at no cost to NPC.

Lighting Luminaires

a. Low-bay Luminaires

Low-bay LED Capsule Lamp shall be of rugged cast aluminum housing, high specular aluminum reflector and with impact resistance lens suitable for the type of lamp shown in the bid drawings complete with the required control gears and other accessories.

Conductors

Power conductors shall be stranded annealed copper, suitable for continuous temperature of 90°C. The minimum size of ungrounded conductor to be used shall be 3.5mm².

Insulation shall be suitable for wet and dry locations, fungi resistant and ultraviolet stable. All conductors shall be moisture and heat resistant thermoplastic or cross-linked synthetic polymer unless otherwise specified by NPC.

Conductor Installation

Power conductors pulled through conduits shall be supported in an approved manner so as to avoid damaged 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 to conductors only by means of approved grips and the end portion of the conductor, which has been marked or deformed by the grip, shall be cut-off by the Contractor.

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

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

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

Conduit System

All embedded and combined 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 Contractor. 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

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inspection and tests, until the conductor is pulled in. Conduit shall be checked 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 0.60m.

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 PVC 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.

Measurement and Payment

Measurement and payment shall be made at the contract unit price or lot price as specified in the Bill of Quantities. Payment shall include all cost in furnishing labor, materials, tools, equipment and other incidentals necessary for the satisfactory completion of the project.

TS-16.0 PAINTING WORKS (WALLING & GUARDRAILS)

Scope

This specification covers the furnishing of materials, equipment and labor necessary to complete all field painting works on buildings as shown and indicated on the drawings and schedule of finishes as well as specified herein.

Delivery And Storage

Deliver coatings and coating materials in unopened original container bearing the manufacturer's name and brand designation, specification number, batch number, color, date of manufacture, and manufacturer's instruction for application. Restrict storage of coatings and coating materials and the mixing of coatings to the locations directed.

Selection Of Colors

Colors of finish coats shall be as approved by the Architect / Engineer. Manufacturer's name and color designation, if indicated, are used for the purpose of color designations only and are acceptable for use on this project only if they conform to all specified requirements. Products of other manufacturers are acceptable if the color closely approximate the colors indicated and the product conforms to all specified requirements.

Description Of Work

Surfaces concealed by portable objects and by surface mounted articles readily detachable by removal of fasteners such as screws and bolts are included in the work.

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Surfaces concealed and made inaccessible by panel boards, fixed ductwork, machinery, and equipment fixed in place are not included. Remove articles obstructing access to those surfaces specified to be included in the work and restore to their original position on completion. Do not coat surfaces in concealed spaces unless specifically so stated. Do not coat surfaces of steel to be embedded in concrete. Do not coat copper, stainless steel, and aluminum except where specifically so stated and except where surfaces have existing coatings. Do not coat new factory finished material except those that require identification or color coding and those factory-finished surfaces which are damaged during installation. Restore damaged factory-finished surfaces to their original condition. Do not paint zinc-coated ducts, zinc-coated pipe, or copper pipe in concealed spaces.

Exterior Painting

Includes new surfaces, including items on or a part of the roof which are not factory-finished.

Interior Painting

Includes new surfaces, and appurtenances of the types listed. Where a space or surface, supports, hangers, and miscellaneous metalwork, except as specified otherwise herein.

Mechanical and Electrical Painting

Includes the field coating as required of interior and exterior piping, conduit, ductwork, supports, hangers, air grilles, registers, miscellaneous, and coverings where required, except as specified otherwise herein.

Materials

Paints enamels, coating, primers and stains shall be "best-in-line" product.

Lead Content Do not use coatings having a lead content of over 0.06 percent by weight of nonvolatile content.

Execution

Protection Of Areas And Spaces

Remove, mask, or otherwise protect prior to surface preparation and painting operations such items as hardware, hardware accessories, machined surfaces, radiator covers, plates, lighting fixture, and similar items in contact with coated surfaces. Following completion of painting, reinstall removed items utilizing workmen skilled in the trades involved for such removal and reinstallation. Protect from contamination by coating materials all surfaces not to be coated. Restore surfaces that are contaminated by painting materials to original condition.

Preparation Of Surfaces

Remove all dirt, rust, scale, splinters, loose particles, grease, oil and other deleterious substance from all surfaces which are to be coated or otherwise finished. Allow putty to set one week before coating. Caulking and glazing compounds shall be

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allowed to cure for times stated in manufacturer's literature prior to being coated. Sandpaper entire surface of existing enamel and other glossy surfaces before application of any coatings. Inspect surfaces after preparation and receive approval before application of any coatings. On surface to be coated with water thinned coatings, spot prime with a brush all exposed nails and other ferrous metal with zinc chromate primer.

Wood Surfaces

Surfaces shall be free from dust and in an approved condition to receive the paint or other finish. Do not use water on uncoated wood. Prior to application of paint, treat knots and resinous wood with an application of knot sealer. Putty cracks and nail-holes after the priming coat has been applied and has dried properly. Prime coat wood doors, frames and trim immediately following delivery to the job site. Sandpaper the entire area previously painted interior wood surfaces; scrape as necessary to remove loose coatings. Set and putty stop all nail heads. Where checking of the wood is present, sand the surface down smooth, wipe and apply a coat of pigmented orange shellac and allow to dry before additional paint is applied. Fill open joints and all other openings whiting putty.

Concrete and Masonry

Remove dirt, fungus, grease, and oil prior to application of coatings. Wash new surfaces with a solution composed of from 14 to 56 grams of tri-sodium phosphate per 1 liter of hot water and rinse thoroughly with fresh water. Wash previously coated surfaces with a suitable detergent and rinse thoroughly. Remove glaze, all loose particles, and scale by wire brushing. Remove efflorescence by scraping, wire brushing, and washing with 5 to 10 percent by weight aqueous solution of hydrochloric (muriatic) acid and then wash thoroughly with fresh water, removing all traces of the acid. Give all new surfaces to be painted with other than cement-water paint a neutralizing treatment consisting of 0.23 kg. of zinc sulphate in 1 liter of warm water. Apply the neutralizer liberally and allow to dry, then rinse the surfaces thoroughly with clean water and allow to dry for not less than 48 hours before paint is applied.

Plaster

Prior to painting, repair all joints, cracks, holes, and other surface defects with patching plaster or spackling compound and sand out smooth. New plaster to be coated shall have an instrument-measured moisture content of not more than 8 percent. In addition to moisture content requirements, allow new plaster to age a minimum of 30days before application of coating.

Application

Provide finished surfaces free from burns, drops, ridges, waves, laps, brush marks, and variations in colors. Avoid contamination of other surfaces and repair all damage thereto. Allow sufficient time between coats to permit thorough drying and provide each coat in proper condition to receive the next coat. Each coat shall cover the surface of the preceding coat or surface completely; there shall be an easily perceptible

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difference in shades of successive coats. Thoroughly clean dust-free before and during the application of coating material. Prior to erection, used two coats of the designated primer to treat and prime wood and metal surfaces, which will be inaccessible after erection. Thoroughly work painting materials into all joints, crevices, and open spaces. Finished surfaces shall be smooth, even and free of defects. Retouch damaged painting before applying succeeding coats of paint. Spray painting operations shall comply with the best procedural trade practice. Procure and utilize the engineering controls and/or personal protective equipment necessary for safe and effective application of specified paint systems. Apply strains in accordance with the manufacturer's printed instruction. Storing, thinning, mixing, handling and applications of painting materials shall be in strict compliance with the manufacturer's recommendation and instruction. Unless otherwise recommended by the paint manufacturer, painting shall be done when:

- a. Metal surface temperature is at least 3°C more than dew point temperature
- b. Ambient temperature is above 10°C
- c. Relative humidity is less than 85%
- d. Application of paints shall be done by Airless Spray Equipment. Pigmented and catalyzed materials shall be thoroughly mixed and strained before applying. Materials that have not been applied within the pot life period specified by manufacturer shall be discarded and properly disposed of.

Equipment

Apply coatings carefully with good, clean brushes or approved spray equipment, except as specified otherwise. Spray areas made inaccessible to brushing by ducts and other equipment. Use airless type spray equipment. Use approved rollers for the application of flat latex coatings to interior walls and ceilings.

Thinning of Paints

Reduce to proper brushing consistency by adding fresh paint, except that when thinning is not mandatory for the type of paint being used.

Environmental Conditions

Do not apply exterior coatings in rainy weather or when the temperature of the air at the surface is over 35 degrees C. Apply interior coatings when the surfaces to be painted are dry and the temperature can be kept below 95 degrees F during the applications of ordinary paints, between 65 degrees F and 95 degrees F during the application of enamels and varnishes.

Paint Systems

New surfaces made by cleaning operations, shall receive the following coatings. Apply paints, primers, varnishes, enamels, undercoats, and other coatings to a dry film thickness of not less than 1.0 mil. each coat except as specified otherwise. Where coating thickness is specified, it is the minimum dry film thickness.

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a. Exterior and Interior Surfaces

(1) Exterior Concrete / Masonry and Plaster Surfaces

Primer: Acrylic solvent base coating primer

Putty: Acrylic solvent base putty

Two coats of 100% acrylic latex paint

(2) Metal Surfaces

1st Coat: Red Oxide Primer

2nd and Third Coat: Quick Dry Enamel

(3) Interior Concrete / Masonry and Plaster Surfaces

First Coat: Flat Latex

Putty: Masonry Putty

2nd and Third Coat: Odorless Water Base Interior Paint

(4) Interior/ Exterior Masonry

1st Coat: 100% Acrylic Water Based

Putty: Acrylic Solvent Water Based Putty for Interior

Masonry Water Base Putty for Exterior

2nd and Third Coat: 100% Acrylic Latex Paint

b. Interior Surfaces Not Specified Otherwise

(1) Wood Surfaces

1st Coat: Flat Alkyd Type Paint

Putty: Alkyd Type Putty

2nd and Third Coat: Alky Type Enamel Paint

c. Oil Wood Stain Lacquer Varnish Products that highlights wood grains, adds freshness and color and protect interior paneling, furniture, doors, cabinets and other woodworks.

1st Coat: Oil Wood Stain (any desired color)

2nd and Third Coat: Lacquer Sanding Sealer (Commercial Grade Nitrocellulose based sealer)

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4th and 5th Coat: Clear glass Lacquer (nitro cellulose solvent based high gloss lacquer varnish finished)

d. Coat other surfaces for which the type of coating has not been specified herein as specified for surfaces having similar conditions of exposure.

e. Mechanical, Electrical and Miscellaneous Metal Items, Except Hot metal Surfaces and New Pre-finished Equipment Pre-finishing of new mechanical and electrical equipment is specified in the section covering the particular item.

Method Of Measurement

Painting of concrete, wood and metal surfaces shall be measured by the number of square meters applied and accepted.

Basis Of Payment

The quantity measured as provided in Method of Measurement shall be paid for at the contract unit price, respectively for each of the Pay Items listed below and shown in the Bill of Quantities, which price and payment shall constitute full compensation for furnishing and placing all materials and for all labor, equipment, tools and incidentals to complete the work prescribed in this Section. Payment will be made in accordance with the Bill of Quantities.

TS-17.0 CLEAN-UP AND DEMOBILIZATION

Scope

This item shall consist of the disposition of entire Contractor's camp facilities, clearing and cleaning at the work site.

Workmanship

Before moving out, the contractor shall restore the orderly state of worksite by clearing all temporary structures. Remove all excess/waste materials and store in designated areas.

Before the Contractor will demobilize its construction equipment/ tools, materials and crew, he shall secure approval from NPC and a joint inspection with the NPC inspector and Contractor will be conducted to make sure that all his accomplishment/ work that needs remedial attention or correction shall be done prior to the issuance of the Certificate of Completion.

Measurement and Payment

Work prescribed herein shall not be measured and paid separately; same shall be deemed to be included in pay items for other items for work.

BID DOCUMENTS

SECTION VII - DRAWINGS

NAME OF PROJECT : CONCRETING OF 1-LANE ACCESS
ROAD INSIDE MINGEN CENTRAL WAREHOUSE COMPOUND
PR NO/REF. NO. MG-LGD23-016/INFRA2023-LOG-044

Section VII. Drawings

Sheet No. 1/13- LOCATION MAP

Sheet No. 2/13- BLOW-UP VIEW

Sheet No. 3/13- TYPICAL PLAN OF ONE-LANE PAVEMENT, DETAIL OF JOINT
IN RIGID PAVEMENT

Sheet No. 4/13- TYPICAL ROAD SECTION DETAIL

Sheet No. 5/13- STRAIGHT LINE DIAGRAM, SECTION D

Sheet No. 6/13- GUARD POST: FRONT AND REAR ELEVATION

Sheet No. 7/13- GUARD POST: RIGHT AND LEFT ELEVATION

Sheet No. 8/13- GUARD POST: FOUNDATION PLAN

Sheet No. 9/13- GUARD POST: COLUMN AND FOOTING DETAILS

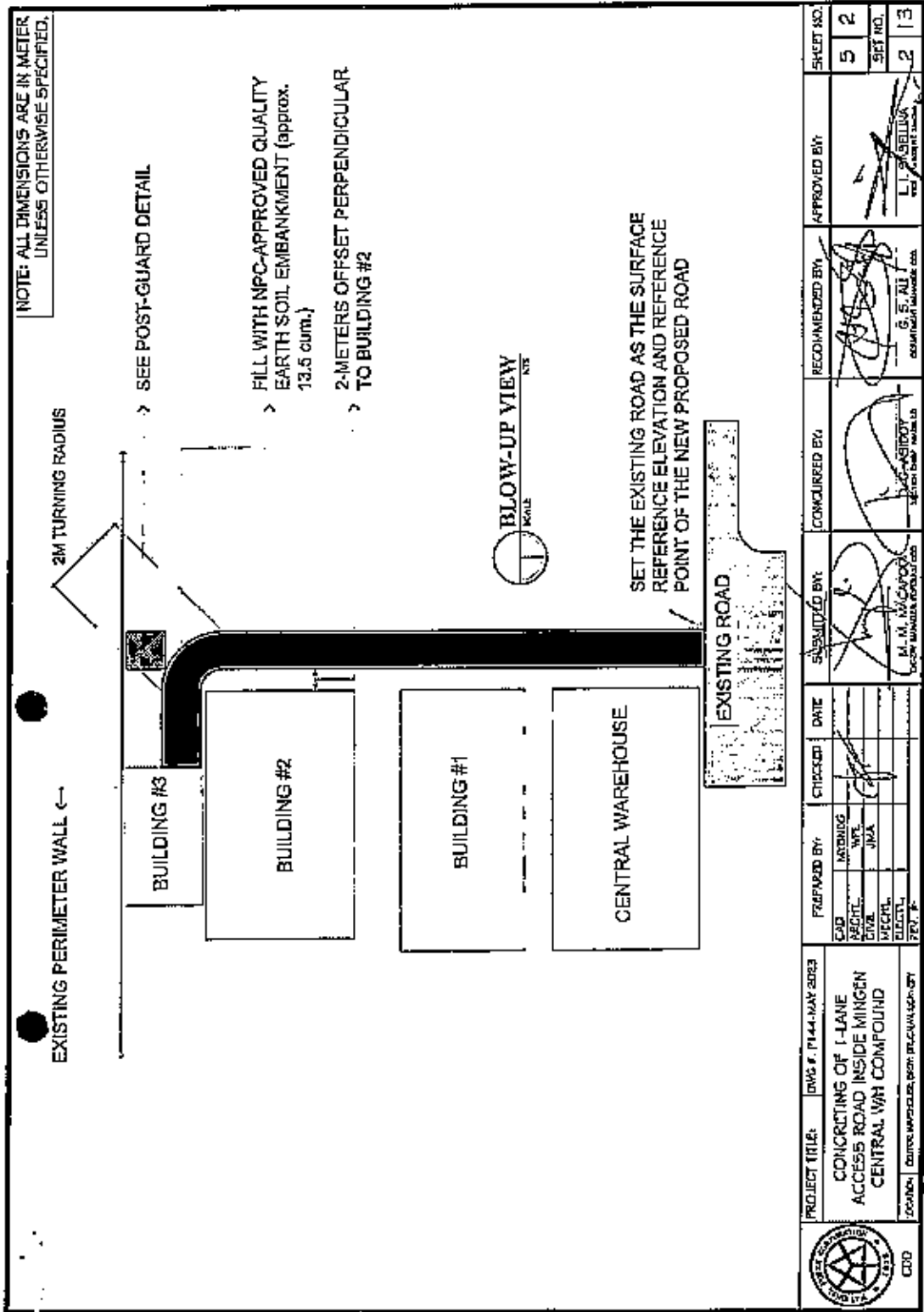
Sheet No. 10/13- GUARD POST: MAIN STAIR DETAIL

Sheet No. 11/13- GUARD POST: ROOF FRAMING LAYOUT, REFLECTED
CEILING PLAN, ROOF PLAN, FASCIA FRAME DETAIL, FLOOR
FRAMING PLAN, FULL TRUSS & HALF TRUSS DETAILS

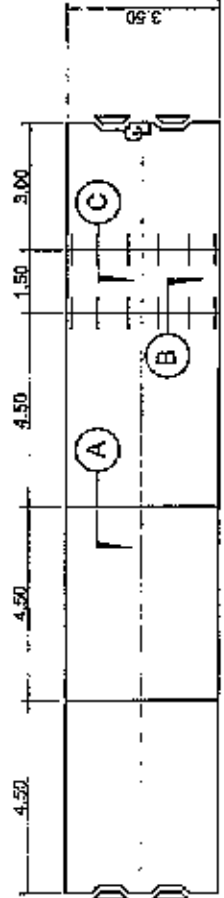
Sheet No. 12/13- CYCLONE WIRE: PLAN VIEW

Sheet No. 13/13- CYCLONE WIRE: RIGHT AND LEFT ELEVATION

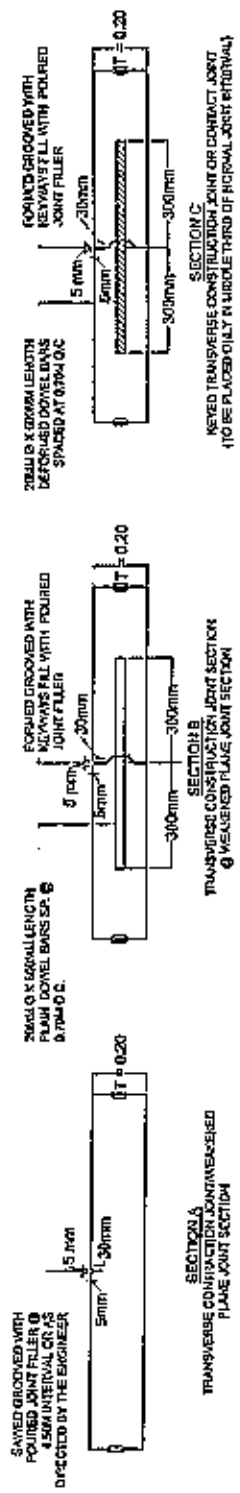
SECTION VII - DRAWINGS



NOTE: ALL DIMENSIONS ARE IN METER
UNLESS OTHERWISE SPECIFIED.

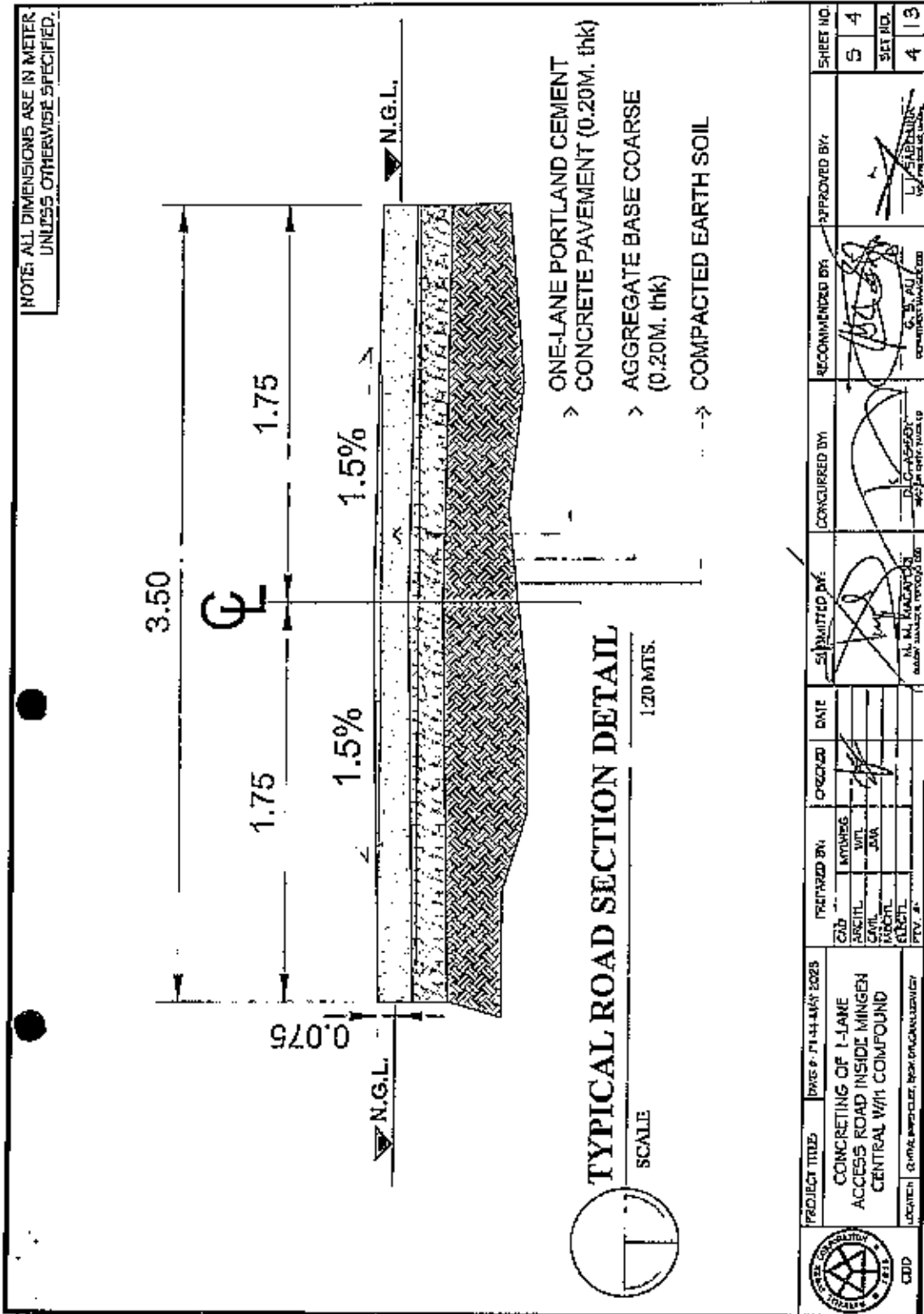


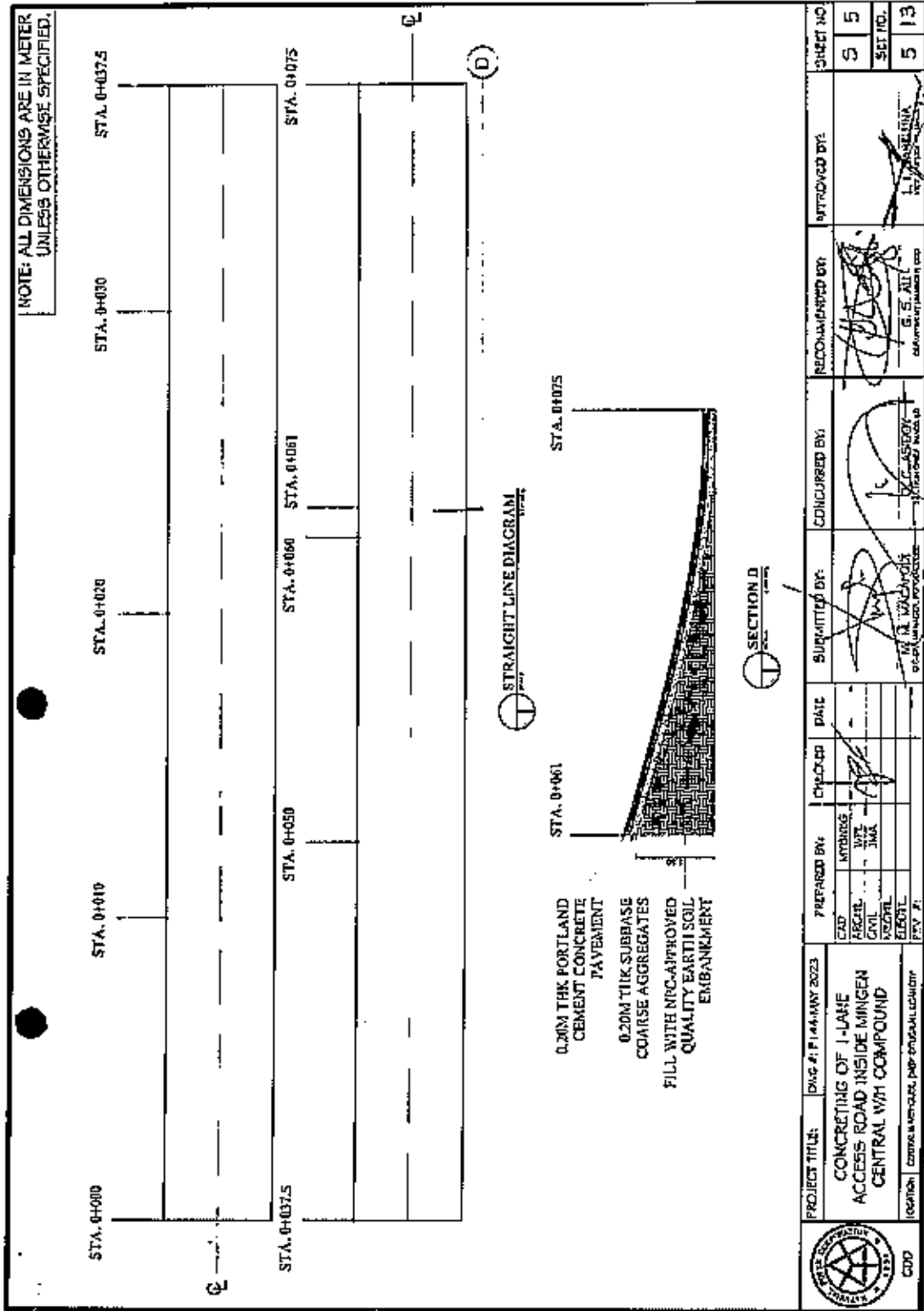
TYPICAL PLAN OF ONE-LANE PAVEMENT



DETAIL OF JOINT IN RIGID PAVEMENT

| | | | | | | | | | | | |
|---|--|----------------|-------|--|----------|---------------|---------------|-----------------|--------------|-----------|----------|
| <p>CED ENGINEERING COUNCIL OF THE PHILIPPINES</p> | PROJECT TITLE: | DWG NO.: | DATE: | PREPARED BY: | CHECKED: | SUBMITTED BY: | CONCURRED BY: | RECOMMENDED BY: | APPROVED BY: | SHEET NO. | |
| | CONCRETING OF 1-LANE ACCESS ROAD INSIDE MINGEN CENTRAL W/ COMPOUND | 11-14-MAY-2025 | | CND ASRNL SJK MVA MCHL MECTL MSTP 21 | | | | | | | 53 |
| | LOCATION: | | | | | | | | | | SET NO.: |
| | | | | | | | | | | | 313 |

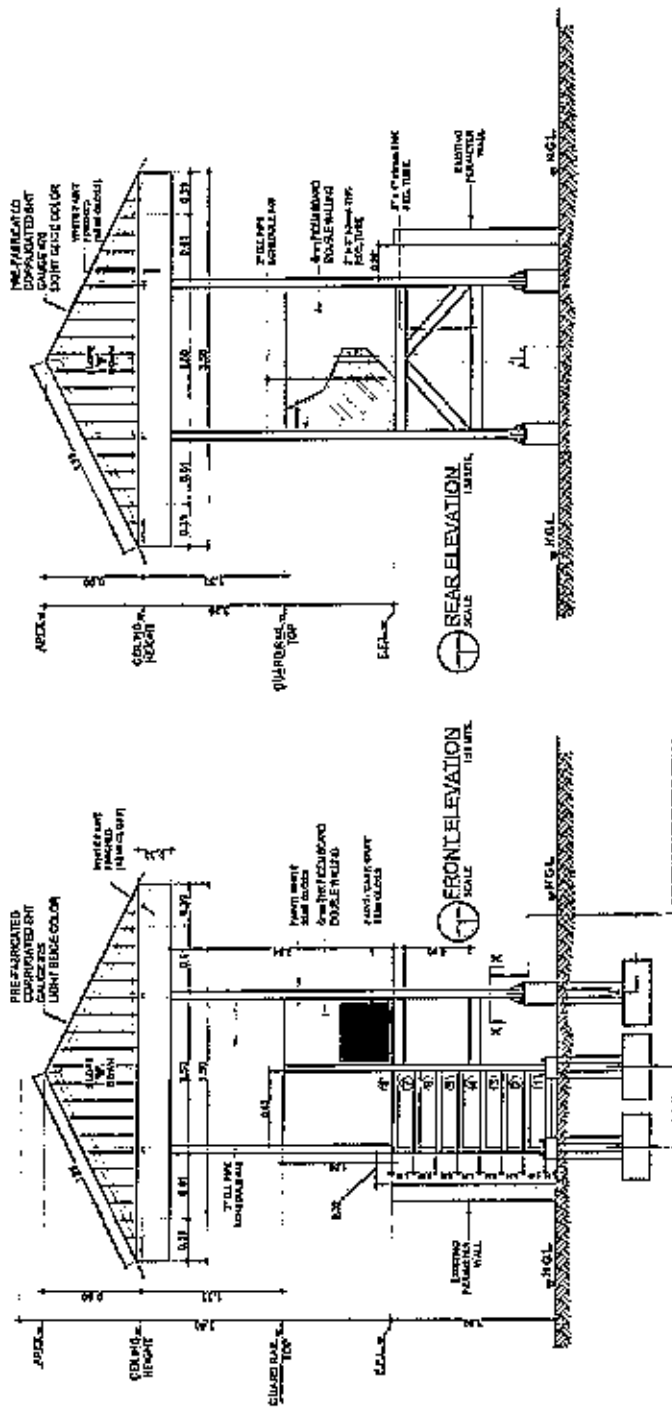




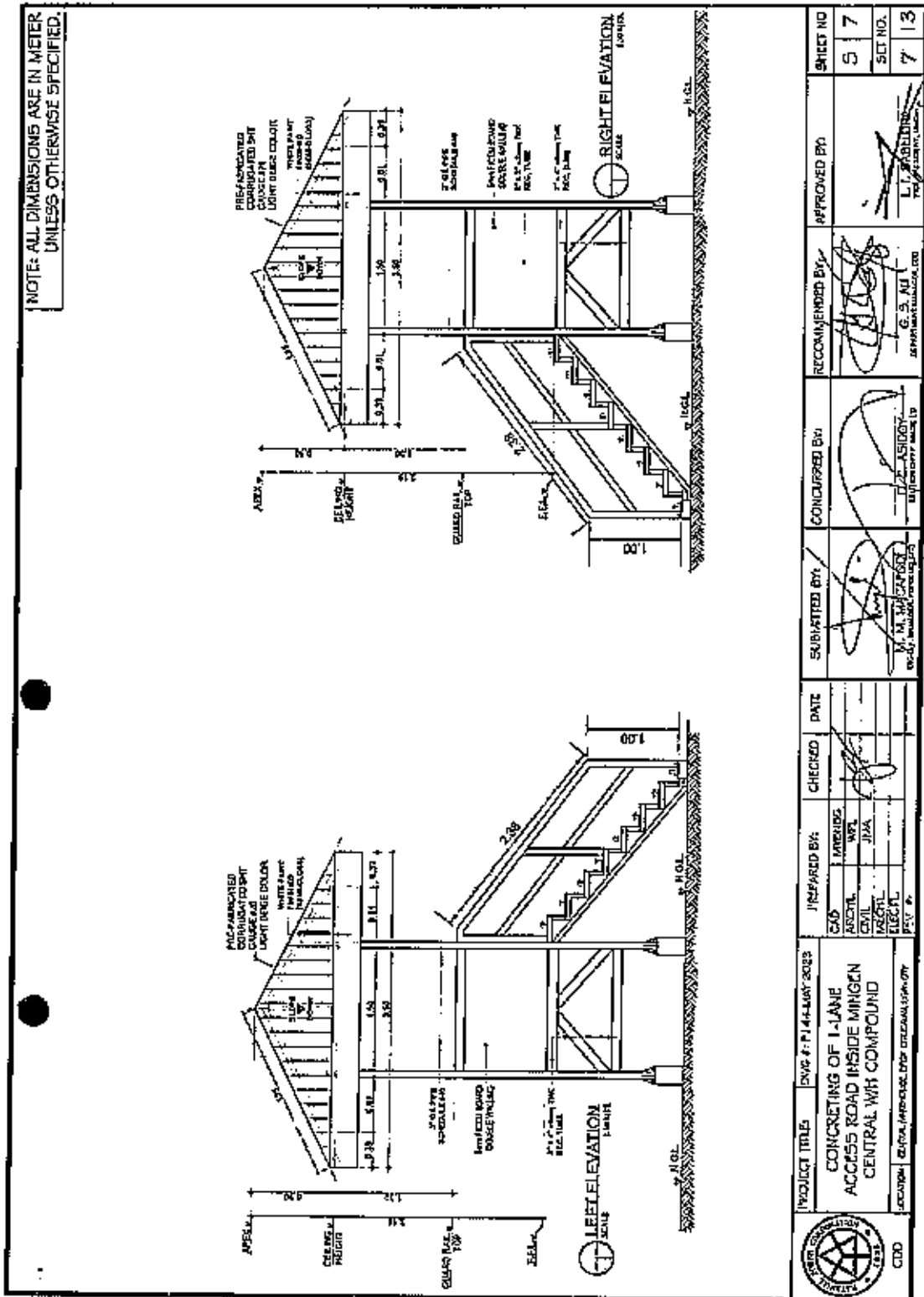
SECTION VII - DRAWINGS

NOTE: ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

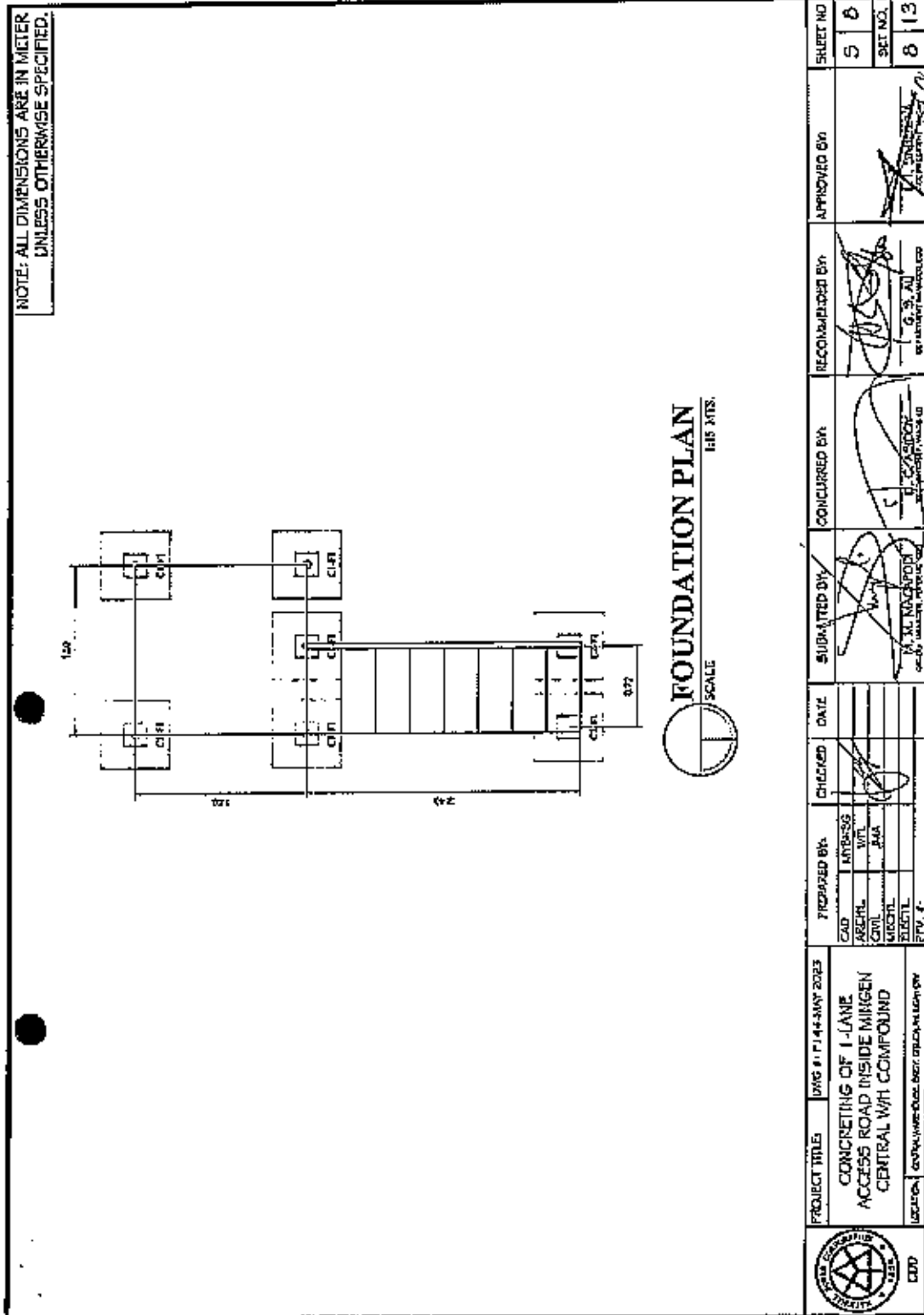
NOTE:
 INSIDE WALL - DARK GRAY
 OUTSIDE WALL - HALF LOWER - DARK GRAY
 HALF UPPER - WHITE

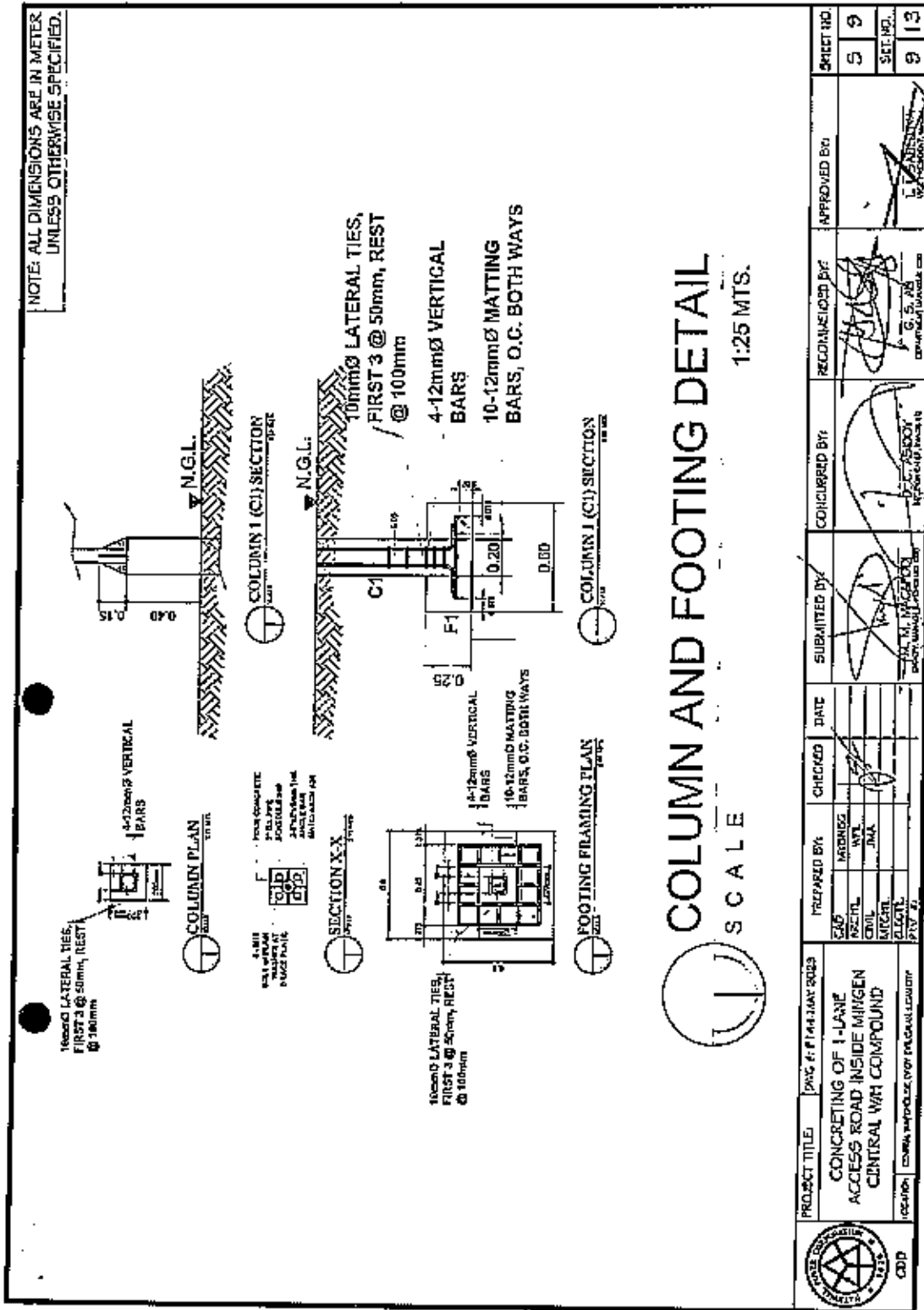


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| | PROJECT TITLE: | DATE: | APPROVED BY: | SHEET NO. |
| | CONCRETING OF 1-LANE ACCESS ROAD INSIDE MINGEN CENTRAL WH COMPOUND | 19/05/2023 | [Signature] | 5 |
| LOCATION: | PREPARED BY: | DATE: | RECOMMENDED BY: | SHEET NO. |
| OFFICE OF THE CITY ENGINEER, CEBU CITY | MR. J. M. MACALANOG | | [Signature] | 6 |
| | ENGINEER | | [Signature] | 13 |
| | DATE: | | APPROVED BY: | |
| | | | [Signature] | |

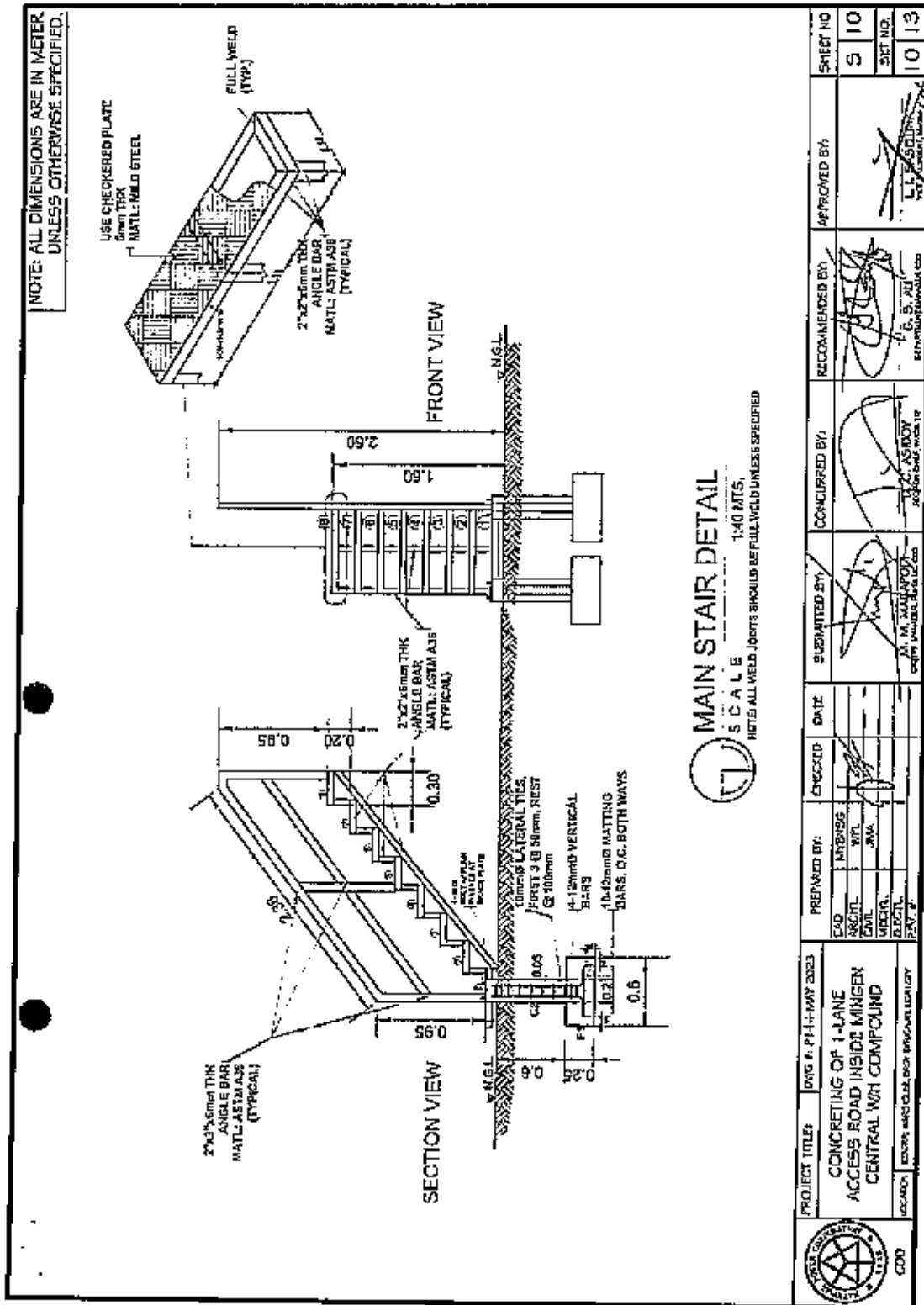


SECTION VII - DRAWINGS



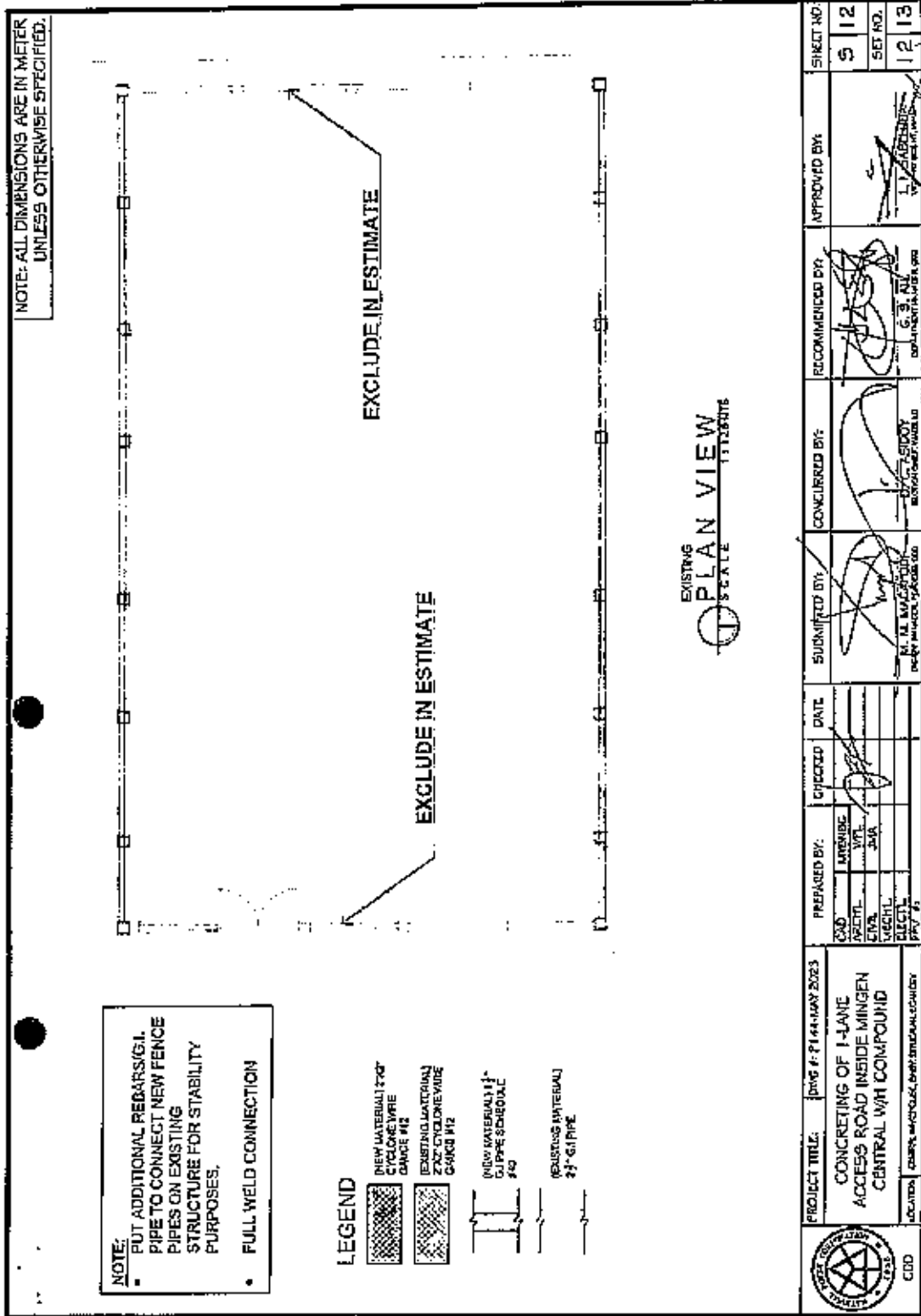


| PROJECT TITLE | | DATE | CHECKED BY | DATE | SUBMITTED BY | CONCURRED BY | RECOMMENDED BY | APPROVED BY | SHEET NO. |
|--|--------|------------|------------|------|--------------|--------------|----------------|-------------|-----------|
| CONCRETING OF 1-LANE ACCESS ROAD INSIDE MINGEN CENTRAL WH COMPOUND | | 14/01/2023 | | | | | | | 5 |
| SEARCH | DESIGN | PREPARE | CHECK | DATE | BY | BY | BY | BY | 9 |
| | | | | | | | | | 13 |



| | | | | | | | |
|--|--|-------------------|----------------------|--------------|-------|-----------------|-----------|
| | PROJECT TITLE: | DATE: 14-MAY-2023 | DESIGNED BY: | CHKD BY: | DATE: | APPROVED BY: | SHEET NO: |
| | CONCRETING OF 1-LANE ACCESS ROAD INSIDE MINGEN CENTRAL WH COMPOUND | | MRSING WFL JVA | WFL JVA | | | 510 |
| | LOCATION: | SCALE: | PREPARED BY: | APPROVED BY: | DATE: | RECOMMENDED BY: | SHEET NO. |
| | EXTRA MATERIAL FOR DIMENSIONALITY | | | | | | 1013 |

SECTION VII - DRAWINGS



NOTE: ALL DIMENSIONS ARE IN METER UNLESS OTHERWISE SPECIFIED.

NOTE:
 PUT ADDITIONAL REBARS/G.I. PIPE TO CONNECT NEW FENCE PIPES ON EXISTING STRUCTURE FOR STABILITY PURPOSES.
 FULL WELD CONNECTION

LEGEND

- NEW MATERIAL 200# CYCLONE WIRE GAUGE #12
- EXISTING MATERIAL 20# CYCLONE WIRE GAUGE #12
- NEW MATERIAL 16# G.I PIPE SCHEDULE #40
- EXISTING MATERIAL 20# G.I PIPE

EXCLUDE IN ESTIMATE

EXCLUDE IN ESTIMATE

EXISTING PLAN VIEW
 1:1 SCALE

| | | | | | | | | | | |
|-----------|--|-----------------------|--|-------------|------|---|--|--|--|-----------|
| | PROJECT TITLE: | DWG # : P164-MAY 2023 | PREPARED BY: | CHECKED | DATE | SUBMITTED BY: | CONCURRED BY: | RECOMMENDED BY: | APPROVED BY: | SHEET NO. |
| | CONCRETING OF 1-LANE ACCESS ROAD INSIDE MINGEN CENTRAL WH COMPOUND | | CAD: [Signature] ARCHT: [Signature] CIVIL: [Signature] MECH: [Signature] ELECTR: [Signature] | [Signature] | | [Signature] | [Signature] | [Signature] | [Signature] | 5 12 |
| LOCATION: | CHANG ANCHONG, BANGKOK, THAILAND | | | | | P. A. LUKKASIT DEPT. MANAGER, P164-001 | [Signature] P. A. LUKKASIT DEPT. MANAGER, P164-001 | [Signature] P. A. LUKKASIT DEPT. MANAGER, P164-001 | [Signature] P. A. LUKKASIT DEPT. MANAGER, P164-001 | 12 13 |

Section VIII. Bill of Quantities

SECTION VIII - BILL OF QUANTITIES

| MINGEN - BIDS AND AWARD COMMITTEE | | CONCRETING OF 1-LANE ACCESS ROAD INSIDE MINGEN CENTRAL WAREHOUSE COMPOUND | | | |
|--|--|---|--------------------|---------------------------------------|--------------|
| NATIONAL POWER CORPORATION, MRC, ILIGAN CITY | | PR# : MG - LGD23 - 016 | | | |
| SECTION VIII- BILL OF QUANTITIES | | BILL OF QUANTITIES | | | |
| Item No. | Description of Work or Materials | Unit | Estimated Quantity | Unit Price in Pesos (Word and Figure) | Total Amount |
| A. CONSTRUCTION SAFETY & HEALTH PROGRAM | | | | | |
| B. CONCRETING OF 1-LANE ACCESS ROAD | | | | | |
| I. Earthworks (Site Preparation) | | | | | |
| 1.0 | a.) Clearing and Grubbing | LS. | 1.00 | PHP | PHP |
| 2.0 | b.) Embankment from Borrow | cu.m. | 13.50 | PHP | PHP |
| 3.0 | c.) Subgrade Preparation (Common Material) | cu.m. | 40.00 | PHP | PHP |
| 4.0 | d.) Aggregate Subbase Course (0.20m THK.) | cu.m. | 53.00 | PHP | PHP |
| 5.0 | PCC PAVEMENT (UNREINFORCED), 0.20 blk. | sq.m. | 263.00 | PHP | PHP |
| C. CONSTRUCTION OF NEW GUARD POST | | | | | |
| I. Earthworks (Site Preparation) | | | | | |
| 1.0 | a.) Excavation | cu.m. | 2.10 | PHP | PHP |
| 2.0 | b.) Gravel Bed | cu.m. | 1.00 | PHP | PHP |
| 3.0 | STRUCTURAL CONCRETE WORKS | cu.m. | 0.89 | PHP | PHP |
| 4.0 | WALLING AND CEILING WORKS | sq.m. | 18.00 | PHP | PHP |
| 5.0 | ROOFING AND STEEL WORKS | sq.m. | 12.25 | PHP | PHP |

SECTION VIII - BILL OF QUANTITIES

| MINGEN - BIDS AND AWARD COMMITTEE | | CONCRETING OF 1-LANE ACCESS ROAD INSIDE MINGEN CENTRAL WAREHOUSE COMPOUND | | | |
|--|------------------------------------|---|-----------|---------------------|--------------|
| NATIONAL POWER CORPORATION, MRC, ILAGAN CITY | | PR NO./REF. NO.: MG-LGD23-016 | | | |
| SECTION VIII- BILL OF QUANTITIES | | | | | |
| BILL OF QUANTITIES | | | | | |
| Item | Description of Work or Materials | Unit | Estimated | Unit Price in Pesos | Total Amount |
| 6.0 | ELECTRICAL WORKS | RM | 1.00 | (PHP) | (PHP |
| 7.0 | PAINTING WORKS (Walling & Guards) | sq.m. | 13.00 | (PHP) | (PHP |
| D. INSTALLATION OF CYCLONE WIRE | | | | | |
| 1.0 | Steel Works (Central Wire) | lot | 1.00 | (PHP) | (PHP |
| TOTAL | | | | | P |

Name of Firm _____
 Name and Signature of Authorized Representative _____
 Designation _____

BID DOCUMENTS

SECTION IX- CHECKLIST OF TECHNICAL &
FINANCIAL DOCUMENTS

NAME OF PROJECT : CONCRETING OF 1-LANE ACCESS
ROAD INSIDE MINGEN CENTRAL WAREHOUSE COMPOUND
PR NO/REF. NO.: MG-LGD23-018/INFRA2023-LOG-044

Section IX. Checklist of Technical and Financial Documents

Checklist of Technical and Financial Documents

- I. **TECHNICAL COMPONENT ENVELOPE/Submit in three (3) copies- one (1) marked Original with the understanding that the Pass/Fail evaluation will be based only on the copy marked "Original"]**

Class "A" Documents

Legal Documents

- (a) Valid and updated PhilGEPS Registration Certificate (Platinum Membership) (all pages) in accordance with Section 8.5.2 of the IRR; or

Technical Documents

- (b) Statement of the prospective bidder of all its ongoing government and private contracts, including contracts awarded but not yet started, if any, whether similar or not similar in nature and complexity to the contract to be bid, using NPC-MinGen Standard Form No. NPCMGNSF-INFRA-01; and
- (c) Statement of the bidder's Single Largest Completed Contract (SLCC) similar to the contract to be bid, except under conditions provided under the rules, using NPC-MinGen Standard Form No. NPCMGNSF-INFRA-02 supported with the following documents:
- Contract and/or Notice to Proceed;
 - For project completed less than one year from the scheduled date of bid opening, submit Certificate of Completion;
 - For project completed at least one year from the scheduled date of bid opening, submit Owner's Certificate of Final Acceptance issued by the project owner other than the contractor, or a final rating of at least Satisfactory in the Constructor's Performance Evaluation System (CPES);
 - In case of contracts with the private sector, an equivalent document (Ex. Official receipt) shall be submitted.
- and
- (d) Special PCAB License in case of Joint Ventures; and registration for the type and cost of the contract to be bid; and
- (e) Original copy of Bid Security. If in the form of a Surety Bond, using NPC-MinGen Standard Form No. NPCMGNSF-INFRA-03a, submit also a certification issued by the Insurance Commission;
or
Original copy of Notarized Bid Securing Declaration using NPC-MinGen Standard Form No. NPCMGNSF-INFRA-03b; and
- (f) Project Requirements, which shall include the following:
- a. Organizational chart for the contract to be bid using NPC-MinGen Standard Form No. NPCMGNSF-INFRA-04;
 - b. List of contractor's key personnel (e.g., Project Manager, Project

- Engineers, Materials Engineers, and Foremen), to be assigned to the contract to be bid, with their complete qualification and experience data, using NPC-MinGen Standard Form No. NPCMGNSF-INFR-05;
- c. List of contractor's major equipment units, which are owned, leased, and/or under purchase agreements, supported by proof of ownership or certification of availability of equipment from the equipment lessor/vendor for the duration of the project, as the case may be, using NPC-MinGen Standard Form No. NPCMGNSF-INFR-06 and its supporting documents; and
- (g) Original duly signed Omnibus Sworn Statement (OSS), using any of the following NPC-MinGen Standard Forms No.:
NPCMGNSF-INFR-07a – for Sole Proprietorship;
or
NPCMGNSF-INFR-07b – for Partnership/Cooperative/Corporation/
Joint Venture with the following supporting documents:
- and if applicable, Original Notarized Secretary's Certificate in case of a corporation, partnership, or cooperative; or Original Special Power of Attorney of all members of the joint venture giving full power and authority to its officer to sign the OSS and do acts to represent the Bidder.

Financial Documents

- (h) The prospective bidder's computation of Net Financial Contracting Capacity (NFCC) using NPC-MinGen Standard Form No. NPCMGNSF-INFR-08.

Class "B" Documents

- (i) If applicable, duly signed joint venture agreement (JVA) in accordance with RA No. 4566 and its IRR in case the joint venture is already in existence, using NPC-MinGen Standard Form No. NPCMGNSF-INFR-09;
or
duly notarized statements from all the potential joint venture partners stating that they will enter into and abide by the provisions of the JVA in the instance that the bid is successful.

II. FINANCIAL COMPONENT ENVELOPE *[Submit in three (3) copies- one (1) marked Original with the understanding that the Pass/Fail evaluation will be based only on the copy marked "Original"]*

- (j) Original of duly signed (each and every page) and accomplished Financial Bid Form, using NPC-MinGen Standard Form No. NPCMGNSF-INFR-10;
and
Other documentary requirements under RA No. 9184
- (k) Original of duly signed (each and every page) Bid Prices in the Bill of Quantities, using given form in Section VIII; and
- (l) Duly signed (each and every page) and accomplished Detailed Estimates Form using NPC-MinGen Standard Form No. NPCMGNSF-INFR-11,

SECTION IX- CHECKLIST OF TECHNICAL &
FINANCIAL DOCUMENTS

including a summary sheet indicating the unit prices of construction materials, labor rates, and equipment rentals used in coming up with the *Bidusing NPC form NPCMGNSF-INFR-12; and*

- (m) Cash Flow by Quarter or Month, as applicable (duly signed each and every page)

STANDARD BIDDING FORMS

NPC-MINDANAO GENERATION

- NPCMGNSF-INFR-01 - List of all Ongoing Government & Private Construction Contracts Including Contracts Awarded but not yet Started
- NPCMGNSF-INFR-02 - Statement of the Bidder's Single Largest Completed Contract (SLCC) similar to the contract to be bid
- NPCMGNSF-INFR-03a - Form of Bid Security : Surety Bond
- NPCMGNSF-INFR-03b - Bid Securing Declaration Form
- NPCMGNSF-INFR-04 - Contractor's Organizational Chart for the Project
- NPCMGNSF-INFR-05 - List of Key Personnel Proposed to be Assigned to the Project
- NPCMGNSF-INFR-06 - List of Equipment, Owned or Leased and/or under Purchase Agreement, Pledged to the Proposed Project
- NPCMGNSF-INFR-07a - Omnibus Sworn Statement (Sole Proprietorship)
- NPCMGNSF-INFR-07b - Omnibus Sworn Statement (Partnership/ Cooperative/Corporation//Joint Venture)
- NPCMGNSF-INFR-08 - Computation of Net Financial Contracting Capacity (NFCC)
- NPCMGNSF-INFR-09 - Joint Venture Agreement
- NPCMGNSF-INFR-10 - Bid Form
- NPCMGNSF-INFR-11 - Detailed Cost Estimate Form
- NPCMGNSF-INFR-12 - Summary Sheets of Materials Prices, Labor Rates and Equipment Rental Rates

BID DOCUMENTS

NAME OF PROJECT : CONCRETING OF 1-LANE ACCESS
ROAD INSIDE MINGEN CENTRAL WAREHOUSE COMPOUND
PR NO./REF. NO.: MG-LGD23-016/INFRA2023-LOG-044

SECTION IX- CHECKLIST OF TECHNICAL & FINANCIAL DOCUMENTS

Standard Form Number : NPCM/GNSF-INFRA-02

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 | % | | |
| | | | | | | |

Note: The bidder must state only one (1) Single Largest Completed Contract (SLCC) similar to the contract to be bid. Stating two (2) or more will disqualify his bid. This Statement shall be supported with:

1. Contract and Notice to Proceed
2. Certificate of Completion (for project completed within the year), or Owner's Certificate of Final Acceptance (for project completed after the lapse of one year) issued by the project owner other than the contractor, or a final rating of at least Satisfactory in the Constructor's Performance Evaluation System (CPES). In case of contracts in the private sector, an equivalent document (Ex. Official Receipt) shall be accepted.

Submitted by : _____
 (Printed Name & Signature)

Designation : _____
Date : _____

Standard Form No: NPCMGNSF-INFR-03a

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 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:
 - 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 Instruction 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 grater sum than the specified penalty of this bond, nor
- b) Liable for a greater sum than the difference between the amount of the said Principal's Bid and the amount of the Bid that is accepted by the Employer.

BID DOCUMENTS

NAME OF PROJECT : CONCRETING OF 1-LANE ACCESS
ROAD INSIDE MINGEN CENTRAL WAREHOUSE COMPOUND
PR NO./REF. NO.: MG-LGD23-016/INFRA2023-LOG-044

SECTION IX- CHECKLIST OF TECHNICAL &
FINANCIAL DOCUMENTS

Standard Form No: NPCMGNSF-INFR-03a

Page 2 of 2

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)

SIGNATURE(S)

NAME(S) AND TITLE (S)

NAME(S)

SEAL

SEAL

Standard Form No: NPCMGNSF-INFR-03b

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

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

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

I/We, the undersigned, declare that:

1. I/We understand that, according to your conditions, bids must be supported by a Bid Security, which may be in the form of a Bid Securing Declaration.
2. I/We accept that: (a) I/we will be automatically disqualified from bidding for any procurement contract with any procuring entity for a period of two (2) years upon receipt of your Blacklisting Order; and, (b) I/we will pay the applicable fine provided under Section 8 of the Guidelines on the Use of Bid Securing Declaration, within fifteen (15) days from receipt of the written demand by the procuring entity for the commission of acts resulting to the enforcement of the bid securing declaration under Sections 23.1(b), 34.2, 40.1 and 69.1, except 69.1(f), of the IRR of RA No. 9184; without prejudice to other legal action the government may undertake.
3. I/We understand that this Bid Securing Declaration shall cease to be valid on the following circumstances:
 - a. Upon expiration of the bid validity period, or any extension thereof pursuant to your request;
 - b. I am/we are declared ineligible or post-disqualified upon receipt of your notice to such effect, and (i) I/we failed to timely file a request for reconsideration or (ii) I/we filed a waiver to avail of said right; and
 - c. I am/we are declared the bidder with the Lowest Calculated Responsive Bid, and I/we have furnished the performance security and signed the Contract.

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

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

[Jurat]

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

Standard Form No: NPCMGNSF-INFR-04

CONTRACTOR'S ORGANIZATIONAL CHART FOR THE CONTRACT

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

Attach the required Proposed Organizational Chart for the Contract as stated above

NOTES:

1. *This organization chart should represent the "Contractor's Organization" required for the Project, and not the organizational chart of the entire firm.*
2. *Each such nominated engineer/key personnel shall comply with and submit their complete qualification and experience data.*
3. *All these are required to be in the Technical Envelope of the Bidder.*

BID DOCUMENTS

NAME OF PROJECT : CONCRETING OF 1-LANE ACCESS
 ROAD INSIDE MINGEN CENTRAL WAREHOUSE COMPOUND
 PR NO./REF. NO.. MG-LGD23-016/INFRA2023-LOG-044

**SECTION IX- CHECKLIST OF TECHNICAL &
 FINANCIAL DOCUMENTS**

Standard Form Number : NPC/MGNSF-INF-05

**LIST OF KEY PERSONNEL PROPOSED TO BE ASSIGNED TO THE CONTRACT
 (Based on the Minimum Key Personnel Required in the Bidding Documents)**

Business Name : _____
 Business : _____

| DESIGNATION | |
|---|--|
| 1. Name | |
| 2. Address | |
| 3. Date of Birth | |
| 4. Employed Since | |
| 5. Experience (in Months/years) | |
| 6. Previous Employment | |
| 7. Education | |
| 8. PRC License/NCII/OSWS/Other required certificate | |

Required Attachments During Post Qualification:

1. Certificate of Employment and valid PRC license of the [professional] personnel
2. Certificate of Training with accreditation from DOLE of the Construction Safety and Health Officer
3. Copy of Diploma and/or Service Record/Certificate of Employment of previous and/or current employer of Foreman, Welder, Plumber or Electrician, whichever is applicable
4. TESDA Training Certificate (NC II) of Welder or Electrician, whichever is applicable

Submitted by: _____
 [Printed name & Signature]

Designation: _____
 Date: _____

One of the requirements from the bidder to be included in the Technical Envelope is a list of contractor's key personnel (based on the minimum key personnel required in the bidding documents) to be assigned to the contract to be bid, with their complete qualification and experience data (including the key personnel's signed written commitment to work for the project once awarded the contract).

BID DOCUMENTS

NAME OF PROJECT : CONCRETING OF 1-LANE ACCESS
ROAD INSIDE MINGEN CENTRAL WAREHOUSE COMPOUND
PR NO./REF. NO.: MG-LGD23-016/INFRA2023-LOG-044

SECTION IX- CHECKLIST OF TECHNICAL &
FINANCIAL DOCUMENTS

Standard Form No: NPCMGNSF-INFR-06a
Page 2 of 2

I do not allow the use of my name for the purpose of enabling the above-mentioned Contractor to qualify for the Contract without any firm commitment on my part to assume the post of (Designation) therefore, if the contract is awarded to him since I understand that to do so will be a sufficient ground for my disqualification as (Designation) in any future National Power Corporation bidding or employment with any Contractor doing business with the National Power Corporation.

(Name and Signature)
AFFIANT

REPUBLIC OF THE PHILIPPINES)
City/Municipality of _____)S.S.

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

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

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

One of the requirements from the bidder to be included in its Technical Envelope is a list of contractor's key personnel (viz. Project Manager, Project Engineer, Safety & Health Practitioner, Foremen, etc.), to be assigned to the contract to be bid, with their complete qualification and experience data (including the key personnel's signed written commitment to work for the project once awarded the contract).

Standard Form No: NPCMGNSF-INFR-06b

**KEY PERSONNEL'S CERTIFICATE OF EMPLOYMENT
(CONSTRUCTION SAFETY AND HEALTH PRACTITIONER)**

Issuance Date

THE VICE PRESIDENT
National Power Corporation
Mindanao Generation
Maria Cristina, Iligan City

Dear Sir:

I am (Name of Nominee) a Licensed _____ Engineer with
Professional License No. _____ Issued on _____ at _____
(date of issuance) (place
of Issuance)

I hereby certify that (Name of Bidder) Has engaged my services as
(Designation) for the (Name of Project), if awarded to it.

As (Designation), I supervised the following completed projects
Similar to the contract under bidding:

| NAME OF PROJECT | OWNER | COST | DATE COMPLETED |
|-----------------|-------|------|----------------|
| | | | |
| | | | |
| | | | |

At present, I am supervising the following projects:

| NAME OF PROJECT | OWNER | COST | DATE COMPLETED |
|-----------------|-------|------|----------------|
| | | | |
| | | | |
| | | | |

In case of my separation for any reason whatsoever from the above-mentioned Contractor, I shall notify the National Power Corporation at least twenty one (21) days before the effective date of separation.

As Safety and Health Practitioner, I know I will have to stay in the job site all the time and aware that I am authorized to handle only one (1) contract at a time.

One of the requirements from the bidder to be included in its Technical Envelope is a list of contractor's key personnel (viz. Project Manager, Project Engineer, Safety & Health Practitioner, Foremen, etc.), to be assigned to the contract to be bid, with their complete qualification and experience data (including the key personnel's signed written commitment to work for the project once awarded the contract).

BID DOCUMENTS

NAME OF PROJECT : CONCRETING OF 1-LANE ACCESS
ROAD INSIDE MINGEN CENTRAL WAREHOUSE COMPOUND
PR NO./REF. NO.: MG-LGD23-016/INFRA2023-LOG-044

SECTION IX- CHECKLIST OF TECHNICAL &
FINANCIAL DOCUMENTS

Standard Form No; NPCMGNSF-INFR-06b
Page 2 of 2

I do not allow the use of my name for the purpose of enabling the above-mentioned Contractor to qualify for the Contract without any firm commitment on my part to assume the post of Safety and Health Practitioner, if the contract is awarded to him since I understand that to do so will be a sufficient ground for my disqualification as Safety and Health Practitioner in any future National Power Corporation bidding or employment with any Contractor doing business with the National Power Corporation.

(Name and Signature)
AFFIANT

REPUBLIC OF THE PHILIPPINES)
City/Municipality of _____)S.S.

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

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

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

One of the requirements from the bidder to be included in its Technical Envelope is a list of contractor's key personnel (viz. Project Manager, Project Engineer, Safety & Health Practitioner, Foremen, etc.), to be assigned to the contract to be bid, with their complete qualification and experience data (including the key personnel's signed written commitment to work for the project once awarded the contract).

Standard Form No: NPCMGNSF-INF-07

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

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

- 1. Name : _____
 - 2. Date of Birth : _____
 - 3. Nationality : _____
 - 4. Education and Degrees : _____
 - 5. Specialty : _____
 - 6. Registration : _____
 - 7. Length of Service with the Firm : _____
- | | | | |
|------|----------------|--------------|--|
| Year | | | |
| from | _____ (months) | _____ (year) | |
| To | _____ (months) | _____ (year) | |
- 8. Years of Experience : _____

9. If item 7 is less than the required number of years stated in BDS Section III- ITB Clause 10.4, give name and length of service with previous employers to satisfy the required number of years of experience within the last ten (10) years (attached additional sheef/s), if necessary:

| <u>Name and Address of Employer</u> | <u>Length of Service</u> |
|-------------------------------------|-----------------------------|
| | Year(s) from _____ to _____ |
| | Year(s) from _____ to _____ |
| | Year(s) from _____ to _____ |

10. Experience:

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

One of the requirements from the bidder to be included in its Technical Envelope is a list of contractor's key personnel (viz. Project Manager, Project Engineer, Safety & Health Practitioner, Foremen, etc.), to be assigned to the contract to be bid, with their complete qualification and experience data (including the key personnel's signed written commitment to work for the project once awarded the contract).

- 1. Name : _____
- 2. Name and Address of Owner : _____
- 3. Name and Address of the Owner's Engineer (Consultant) : _____
- 4. Indicate the Features of Project (particulars of the project components and any other particular interest connected with the project) : _____
- 5. Contract Amount Expressed in Philippine Currency : _____
- 6. Position : _____
- 7. Structures for which the employee was responsible : _____
- 8. Assignment Period : from _____ (months) _____ (years)
to _____ (months) _____ (years)

Name and Signature of
Employee

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

(Place and Date)

(The Authorized Representative)

One of the requirements from the bidder to be included in its Technical Envelope is a list of contractor's key personnel (viz. Project Manager, Project Engineer, Safety & Health Practitioner, Foremen, etc.), to be assigned to the contract to be bid, with their complete qualification and experience data (including the key personnel's signed written commitment to work for the project once awarded the contract).

BID DOCUMENTS

NAME OF PROJECT : CONCRETING OF 1-LANE ACCESS
 ROAD INSIDE MINGEN CENTRAL WAREHOUSE COMPOUND
 PR NO./REF. NO.. MG-LGD23-016/INFRA2023-LOG-044

**SECTION IX-CHECKLIST OF TECHNICAL &
 FINANCIAL DOCUMENTS**

Standard Form Number : NPCMGNSE-INFN - 08

**LIST OF EQUIPMENT, OWNED OR LEASED AND/OR UNDER PURCHASE AGREEMENTS
 (Based on the Minimum Equipment Required in the Bidding Documents)**

Business Name : _____
 Business : _____

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

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

One of the requirements from the bidder to be included in its Technical Envelope is the list of its equipment units pledged for the contract to be bid, based on minimum equipment required in the bidding docs, which are owned (supported by proofs of ownership), leased, and/or under purchase agreements (with corresponding engine numbers, chassis numbers and/or serial numbers), supported by certification of availability of equipment from the equipment lessor/vendor for the duration of the project.

Standard Form No: NPCMGNSF-INFR-09a

Omnibus Sworn Statement (Revised)
(SOLE PROPRIETORSHIP)

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. I am the sole proprietor or authorized representative of [Name of Bidder] with office address at [address of Bidder];
2. 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 National Power Corporation-Mindanao Generation, as shown in the attached duly notarized Special Power of Attorney;
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. 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;
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;

Standard Form No: NPCMGNSF-INFRA-09a

Page 2 of 2

- 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

[Jurati]

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

Standard Form No: NPCMGNSF-INFR-09b

Omnibus Sworn Statement (Revised)
PARTNERSHIP/COOP/CORP/JOINT VENTURE

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. I am the duly authorized and designated representative of [Name of Bidder] with office address at [address of Bidder];
2. 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 National Power Corporation-Mindanao Generation, 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. *[If a partnership or cooperative:]* None of the officers and members of [Name of Bidder]'s 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]'s 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;

Standard Form No: NPCMGNSF-INFR-09b

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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

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

Standard Form No: NPCMGNSF-INFR-10

NET FINANCIAL CONTRACTING CAPACITY (NFCC)

- A. Summary of the Bidder's/Contractor'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 Bidder/Contractor

Signature of Authorized Representative

Date: _____

BID DOCUMENTS

NAME OF PROJECT : CONCRETING OF 1-LANE ACCESS
ROAD INSIDE MINGEN CENTRAL WAREHOUSE COMPOUND
PR NO./REF. NO.: MG-LGD23-016/INFRA2023-LOG-044

SECTION IX- CHECKLIST OF TECHNICAL &
FINANCIAL DOCUMENTS

Standard Form No: NPCMGNSF-INFR-11

JOINT VENTURE AGREEMENT

KNOW ALL MEN BY THESE PRESENTS:

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

- and -

_____, of legal age, (civil status), authorized representative of
_____ and 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 FIRM

CAPITAL CONTRIBUTION

That the capital contribution of each member firm:

NAME OF FIRM

CAPITAL CONTRIBUTION

| | |
|---|-----|
| 1 | DLD |
| 2 | PHD |

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

If the bidder is a joint venture, one of the requirements is the submission of a valid joint venture agreement.

Standard Form No: NPCMGNSF-INFR-11

Page 2 of 2

ACKNOWLEDGEMENT

BEFORE ME, a Notary Public for and in _____, Philippines, this _____ day of _____, 20____, personally appeared _____, authorized representative, of _____ with Community Tax Certificate No. _____, issued at _____, on _____, AND _____ authorized representative, of _____ with Community Tax Certificate No. _____, issued at _____, on _____ known to me to be the same person who executed the foregoing instrument consisting of two (2) pages, including the page whereon the acknowledgements are written, all pages signed by both parties and their instrumental witnesses and they acknowledged before me that the same are their free and voluntary acts and deeds and that of the Corporations they represents.

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

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

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

If the bidder is a joint venture, one of the requirements is the submission of a valid joint venture agreement.

Standard Form No: NPCMGNSF-INFR-12

Bid Form for the Procurement of Infrastructure Projects**BID FORM**

Date : _____

Project Identification No. : _____

To: **The Vice President**
National Power Corporation
Mindanao Generation
Maria Cristina, Iligan City

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

- a. We have no reservation to the PBDs, including the Supplemental or Bid Bulletins, for the Procurement Project: insert name of contract;
- b. We offer to execute the Works for this Contract in accordance with the PBDs;
- c. The total price of our Bid in words and figures, excluding any discounts offered below is: insert information;
- d. The discounts offered and the methodology for their application are: insert information;
- e. The total bid price includes the cost of all taxes, such as, but not limited to: specify the applicable taxes, e.g. (i) value added tax (VAT), (ii) income tax, (iii) local taxes, and (iv) other fiscal levies and duties, which are itemized herein and reflected in the detailed estimates,
- f. Our Bid shall be valid within the a period stated in the PBDs, and it shall remain binding upon us at any time before the expiration of that period;
- g. If our Bid is accepted, we commit to obtain a Performance Security in the amount of insert percentage amount percent of the Contract Price for the due performance of the Contract, or a Performance Securing Declaration in lieu of the the allowable forms of Performance Security, subject to the terms and conditions of issued GPPB guidelines¹ for this purpose;
- h. We are not participating, as Bidders, in more than one Bid in this bidding process, other than alternative offers in accordance with the Bidding Documents;
- i. We understand that this Bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal Contract is prepared and executed; and

¹ currently based on GPPB Resolution No. 09-2020

BID DOCUMENTS

NAME OF PROJECT : CONCRETING OF 1-LANE ACCESS
ROAD INSIDE MINGEN CENTRAL WAREHOUSE COMPOUND
PR NO./REF. NO.: MG-LGD23-018/INFRA2023-LOG-044

SECTION IX- CHECKLIST OF TECHNICAL &
FINANCIAL DOCUMENTS

Standard Form No: NPCMGNSF-INFRA-12

Page 2 of 2

- j. We understand that you are not bound to accept the Lowest Calculated Bid or any other Bid that you may receive.
- k. We likewise certify/confirm that the undersigned, is the duly authorized representative of the bidder, and granted full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for the [Name of Project] of the National Power Corporation-Mindanao Generation.
- l. We acknowledge that failure to sign each and every page of this Bid Form, including the Bill of Quantities, shall be a ground for the rejection of our bid.

Name: _____

Legal Capacity: _____

Signature: _____

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

Date: _____

Standard Form No: NPCMGNSF-INFR-14

**SUMMARY SHEETS OF MATERIALS PRICES, LABOR RATES AND
EQUIPMENT RENTAL RATES**

Name of Bidder: _____

I. Unit Prices of Materials

| Materials Description | Unit | Unit Price |
|-----------------------|------|------------|
|-----------------------|------|------------|

II. Manpower Hourly Rates

| Designation | Rate/Hr. |
|-------------|----------|
|-------------|----------|

III. Equipment Hourly Rental Rates

| Equipment Description | Rental Rate/Hr. |
|-----------------------|-----------------|
|-----------------------|-----------------|

Name, Signature of Authorized

Designation

Performance Securing Declaration (Revised)

[if used as an alternative performance security but it is not required to be submitted with the Bid, as it shall be submitted within ten (10) days after receiving the Notice of Award]

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

PERFORMANCE SECURING DECLARATION

Invitation to Bid: [Insert Reference Number indicated in the Bidding Documents]

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

I/We, the undersigned, declare that:

1. I/We understand that, according to your conditions, to guarantee the faithful performance by the supplier/distributor/manufacturer/contractor/consultant of its obligations under the Contract, I/we shall submit a Performance Securing Declaration within a maximum period of ten (10) calendar days from the receipt of the Notice of Award prior to the signing of the Contract.
2. I/We accept that: I/we will be automatically disqualified from bidding for any procurement contract with any procuring entity for a period of one (1) year for the first offense, or two (2) years **for the second offense**, upon receipt of your Blacklisting Order if I/We have violated my/our obligations under the Contract;
3. I/We understand that this Performance Securing Declaration shall cease to be valid upon:
 - a. issuance by the Procuring Entity of the Certificate of Final Acceptance, subject to the following conditions:
 - i. Procuring Entity has no claims filed against the contract awardee;
 - ii. It has no claims for labor and materials filed against the contractor; and
 - iii. Other terms of the contract; or
 - b. replacement by the winning bidder of the submitted PSD with a performance security in any of the prescribed forms under Section 39.2 of the 2016 revised IRR of RA No. 9184 as required by the end-user.

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

*[Insert NAME OF BIDDER OR ITS
AUTHORIZED REPRESENTATIVE]*

[Insert signatory's legal capacity]

Affiant

[Jurat]

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

Contract Agreement Form for the Procurement of Infrastructure Projects (Revised)

[not required to be submitted with the Bid, but it shall be submitted within ten (10) days after receiving the Notice of Award]

CONTRACT AGREEMENT

THIS AGREEMENT, made this *[insert date]* day of *[insert month]*, *[insert year]* between *[name and address of PROCURING ENTITY]* (hereinafter called the "Entity") and *[name and address of Contractor]* (hereinafter called the "Contractor").

WHEREAS, the Entity is desirous that the Contractor execute *[name and identification number of contract]* (hereinafter called "the Works") and the Entity has accepted the Bid for *[contract price in words and figures in specified currency]* by the Contractor for the execution and completion of such Works and the remedying of any defects therein.

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement, words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following documents as required by the 2016 revised Implementing Rules and Regulations of Republic Act No. 9184 shall be deemed to form and be read and construed as part of this Agreement, *viz.*:
 - a. Philippine Bidding Documents (PBDs);
 - i. Drawings/Plans;
 - ii. Specifications;
 - iii. Bill of Quantities;
 - iv. General and Special Conditions of Contract;
 - v. Supplemental or Bid Bulletins, if any;
 - b. Winning bidder's bid, including the Eligibility requirements, Technical and Financial Proposals, and all other documents or statements submitted;

Bid form, including all the documents/statements contained in the Bidder's bidding envelopes, as annexes, and all other documents submitted (e.g., Bidder's response to request for clarifications on the bid), including corrections to the bid, if any, resulting from the Procuring Entity's bid evaluation;

- c. Performance Security;
- d. Notice of Award of Contract and the Bidder's conforme thereto; and
- e. Other contract documents that may be required by existing laws and/or the Procuring Entity concerned in the PBDs. **Winning bidder agrees that additional contract documents or information prescribed by the GPPB that are subsequently required for submission after the contract execution, such as the Notice to Proceed, Variation Orders, and Warranty Security, shall likewise form part of the Contract.**

3. In consideration for the sum of *[total contract price in words and figures]* or such other sums as may be ascertained, *[Named of the bidder]* agrees to *[state the object of the contract]* in accordance with his/her/its Bid.
4. The *[Name of the procuring entity]* agrees to pay the above-mentioned sum in accordance with the terms of the Bidding.

IN WITNESS whereof the parties thereto have caused this Agreement to be executed the day and year first before written.

[Insert Name and Signature]

[Insert Name and Signature]

[Insert Signatory's Legal Capacity]

[Insert Signatory's Legal Capacity]

for:

for:

[Insert Procuring Entity]

[Insert Name of Supplier]

Acknowledgment

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

