



Republic of the Philippines
DEPARTMENT OF AGRICULTURE
NATIONAL IRRIGATION ADMINISTRATION
REGIONAL OFFICE NO. VII (CENTRAL VISAYAS)

JANTIANON SIP, PACKAGE 3
(Construction of Lined Canal and Canal Structures
of Sub-Laterals "B #1 " and "B #2" Canal),
AMLAN, NEGROS ORIENTAL

NOSO-LMC-SIP-10-2024

07 February 2024

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Glossary of Terms, Abbreviations, and Acronyms

ABC – Approved Budget for the Contract.

ARCC – Allowable Range of Contract Cost.

BAC – Bids and Awards Committee.

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

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

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

BIR – Bureau of Internal Revenue.

BSP – Bangko Sentral ng Pilipinas.

CDA – Cooperative Development Authority.

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

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

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

CPI – Consumer Price Index.

DOLE – Department of Labor and Employment.

DTI – Department of Trade and Industry.

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

GFI – Government Financial Institution.

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

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

GOP – Government of the Philippines.

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

LGUs – Local Government Units.

NFCC – Net Financial Contracting Capacity.

NGA – National Government Agency.

PCAB – Philippine Contractors Accreditation Board.

PhilGEPS - Philippine Government Electronic Procurement System.

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

PSA – Philippine Statistics Authority.

SEC – Securities and Exchange Commission.

SLCC – Single Largest Completed Contract.

UN – United Nations.

Section I. Invitation to Bid



Republic of the Philippines
DEPARTMENT OF AGRICULTURE
NATIONAL IRRIGATION ADMINISTRATION
REGIONAL OFFICE NO. VII (CENTRAL VISAYAS)

Invitation to Bid

**FOR JANTIANON SIP, PACKAGE 3 (CONSTRUCTION OF LINED CANAL
AND CANAL STRUCTURES OF LATERAL "B" CANAL),
AMLAN, NEGROS ORIENTAL**

1. National Irrigation Administration – Regional Office VII (NIA-RO VII), through the General Appropriation Act – Small Irrigation Project for Fiscal Year 2024 (GAA-SIP FY 2024) intends to apply the sum of **Thirteen Million Six Hundred Six Thousand Six Hundred Sixty-Seven Pesos and 00/100 (₱ 13,606,667.00) only** being the Approved Budget for the Contract (ABC) to payment under contract for **JANTIANON SIP, PACKAGE 3 (CONSTRUCTION OF LINED CANAL AND CANAL STRUCTURES OF SUB-LATERALS "B #1 " AND "B #2" CANAL), AMLAN, NEGROS ORIENTAL** with Contract No. **NOSO-LMC-SIP-10-2024**. Bids received in excess of the ABC shall be automatically rejected at bid opening.
2. The NIA-RO7 now invites bid for the above Procurement Project. Completion of the Work is required **Two Hundred Seventy (270) 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. Instruction to Bidders.
3. Bidding will be conducted through open competitive bidding procedures using non-discretionary “pass/fail” criterion as specified in the 2016 revised Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 9184.
4. Interested Bidders may obtain further information from the NIA-RO7 and inspect Bidding Documents at the address given below from 8:00 A.M. to 5:00 P.M. except during declared (special & regular) holidays and weekends.
5. A complete set of Bidding Documents may be acquired by interested Bidders who were able to log-in in the Philippine Government Electronic Procurement System (PhilGEPS) wherein the name of the company will be reflected in the Documents Request List of the Bid Notice Abstract of the Procuring Entity, from from **February 07, 2024, 8:00 A.M. to February 29, 2024, 3:00 P.M.** during office hour from the given address and website(s) below and upon presentation of the payment from NIA - Negros Oriental Satellite Office Cashier of nonrefundable fee of **Fourteen Thousand pesos (₱ 14,000.00) only** its proof of payment for the fees in person, by facsimile, or through electronic means.

Interested Bidders’ representatives must also present a letter duly signed by the General Manager/Owner, if Sole Proprietorship, or authorized Signatory if Corporation, authorizing him/her to acquire the Bidding Documents.

6. The NIA-RO7 will hold a Pre-Bid Conference on **February 15, 2024, 3:00 P.M.** at the **Conference Room, NIA Negros Oriental Satellite Office, Osmeña St., Poblacion, Sibulan, Negros Oriental**, and/or through videoconferencing/webcasting via Google Meet, which shall be open to prospective bidders.

7. Bids must be duly received by the BAC Secretariat through manual submission at the **Conference Room, NIA Negros Oriental Satellite Office, Osmeña St., Poblacion, Sibulan, Negros Oriental** on or before **February 29, 2024, 3:00 P.M.** Late bids shall not be accepted.
8. All bids must be accompanied by a bid security in any of the acceptable forms and in the amount stated in ITB Clause 15.
9. Bid opening shall be on **February 29, 2024, 3:00 P.M. at Conference Room, NIA Negros Oriental Satellite Office, Osmeña St., Poblacion, Sibulan, Negros Oriental** and/or through videoconferencing/webcasting via Google Meet. Bids will be opened in the presence of the bidders' representatives who choose to attend the activity.
10. The NIA-R07 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:
NIA-Negros Oriental Satellite Office
C/O The BAC Secretariat
Osmeña St., Poblacion, Sibulan
Negros Oriental
Telephone No. (035) 419-9590
Email Address: nianegrosoriental@gmail.com
12. You may visit the websites (region7.nia.gov.ph and PhilGEPS) for downloading of Bidding of Documents.

February 07, 2024

Sgd. ENGR. ORENCIO M. APALE
BAC Chairperson

Section II. Instructions to Bidders

1. Scope of Bid

The Procuring Entity, *National Irrigation Administration - Regional Office 7 (NIA-RO7)* invites Bids for the **JANTIANON SIP, PACKAGE 3 (CONSTRUCTION OF LINED CANAL AND CANAL STRUCTURES OF SUB-LATERALS "B #1 " AND "B #2" CANAL), AMLAN, NEGROS ORIENTAL**, with Project Identification Number **NOSO-LMC-SIP-10-2024**.

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

2. Funding Information

2.1. The GOP through the source of funding as indicated below for FY 2024 in the amount of **PhP 13,606,667.00**.

2.2. The source of funding is:

- a. NGA, the General Appropriations Act or Special Appropriations.

3. Bidding Requirements

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

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

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

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

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

5. Eligible Bidders

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

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

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

6. Origin of Associated Goods

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

7. Subcontracts

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

The Procuring Entity has prescribed that:

- a. Subcontracting is 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 special PCAB License in case of Joint Ventures, 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 for a period of 120 calendar days from the date of the opening of bids. Any bid not accompanied by an acceptable bid security shall be rejected by the Procuring Entity as non-responsive.

16. Sealing and Marking of Bids

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

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

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

17. Deadline for Submission of Bids

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

18. Opening and Preliminary Examination of Bids

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

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

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

19. Detailed Evaluation and Comparison of Bids

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

19.2. If the Project allows partial bids, all Bids and combinations of Bids as indicated in the **BDS** shall be received by the same deadline and opened and evaluated simultaneously so as to determine the Bid or combination of Bids offering the lowest calculated cost to the Procuring Entity. Bid Security as required by **ITB** Clause 15 shall be submitted for each contract (lot) separately.

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

20. Post Qualification

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

21. Signing of the Contract

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

Section III. Bid Data Sheet

Bid Data Sheet

ITB Clause																																						
5.2	For this purpose, contracts similar to the Project refer to contracts which have the same major categories of work, which shall be: <i>Construction of Canal and Canal Structures</i>																																					
7.1	<i>Sub-contracting is not allowed</i>																																					
10.3	<i>None</i>																																					
10.4	<div>The key personnel must meet the required minimum years of experience set below:</div> <table><thead><tr><th><u>Key Personnel</u></th><th><u>Relevant Experience</u></th></tr></thead><tbody><tr><td>1 – Project Manager</td><td>– Preferably Technical individual with at least three (3) years’ experience as Project Manager;</td></tr><tr><td>1 – Project Engineer</td><td>– A licensed Civil Engineer with at least two (2) years’ experience as Project Engineer in similar works;</td></tr><tr><td>1 – Safety/Health Officer</td><td>– With Training Certificate and with at least two (2) years’ experience as Safety Officer.</td></tr><tr><td>1 - Foreman</td><td>– with at least two (2) years’ experience as Foreman for Earthworks, concreting and/or other related works;</td></tr><tr><td>1 - Materials Engineer</td><td>- With at least two (2) years’ experience as Materials Engineer duly accredited by the DPWH provided that the limits of</td></tr></tbody></table> <table><thead><tr><th>Classification</th><th>Max. No. of Projects</th><th>Max. Projects/ Aggregate Cost (Php)</th></tr></thead><tbody><tr><td rowspan="5">Materials Engineer I</td><td>1</td><td><500Million</td></tr><tr><td>2</td><td><450Million</td></tr><tr><td>3</td><td><400Million</td></tr><tr><td>4</td><td><350Million</td></tr><tr><td>5</td><td><300Million</td></tr><tr><td rowspan="5">Materials Engineer II</td><td>1</td><td>No limit</td></tr><tr><td>2</td><td><500Million</td></tr><tr><td>3</td><td><450Million</td></tr><tr><td>4</td><td><400Million</td></tr><tr><td>5</td><td><350Million</td></tr></tbody></table>	<u>Key Personnel</u>	<u>Relevant Experience</u>	1 – Project Manager	– Preferably Technical individual with at least three (3) years’ experience as Project Manager;	1 – Project Engineer	– A licensed Civil Engineer with at least two (2) years’ experience as Project Engineer in similar works;	1 – Safety/Health Officer	– With Training Certificate and with at least two (2) years’ experience as Safety Officer.	1 - Foreman	– with at least two (2) years’ experience as Foreman for Earthworks, concreting and/or other related works;	1 - Materials Engineer	- With at least two (2) years’ experience as Materials Engineer duly accredited by the DPWH provided that the limits of	Classification	Max. No. of Projects	Max. Projects/ Aggregate Cost (Php)	Materials Engineer I	1	<500Million	2	<450Million	3	<400Million	4	<350Million	5	<300Million	Materials Engineer II	1	No limit	2	<500Million	3	<450Million	4	<400Million	5	<350Million
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	Provisional Materials Engineers may be assigned to a maximum of three (3) Projects simultaneously with individual project cost of Php 3 Million to Php20Million and an aggregate amount of not more than Php60Million																																				
10.5	<p>The minimum major equipment requirements are the following:</p> <table><tr><th colspan="2">Equipment</th><th>Capacity</th><th>Number of Units</th></tr><tr><td>1.</td><td>Dump Truck</td><td></td><td>1</td></tr><tr><td>2.</td><td>Cargo Truck</td><td></td><td>1</td></tr><tr><td>3.</td><td>Backhoe</td><td></td><td>1</td></tr><tr><td>4.</td><td>Concrete Mixer</td><td>1 bagger</td><td>2</td></tr><tr><td>5.</td><td>Concrete Vibrator</td><td></td><td>2</td></tr><tr><td>6.</td><td>Plate Compactor</td><td></td><td>1</td></tr><tr><td>7.</td><td>Survey Instrument</td><td></td><td>1</td></tr><tr><td>8.</td><td>Bar Cutter</td><td></td><td>1</td></tr></table>	Equipment		Capacity	Number of Units	1.	Dump Truck		1	2.	Cargo Truck		1	3.	Backhoe		1	4.	Concrete Mixer	1 bagger	2	5.	Concrete Vibrator		2	6.	Plate Compactor		1	7.	Survey Instrument		1	8.	Bar Cutter		1
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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> <p>a. The amount of not less than <i>two percent (2%) of ABC</i>, if bid security is in cash, cashier’s/manager’s check, bank draft/guarantee or irrevocable letter of credit;</p> <p>b. The amount of not less than <i>five percent (5%) of ABC</i> if bid security is in Surety Bond.</p>																																				
19.2	Partial bids are not allowed.																																				
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21	Additional contract documents relevant to the Project that may be required by existing laws and/or the Procuring Entity, such as construction schedule and S-curve, manpower schedule, construction methods, equipment utilization schedule, construction safety and health program approved by the DOLE, and other acceptable tools of project scheduling.																																				

Section IV. General Conditions of Contract

1. Scope of Contract

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

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

2. Sectional Completion of Works

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

3. Possession of Site

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

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

4. The Contractor's Obligations

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

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

5. Performance Security

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

6. Site Investigation Reports

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

7. Warranty

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

8. Liability of the Contractor

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

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

9. Termination for Other Causes

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

10. Dayworks

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

11. Program of Work

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

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

12. Instructions, Inspections and Audits

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

13. Advance Payment

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

14. Progress Payments

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

15. Operating and Maintenance Manuals

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

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

Section V. Special Conditions of Contract

Special Conditions of Contract

GCC Clause	
2	Mobilization of Equipment - within 7 calendar days after receipt of Notice to Proceed
4.1	As per construction program submitted
6	The site investigation reports are: none
7.2	<i>[In case of semi-permanent structures, such as buildings of types 1, 2, and 3 as classified under the National Building Code of the Philippines, concrete/asphalt roads, concrete river control, drainage, irrigation lined canals, river landing, deep wells, rock causeway, pedestrian overpass, and other similar semi-permanent structures:]</i> Five (5) years.
10	a. Dayworks are applicable at the rate shown in the Contractor's original Bid.
11.1	The Contractor shall submit the Program of Work to the Procuring Entity's Representative within 7 days of delivery of the Notice of Award.
11.2	The amount to be withheld for late submission of an updated Program of Work is none.
13	The amount of the advance payment is 15% of the Contract Price and to be recouped every progress billing, to be made as per herein schedule: a. First (1 st) Installment – 7.5% of the Contract Price – upon submission to and acceptance by NIA of an Irrevocable Standby Letter of Credit of equivalent value issued by a commercial bank, a bank guarantee or surety bond, callable upon demand, issued by a surety or insurance company duly accredited by the Insurance Commission and confirmed by NIA. b. Second (2 nd) Installment – 7.5% of the Contract Price – upon submission to and acceptance by NIA of an Irrevocable Standby Letter of Credit of equivalent value issued by a commercial bank, a bank guarantee or surety bond, callable upon demand, issued by a surety or insurance company duly accredited by the Insurance Commission and confirmed by NIA (if amount is not included in the first Installment), and after Contractor has fully mobilized the minimum equipment requirement and Key Personnel indicated in its Manpower Utilization Schedule..
14	<i>[If allowed by the Procuring Entity, state:]</i> Materials and equipment delivered on the site but not completely put in place shall not be included for payment.
15.1	The date by which operating and maintenance manuals are required is <i>(None)</i> The date by which “as built” drawings are required is upon submission Final Billing.
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 not required.

Section VI. Specifications

COMMON EXCAVATION

SCOPE

The work under this Section shall consist of excavating and removal of all classes of materials in canal prism and backfilling, and trimming of side slopes inside canal prism and canal beds except on portion of the canal where concrete lining is required (trimming of the foundation bed will be considered included under Section XV “Concrete Canal Lining”) all in accordance with the Drawings and these Specifications or as directed by the Engineer.

All excavations shall be true to lines, grades, slopes and profiles shown on the Drawings or as required by the Engineer.

1. CLASSIFICATION

All excavated materials under this Section will be classified as follows:

(a) Rock Excavation

For purpose of classification of excavation, rock is defined as sound and solid masses or formation, layers or ledges of mineral matter in place of such hardness and texture that:

1) Cannot be effectively loosened or broken down by ripping in a single pass with a latest model tractor mounted hydraulic ripper equipped one digging point of standard manufacturer’s design adequately sized for use with and propelled by a crawler-type tractor above 300HP

2) In the areas where it is impracticable to classify the use of the ripper described above, rock is defined as sound and solid material of such hardness and texture which cannot be loosened or broken by a 2.72 kg (6 pound) drifting pick.

3) Can only be loosened or broken by special equipment such as jackhammer and pencil hammer attached to an excavator.

All formation of materials as defined above whose volume is one (1) cubic meter or more will be classified as rock.

(b) Common Excavation - Excavation of any materials and boulders (whose volume is less than one cubic meter) that can be ripped to be loosed by, a dozer of equal or below 180 HP capacity.

(c) Hard Excavation - Excavation of any materials and boulders (whose volume is less than one cubic meter) that can be ripped to be loosed by, a dozer of above 180 HP to 300 HP.

1) Excavation of all soil materials, which can easily be removed by ordinarily excavator or manual operation.

2. METHOD OF CONSTRUCTION

Canal excavation shall include all excavation works in the canal prism whether common, indurated or rock materials, except additional excavations at structure sites which is specified to be done and measured for payment under excavation for structure.

3. **BASIS OF PAYMENT**

The volume measured as provided above shall be paid per cubic meter, which price and payment shall constitute full compensation for furnishing all materials, supplies, labor, equipment, tools and all incidentals necessary for the successful completion of the work described under this Section and for all subsidiary works except for hauling of excavated materials beyond the free haul distance for disposal to waste areas which shall be paid under Section.

CONCRETE

1. SCOPE

This Section covers all the materials as cement, aggregates, water, admixtures and proportioning, mixing, transporting, placing, finishing, curing and protecting of concrete, including supplies, equipment, tools and all other incidentals necessary for concrete works.

All the applicable provisions of the latest revision of the ACI Building Code (ACI-308-63) and American Society for Testing Materials (ASTM) or other equivalent standards approved by the Engineer shall govern in all cases not specifically provided for herein.

2. CONCRETE COMPOSITION

Concrete shall be composed of Portland cement, reinforcing steel bars fine and coarse aggregates, water, and if necessary admixtures or agents approved by the Engineer. The design of concrete mixtures and consistency shall be specified in this Section.

3. CEMENT

(1) General

The cement shall conform to the requirements of the standard Specifications for Portland Cement (ASTM: C-150 Type 1). Special cement may be used subject to the approval of the Engineer provided it meets the requirements of Portland Cement with respect to strength, soundness and setting time.

(2) Storage

The Contractor shall, immediately upon delivery of cement to the jobsite, store the same in a dry, weather tight and properly ventilated structure with adequate provisions for the prevention of absorption of moisture. All storage facilities shall be subject to the approval of the Engineer and shall be such as to permit easy access for inspection and identification. The Contractor's method of handling and storing cement shall be subject to the approval of the Engineer. The Contractors shall not use any cement which is stored at the site for the period more than three (3) months. Not more than fourteen (14) sacks of cement shall be permitted to be piled up and this number shall be limited to seven (7) each, when the storage is expected to be longer than two (2) months; these sacks of cement shall be piled up or stored so as to permit easy access for identification, inspection and testing.

4. WATER

The water used in concrete, mortar and grout shall be free from objectionable quantities of silt, organic matter, alkali, salts other impurities. The recommendation of the seventh edition of the U.S. Bureau of Reclamation Concrete Manual for mixing water shall be followed.

5. FINE AGGREGATES

(1) General

The term "Fine Aggregates" is used to designate aggregates in which the maximum size of particles is 3/16 of an inch (5 millimeters). Fine aggregates for concrete, mortar and grout shall be provided by the Contractor and shall consist of natural sand, manufactured sand, or a combination of both. The different components shall be batched separately, or subject to the written approval of the Engineer, or blended prior to delivery to the batching plant.

As a means of providing moisture control, the Contractor may be required to stockpile the fine aggregates over porous drain to prevent excessive water and to stabilize the moisture content.

(2) Quality

Fine aggregates shall conform to the requirements of ASTM C-33 and shall consist of hard, tough, durable, uncoated rock particles. The Contractor shall exercise every possible precaution in transporting, washing and screening operations to prevent contamination of sand particles. Fine aggregates shall conform to the following requirements:

(a) Grading

It is assumed that the sand available in natural deposits will require processing to provide a suitable gradation. Regardless of the source, the fine aggregate shall be well graded from fine to coarse and the gradation as delivered to the mixers shall conform to the following requirements unless otherwise approved:

Sieve Designation US Standard Square-Mesh		Percent by Weight Passing Individual - Sizes		
3/8"	(9.50 mm)			100
No. 4	(4.75 mm)	95	-	100
No. 8	(2.36 mm)	80	-	95
No. 16	(1.18 mm)	60	-	85
No. 30	(0.600 mm)	25	-	60
No. 50	(0.300 mm)	10	-	30
No. 100	(0.150 mm)	2	-	10
No. 200	(0.074 mm)	0	-	-

6. COARSE AGGREGATES

(1) General

The term "Coarse Aggregates" is used to designate aggregates of such sizes as to fall within the range of 3/16 inch to 2 inches (0.5 cm to 5.1 cm) or any size or range of sizes within such limits. The coarse aggregate shall be reasonably well graded within the nominal size ranges hereinafter specified. Coarse aggregates for concrete shall be furnished by the Contractor and shall consist of natural gravel, crushed rock or mixture of natural gravel and crushed rock as provided in Paragraph 1008. Coarse aggregates as delivered to the batching plant shall have a uniform and stable moisture content. Any rewashing found necessary to provide clean aggregate shall be done prior to finish screening. Rewashing shall not be performed in finish screens.

(2) Quality

Coarse aggregates shall conform to the requirement of ASTM C-33 and shall consist of hard, dense, uncoated durable rock fragments.

(a) Grading

The coarse aggregates shall be well graded from fine to coarse. It shall be stocked separately in the following specific size groups. The grading of the aggregates within the separated size groups as delivered to the mixer shall be as follows:

Sieve Sizes US Std. Sq. mesh	Size Group (% by weight)	
	¾" Size (20 mm)	1-½ Size (40 mm)
2" (50.8 mm)	-	- 100

1½"	(38.1 mm)	-	90	-	100
1"	(25.4 mm)	100	20	-	55
¾"	(19.1 mm)	-	-	-	-
½"	(12.7 mm)	-	-	-	-
⅜"	(9.52 mm)	20	-	55	0
No. 4	(4.76 mm)	0	-	10	-

Coarse aggregates shall contain not more than one and one half (1-½) percent of materials passing the NO. 200 sieve by meshing, or more than 5 percent of soft fragments.

It shall have an abrasion loss of not more than 45 percent at 500 revolutions.

Unless otherwise directed, the maximum sizes of aggregates to be used in concrete for the various parts of the works shall be in accordance with the following:

General Use		Maximum Size of Aggregates	
(a)	Concrete for thin walls, slabs, beams, less than 0.22 meters thick	¾"	(20 mm)
(b)	Concrete for reinforced concrete pipes	¾"	(20 mm)
(c)	Concrete for footings, walls, slabs, beams, more than 0.22 meters thick	1-½"	(40 mm)
(d)	Concrete for canal lining	1-½"	(40 mm)
(e)	Mass concrete for diversion conduit, and spillway wire and wall	1-½"	(40 mm)
(f)	Lean concrete and other miscellaneous use	1-½"	(40 mm)

7. PRODUCTION OF FINE AND COARSE AGGREGATES

(1) Source of Aggregates

Fine and coarse aggregates for concrete , and fine aggregate for mortar and grout may be obtained by the Contractor from approved source. Approval of the deposit shall not be construed as constituting approval of all materials taken from the deposit, and the Contractor shall maintain the specified quality of all such materials used in concrete works. If the aggregates are to be obtained from deposits or quarry sources not previously tested and approved by NIA, Contractor shall submit, for preliminary test and approval, a representative, 90 kilograms (approximately 200 pounds) sample of the fine aggregate and of the 0.5 centimeters to 2 centimeter size of coarse aggregate and a 45 kilograms (approximately 100 pounds) sample of each of the other sizes of coarse aggregate proposed for use in the work, at least 90 days before the materials are required for use.

Class	Minimum Strength [kg/cm²]	Maximum Aggregate Size [mm]	Minimum Cement [kg/m³]	Maximum Water/ Cement Ratio
X	300	19	375	0.55
Y	210	12.5	350	0.60
AA	210	19	325	0.60
A	210	37.5	300	0.60
B	170	50	250	0.70
C	170	75	225	0.70
Z	140	75	200	0.85
Blinding 70		37.5	150	No limit [Concrete]

(2) Aggregate Content

Concrete mixture shall be designed to use the largest size and the maximum amount of coarse aggregate as practicable for the intended use of the concrete.

(3) Consistency

The amount of water to be used in the concrete shall be regulated as required to secure concrete of the proper consistency and to adjust for any variation in the moisture content or grading of the aggregates as they enter the mixer.

It shall be of such consistency that it will flow around reinforcing steel bars, but individual particles of the coarse aggregate when isolated shall have coating of mortar containing its proportionate amount of sand. Addition of water to compensate for stiffening of the concrete before placing shall not be permitted. Uniformity in concrete consistency from batch to batch will be required.

(4) Notwithstanding the approval of the Engineer of the design mixtures and minimum cement content for different classes or gradation of aggregates, the Contractor shall be responsible that all the concrete meet the designed strength.

8. MEASUREMENT OF MATERIALS

All materials from which the concrete will be manufactured shall be mechanically measured by weight, except as otherwise specified and/or authorized by the Engineer and admixture solutions which may be measured by volume.

Measuring devices shall be suitably designed and constructed for the purpose and shall be weighing separately the cement, fine and the respective group of coarse aggregates and water. The accuracy of all weighing devices shall be such that successive quantities can be measured to one percent of the desired weights. The water measuring devices shall be of such type that can measure up to one half percent of the desired quantity of water.

Whenever volumetric proportioning and measurement is permitted due to failure or malfunction of weighing devices, the equivalent volumetric proportions of weighed representative samples of the concrete ingredients shall be computed taking into consideration bulking effect of cement and variations of moisture content of the aggregates.

When sack or bag cement is used, the quantities of aggregates for each batch shall be for one or more full sack of cement. No batch requiring a fractional sack of cement will be tolerated.

9. SAMPLING AND TESTING OF CONCRETE

The Contractor shall provide the required samples of concrete to be furnished by the Contractor without cost of NIA. Concrete sampling shall be carried out during concrete operations at the rate of one standard sample for each 50 cubic meters of concrete or fraction thereof placed during each continuous placing operations but in no case shall there be less than one sample for each day of concreting. Each standard sample shall consist of three (3) standard cylinders 6 inch (15 cm) diameter by 12 inch (30 cm) high.

The Contractor shall keep a record of the samples and the portion of the structures and volume represented which shall be available to NIA on demand.

Sampling, preparation, storage and curing and testing shall conform to ASTM Designations. NIA shall have the sample tested by an approved testing laboratory at the expense of the Contractor.

10. CONVEYING AND PLACING CONCRETE

(1) General

Approval of the Engineer shall be obtained before starting any concrete pour. Concrete placement will not be permitted when, in the opinion of the Engineer, conditions prevent proper placement and consolidation. Before concrete is placed, all saw dust, chips and other construction debris and extraneous matters shall be removed from the interior of forms, struts, stays, and braces, serving temporarily to hold the forms in correct shape and alignments, pending the placing of concrete at their location, shall be removed when the concrete placing has reached an elevation rendering their services unnecessary as the case may be. These temporary members shall be entirely removed from the forms and not to be buried in concrete. Surface of existing concrete left after partial demolition against which new concrete is to be placed, shall be cleaned thoroughly of all loose concrete coatings or concrete dust by brushing or other effective means followed by thorough washing or jetting. Such surface shall be kept moist for at least 24 hours before pouring the new concrete.

Concrete shall be placed only in the presence of the Engineer or his duly authorized representatives. Any and all concrete placed in the absence of the Engineer or his duly authorized representatives will not be considered for measurement and payment, and shall be removed at the discretion of the Engineer with the Contractor assuming all losses.

(2) Concrete on Earth Foundation

All concrete shall be placed upon clean and damp surfaces which are free from standing or running water. Prior to placing concrete, the earth foundation shall be satisfactorily compacted in accordance with these Specifications.

(3) Placing Concrete Through Reinforcement

In placing concrete through reinforcement, care shall be taken that no segregation of the coarse aggregate occurs. On the bottom of beams and slabs, where the congestion of steel near the forms makes placing difficult, a layer of mortar of the same cement sand ratio as used in the concrete shall be first deposited to cover the surface.

(4) Depositing Concrete in Water

When specifically authorized, concrete may be deposited in water. The methods and equipment used shall be subject to the approval of the Engineer.

7.2. FORMS

(1) General

Forms shall be used whenever necessary to confine the concrete during vibration and to shape it to the required lines. Forms shall have sufficient strength to withstand the pressure resulting from placement and vibration of the concrete, and shall be maintained rigidly in position. The strength and rigidity of the forms shall be such that formed surfaces will conform to specification requirements relating to surface irregularities and tolerances for concrete construction. Forms shall be tight to prevent loss of mortar from the concrete.

Chamber strips shall be placed in the corners of forms for exposed exterior corners so as to produce beveled edges. Interior corners and edges of formed joints shall not be beveled unless the requirement therefore is shown on the Drawings.

(2) Forms for Open Channel Transitions

When warped surfaces of transition are not back formed, natural or compacted earth shall be shaped to the specified surface and covered immediately with a plaster coat of cement-sand mortar at least 0.95cm.

Forms for the warped surfaces shall be tied securely to the floor slab and braces against spreading. In the upper surface, forms shall be butted and removed as specified in the Sub-paragraph (10), so as to enable ready access for placement, vibration, inspection, and repair and finishing of the concrete.

(3) Removal of Forms

Forms shall be removed as soon as possible to enable the earliest practicable repair of surface imperfections, but in no case shall they be removed before approval of the Engineer. Any needed repair or treatment shall be performed at once, and be followed immediately by the specified curing. Forms shall be removed with care so as to avoid injuring of the concrete and any concrete so damaged shall be repaired by the Contractor at this own expense.

11. REPAIR OF CONCRETE

No repair of work or plaster finish of formed concrete for structures will be permitted, unless otherwise provided in these Specifications or directed by the Engineer. All defective concrete shall be removed and replaced with the Contractor assuming all expenses and losses. If directed, the Contractor shall notify the Engineer of the start of the repair work at least 24 hours in advance thereof and shall repair concrete only in the presence of the Engineer or the Engineer's representative, unless inspection of such repair work is waived.

12. CURING

(1) General

All concrete except interior surfaces shall be cured for a period of not less than 14 consecutive days.

All horizontal slabs of surfaces shall be cured by water curing in accordance with Sub-paragraph (3) and all inclined surface shall be cured with membrane curing immediately after removal of forms to prevent dehydration in accordance with Sub-paragraph (2) except that membrane curing shall not be allowed for mass concrete and for construction joints. The Contractor shall have equipment needed for adequate curing and protection of the concrete on hand and ready for use before actual placement begins. The curing medium and method of the combination of mediums and methods used shall be subject to the approval of the Engineer.

13. FAILURE TO CURE

The Engineer shall have the authority to suspend the work wholly or in part, by written order, for such period as he may deem necessary for failure on the part of the Contractor to perform proper curing of the concrete work and to withhold payment for the corresponding work pending result of test, that shall subsequently be made on these concrete works. The contractor shall immediately secure core samples of such members and from parts of the structure as shall be designated by the Engineer and shall have them tested in a Testing Laboratory approved by the Engineer. If the results of test are found satisfactory, payment of the concrete in question shall be made and the work ordered be resumed, but if the results of tests are unsatisfactory to meet the structural requirements, the Contractor shall replace such parts at his own expense.

14. FAILURES TO MEET CONCRETE REQUIREMENTS

If the specified strengths have not been met, the Contractor shall remove and replace the concrete concerned or take such other remedial measures as the Engineer order, all at his own expense.

15. MEASUREMENT AND PAYMENT

Measurement for payment of any and all classes of concrete will be made by the number of cubic meter computed to the neat lines of the structures, unless otherwise specifically shown on the drawings or specified in these Specifications. In event cavities resulting from careless excavation or from excavation performed to facilitate the Contractor's operations, as determined by the Engineer, are required to be filled with concrete. Such refilling will be made at the expense of the Contractor. In measuring concrete payment, the volume of all openings, embedded pipes, woodwork and metal work within the concrete will be deducted.

Payment for any and all classes of concrete in various parts of work will be made at the applicable contract unit price per cubic meter which price and payment shall include cost for furnishing all materials, equipment and labor, and all operations required in the construction as specified.

If during the implementation of the project, the sources of aggregates differ from those chosen by the contractor considered in the derivation of his unit bid price for concrete, the Contractor shall not be entitled to any claim for unit price adjustment as a result of such alteration of sources.

REINFORCING STEEL BARS

1. SCOPE

All reinforcing steel bars required for the works as detailed in the construction drawings or as directed by the engineer shall be furnished by the contractor.

The work under this section includes the hauling of all reinforcing steel bars required for the works to the project site, storing, cutting, bending and proper placing, all in accordance with the drawings in these Specifications.

The length for each size of reinforcing steel bar to be furnished by the contractor shall be computed by taking the theoretical length required for the work. All reinforcing steel bars shall be furnished in commercial standard lengths and the contractor shall cut and bend the reinforcing steel bars to the detail and dimensions shown on the drawings.

2. MATERIALS

All reinforcing steel bars to be furnished by the contractor shall be Grade 40 or PS 275, deformed type and conforming to the requirements of ASTM A-615. The nominal dimensions and unit weights of bars designation shall be in accordance with the following table:

Nominal Perimeter Bar Diameter	Unit wt. Kg/m. Area (sq. mm.)	Nominal Dimensions Cross Section	(mm.)
6 mm	0.222	28.27	18.85
8 mm	0.395	50.27	25.13
10 mm.	0.616	78.54	31.42
12 mm.	0.888	113.10	37.70
16 mm.	1.579	201.10	50.17
20 mm.	2.466	314.20	62.83
25 mm.	3.854	491.90	78.54
28 mm.	4.833	615.75	87.96
32 mm.	6.313	804.15	113.10
36 mm.	7.991	1,017.90	113.10

The nominal diameter of a deformed bar is equivalent to the diameter of a plain bar having the same weight per unit length of the deformed bar.

3. CONSTRUCTION REQUIREMENT

Workmanship shall be the highest grade and shall be in accordance with the latest standard practice of the industry.

1. Cutting and Bending - Cutting and bending of reinforcing bars may be done in shop or at the job site. All bending works shall be in accordance with the latest standard practice and by approved machine methods. Radii for bends and hooks will be specified on the approved detailed reinforcement drawings in accordance with sound design procedures.
2. Placing - Reinforcement shall be laid, anchored and embedded in the concrete as shown on the drawings or as directed by the engineer. Unless otherwise directed, the spacing of reinforcement bars shall be measured along the center line of the bars. Reinforcement shall be inspected for compliance with requirements as to size, length,

splicing, position and number after placement based on the approved reinforcement drawings.

Before reinforcement are placed, the surfaces of the bars and the surfaces of any metal support shall be cleaned of heavy flaky rust, loose scales, dirt, grease or other foreign substances which, in the opinion of the Engineer, are objectionable. Heavy flaky rust that can be removed by firm rubbing with burlap or equivalent treatment is considered objectionable. After being placed, the reinforcing bars shall be maintained in a clean condition until in a clean condition until completely embedded in concrete.

Reinforcing bars shall be accurately placed and secured in position so as to avoid displacement during the pouring of concrete. Special care shall be exercised to prevent any disturbance of the embedded reinforcement during the setting of concrete. Metal chairs, hangers, spacers or other approved support may be used by the Contractor for supporting bars. Metal supports shall be galvanized when they are to be exposed to view on completed concrete surfaces or where it is contribute in any way to discoloration or deterioration of the concrete.

3. Relation of Bars to concrete surfaces - the minimum cover for all reinforcements shall conform to the dimensions shown on the reinforcement drawings.
4. Splicing - all splices in reinforcement shall be as shown on the drawings or as directed by the Engineer. The lapped ends bars shall be either supported sufficiently to permit the embedment of the entire surface of each bar in concrete or shall be securely wired.
5. Welding - welding of bars shall be performed only where shown on the Drawings or as authorized in writing by the Engineer and shall conform to the requirements of LAWS: D12.1, latest revision. All welders employed shall be shown proof of their welding qualifications to the engineer. All welding shall be done using metal arc welding, pressure gas welding, submerged arc welding or thermo welding. A electric shall be acceptable to NIA. Covering of low hydrogen electrodes must be thoroughly dry when used. The surfaces to be welds shall be clean and shall be clean and shall be free from rust and dirt. All welds shall be develop the full strength of the bar or the smaller bar when two different sizes are welded. Test will be required of not more than five percent of the welds. Approved testing equipment for testing welds shall be furnished by Contractor.
6. Protection - Reinforcement to remain exposed and intended for future concrete embedment shall be protected from corrosion or other damages in an approved manner where directed. The reinforcement protection shall be of such nature that it can be thoroughly cleaned without difficulty prior to encasement in concrete.

4. PREPARATION OR REINFORCEMENT DRAWINGS

Contractor shall submit for the approval of NA detailed reinforcement drawings in accordance with Article GC-47. These drawings will include bar-placing drawings, bar bending drawings, bar list, and any other reinforcement drawings as may be required to facilitate placement and checking of reinforcing bars. No work shall be done by contractor until such approval has been secured from NA.

The reinforcement drawings submitted shall show the name of the structure location by stationing where the reinforcement drawings is intended and all the necessary information required by NA. It shall likewise bear the stamp or seal of Contractor as evidence that the drawings have been checked by contractor.

Contractor shall be held responsible for any delay in the progress of the work occasioned by his failure to observe the requirements and the time for the completion of the contract will not be extended on account of his failure to promptly submit said drawings in strict adherence herewith.

5. SAMPLING FOR TESTING AND ACCEPTANCE OF MATERIALS THAT FAIL TO MEET CONTRACT REQUIREMENTS (FOR STEEL BARS FURNISHED BY CONTRACTOR)

Sampling of reinforcing steel bars furnished by the contractor for incorporation in the Permanent Works shall be carried out by NA at the Manufacturer's stockyard before delivery to the project site. The NA authorized representative shall, at random, take two representative samples of reinforcing steel bars per lot covered by the manufacturer's mill certificate. A lot shall consist of all steel bars of the same heat or blow as shown in the mill certificate, and the same nominal cross-section and grade. Samples shall be tested at the manufacturer's testing laboratory, if any, or to any approved Government testing laboratory at Contractor's expense. A lot or lots represented by samples tested which failed to meet specified requirements shall be rejected and will not be counted for delivery to the project site. Sampling and testing shall be in accordance with ASTM requirements. All deliveries shall be subject to prior approval of NA.

The NA reserves the right to accept steel bars that fail to meet the contract requirement provided that the deficiency is not more than nine percent (9%) of the requirement per each type of test and provided further that a corresponding reduction in the unit price will be made. The percentage of reduction equal to the percentage of deficiency based on the minimum requirement of the ASTM A-615 Standard. For example, if the value of the test result for one type of test is five percent [5%] below the minimum requirement, the unit price for payment will be reduced by 5%. If the non-compliance with the test requirements is on two or more tests, the price reduction will be the summation of the percentage of the deficiencies.

6. NA FINANCING FOR STEEL BARS, IF FURNISHED BY CONTRACTOR

Contractor will be paid 80% of the procurement cost of the reinforcing steel bars delivered to the project site [but in no case shall the cumulative amount exceed 80% of the total contract amount for furnishing steel bars] after presentation of the following documents:

- a. Delivery receipt duly acknowledged by the Engineer and the Project Auditor or their duly authorized representatives.
- b. Manufacturer's certificate showing the details manufacture, completion and physical properties of the steel bars.
- c. All invoices and all other documents covering the deliveries.
- d. Certificate of acceptance from the engineer.

The basis for payment of these steel bars will be the unit cost indicated in the invoice or the unit bid price, whichever is lower.

All amounts paid for these steel bars shall be deducted from the monthly progress payment for furnishing and installing reinforcing steel bars. If at any time the amount of monthly payment for furnishing and installing reinforcing steel bars shall be less than the amount deductible there from the balance shall be carried forward and be added to the sum deductible from the next monthly payment.

7. METHOD OF MEASUREMENT

Measurement for payment of reinforcing steel bars will be made on the weight of reinforcing steel bars actually places with the concrete structure in accordance with the drawings and bar schedule approved by NA or as directed by the Engineer and weights or in the absence thereof on the weights specified in the table presented in Paragraph 2302. Steel bars in laps or splices indicated in the approved

reinforcement Drawings, as required by NA will be measured for payment. Additional steel bars in laps which are authorized for the convenience of the Contractor and such items are wires, clips, or other devices for securing the steel bars in place will not be measured for payment. Where weld splices are specified on the drawings, weld splices will not be measured for payment but the weight for its equivalent lap splices will be measured for payment instead. Where contractor chooses to weld reinforcement bars for his convenience and welding is not specified, no separate payment will be made for such welds. Where contractor substitute welded splices for lapped splices, separate payment will not be made for such welds, but instead the weight for the lapped splices shown on the Drawings will be measured payment.

8. BASIS OF PAYMENT

Payment for reinforcing steel bars measured as provided above, will be paid for at the Contract unit price per kilogram which price and payment shall constitute full compensation for furnishing all labor, tools, equipment and all incidentals and subsidiary works necessary for the successful completion of the work described under this Section.

As indicated in the Bill of Quantities, payment per kilogram of reinforcing steel bars [same measurement as provided above] shall be made separately for the:

- a. Furnishing and delivery cost which shall include all labor, tools, equipment and supplies involves in the manufacture and delivery to the project site which include loading, hauling, unloading and stockpiling at the delivery site;
- b. Installation cost which shall include all labor, tools and equipment involved in cutting, bending and placing into permanent structures and all incidentals necessary for the successful completion of the work under this section.

STRUCTURE BACKFILL WITH COMPACTION

1. SCOPE

The work under this section shall include hauling (if necessary) and backfilling with suitable materials taken under from Canal Excavation , Side Borrow or Borrow Haul all spaces excavated and not occupied by the structure and spaces between the natural ground surface and the finish lines indicated to be filled and all other sections directed to be filled by the Engineer, all in accordance with these specifications and in conformity with the lines, grades and dimensions shown in the Drawings or as ordered by the Engineer. It shall also include the dewatering and removal of all suitable materials as ordered by the Engineer from the spaces to be backfilled or filled.

2. METHOD OF CONSTRUCTION

All spaces to be backfilled or filled shall be cleared of all rubbish and other objectionable matter. The excavation pit to be backfilled shall dewatered and all mud and loose materials shall be removed before backfilling. The filling materials, with the proper moisture content determined by the Engineer, shall be deposited loose and layers not exceeding 30 centimeters and then thoroughly compacted by ramming, rolling or by means of mechanical tampers or portable vibratory compactors to obtain at least 85% compaction behind bridge abutments, retaining walls, cut-off walls and immediately above pipes, box or barrel conduits and gradually increasing to at least 90% compaction p to the surface of the roadway in the case of approaches to bridges, road crossing or Culvert Structures. The time when to start backfilling operation shall be determined by the Engineer.

3. METHOD OF MEASUREMENT

Backfill with Compaction shall be measured by the cubic meter in its final compacted and uncompacted position within the limits of structure excavation paylines and surfaces of concrete in contact with the backfilled materials as shown on the Drawings or as directed by the Engineer. Volumes occupied by the structures and other features will not be included

4. BASIS OF PAYMENT

Backfill with Compaction will be paid for at the contract unit price per cubic meter, which price and payments shall constitute full compensation for the side borrow, borrow haul and overhaul operations and for furnishing all labor, equipment, tools and all incidentals and subsidiary works necessary for the successful completion of the work under this Section.

SIDE BORROW

SCOPE

When suitable materials from canal excavation are not sufficient to form the required section of canal embankment, roadway embankment (especially at stretches of canal where both cut and fill are encountered), additional suitable materials from the adjacent sides of the embankment within 60 meters from the center line of the canal shall be obtained by side borrowing as directed by the Engineer. Side borrow may also be done to form the required section of bridge abutment approaches.

The work under this Section shall include clearing and grubbing and stripping of the top soil on the side borrow area; excavation and placing or dumping of the side borrow materials to canal embankment, roadway embankment or dike and returning and spreading the stripped top soil after the side borrow operations.

METHOD OF OPERATION

After having been determined that materials obtainable from side borrow areas are suitable for embankment construction in accordance with Paragraph 902 (b), these side borrow areas shall be cleared, grubbed and stripped to about 10 cm. thick top soil before starting any excavation, pushing and dumping operation. The cleared and grubbed materials and/or stripped top soil shall be placed outside the limits of the entire canal right-of-way and side borrow areas as directed by the Engineer, all in accordance with the provisions of Section II, Clearing and Grubbing.

Excavation of side borrow materials needed for the construction of embankments shall be made more or less uniform in depth within the limits staked by the Engineer and shall in no case exceed a depth of 30 cm. measured from the original ground surface; a berm of not less than five meters in width shall be left between the outside toe of the embankment and the edge of the borrow pit with side slope provisions not steeper than 3:1 or unless otherwise shown on the Drawings or as directed by the Engineer.

Materials from side borrow areas shall be placed and/or spread in the canal embankment or roadway embankment and subsequently compacted in accordance with the applicable provisions of Embankment Construction and Compaction.

Before the Contractor leaves any particular work after completion of side borrow operations, the side borrow area shall be releveled and destroyed paddy dikes restored; and the cleared and grubbed materials or stripped top soil deposited outside work area shall be returned and spread uniformly throughout the borrow area to the satisfaction of the Engineer. The Contractor shall not be allowed to shift his operation to another work area unless said works are completed and approved by the Engineer.

MEASUREMENT AND PAYMENT

Side borrow is a subsidiary work for Embankment Construction and Compaction, thus it will not be measured for payment. The cost of which is considered included in the contract unit price for Embankment Construction and Compaction or for Structure Backfill as the case maybe.

MISCELLANEOUS METALWORKS AND MATERIALS

SCOPE

The work under this Section shall include furnishing, delivering and installing all miscellaneous metalworks and materials shown on the drawings which shall include but not limited to the following:

1. Trashracks or screens including frames, guides and anchors
2. Steel ladder rungs
3. Steel gratings including frames, guides and anchors
4. G.I. Pipes guardrails and handrails
5. Bearing plates for bridges
6. Bearing pads and filler board for bridges
7. Perforated drain pipes
8. Embedded metals including plates, anchors, angles, strap anchors, bolts, nuts washers, flanges, fittings, bends, tees, cross, elbow and other metals or materials which are not paid for under other items in the Bill of Quantities
9. Timber

All metalworks treated in this Section shall conform to the following standards or their approved equivalent standards:

ASTM AG	General requirements for delivery of rolled steel plates, shapes, sheet piling bars for structural use
ASTM A36	Structural Steel
AWS D1-1	Structural Welding Code
AWS	Code for Arc and Gas Welding in Building construction
ASTM A307	Specification for Low-Carbon Steel Externally and Internally Threaded Std. Fasteners
ASTM A325	High Strength Bolts for Structural Steel Joints including Suitable Nuts and Plain Hardened Washers
ASTM A108	Cold Finish Carbon Steel Bars and Shafting
AISC	Manual of Steel Construction
ASTM A123	Zinc (Hot Galvanized) Coatings on products fabricated from rolled, pressed and forged steel shapes, plates, bars and strips
ASTM A53	Welded and Seamless Steel Pipe
Metal Grating	Metal Grating Institute Handbook Pittsburg, Pa. U.S.A
ASTM 120	Black and Hot-Dipped Zinc-Coated (Galvanized) Welded and Seamless Steel Pipe for Ordinary Uses
AISC	Specification for Design, Fabrication and Erection of Structural Steel for Buildings
ASTM A153	Galvanized Steel Pipes

FABRICATION

Details of design and fabrication not covered by the drawings nor by these specifications shall conform to the applicable provisions of the latest "Specifications for the Design, Fabrication and Erection of Structural Steel for Buildings" including all supplementary provisions of the American Institute of Steel Construction.

All metalworks and materials furnished by the Contractor and all works performed will be subject to rigid inspection. No metalworks or materials shall be delivered to the jobsite until inspection at the Contractor's fabricating plant has been made, in accordance with the provisions of these specifications.

Shearing and cutting by torch or electric arc shall be performed carefully, and all portions of the work which will be exposed to view after completion shall be finished neatly. Re-entrant cuts and copes shall be shaped notch-free to a radius of at least 12 millimeters.

In bolted connections, all holes shall be cylindrical, unless otherwise shown on the drawings, perpendicular to the members, and clean cut and without burned or ragged edges. Holes in materials more than 20 mm thick shall be drilled. All other holes may be punched or drilled to full size. Unless otherwise shown on the drawings, drilled holes shall be 1 mm larger than the nominal diameter of the bolt. Outside burrs resulting from drilling shall be removed with a tool making a 1 mm bevel. Likewise for punched holes, unless otherwise shown on the drawings, the diameter of the punch for punching to full size shall also be 1 mm larger than the nominal diameter of the bolt. The diameter of the die shall be not more than 1.50 mm larger than the diameter of the punch.

Welding shall be done by the shielded-arc method except where otherwise specifically permitted by the Engineer. Welding rods shall be furnished by the Contractor and shall be of heavily coated type designated for all position welding, and the size, type and nomenclature of the rods shall be subject to approval by NIA. Welds shall be made as indicated on the drawings and in accordance with the conventional symbols of the American Welding Society (AWS). Welding shall be done in accordance with Sections 3, 4, 5 and 6 of the AWS' code for Arc Welding and Gas Welding in Building Construction, latest revision. All butt welds shall have complete penetration. Teeming of multiple layer welds will not be permitted.

INSTALLATION

All metalworks and materials shall be installed in accordance with the details shown on the Drawings. Care shall be taken to insure that all parts of metalworks are installed in correct position and alignment. Metalworks to be embedded in concrete shall be located accurately and shall be held in correct position and alignment during placing and setting of the concrete. Anchor bolts shall be set and held in position before concrete is placed, unless otherwise approved. Where it is impractical to embed anchor bolts or ladder, stairways or other comparatively light metal work before the concrete is placed and when it is necessary to anchor parts where inserts or anchor bolts have not been provided, holes shall be drilled in the concrete and expansion anchors with bolts shall be installed as directed. The surfaces of all metalworks to be in contact with or embedded in concrete or grouting mortar shall be cleaned.

Suitable blockouts shall be constructed in the concrete where required for installation of railing posts and other metalworks. After installation of the metalworks, blockouts shall be filled with concrete or grout as shown on the drawings. Contractor shall drill or drill and tap, as required all holes in metalwork required for installation of the metalwork.

Contractor shall drill all holes in concrete required for the installation of expansion anchors. Contractor shall slot or cut or split metalwork in the field as required for installation.

TRASHRACKS OR SCREENS

Trashracks or screens shall be a substantial all welded sectionalized steel structure, generally as shown on the drawings. Special care shall be taken to insure that all members shall be in exact position and alignment. Vertical members shall be welded to horizontal members. Trashracks shall be prime coated and painted in accordance with Section XXXVI, Painting Metalworks.

STEEL LADDER RUNGS

Steel ladder rungs shall be furnished and installed in accordance with details shown on the drawings. Bars used for steel ladder rungs shall be cold drawn steel wire conforming to the provisions of ASTM Designation A32 or its latest revision. The wire gage or bar size and spacing shall be as designated on the Drawings.

Ladder rungs embedded in concrete shall be free of mortar, oil dirt, loose mil scale, loose rust and other coatings that would destroy or reduce the bond. Bars shall conform to the dimensions shown on the drawings. Bars with links or improper bends or other deformations shall not be used or made as rungs.

STEEL GRATINGS

Gratings shall be provided as indicated on the drawings. Steel gratings shall be fabricated from steel shapes and flat bars provided with stiffeners and welded to form a rigid structures as shown on the drawings.

Flat bars of sizes and spaces shown on the drawings shall be welded at their ends into continuous rolled steel angles and provided with stiffeners. The sizes and dimensions of angles or stiffeners shall not be less than those shown on the drawings.

Steel gratings used as cover for the intake barrel manhole shall be provided with rollers on both ends as shown on the drawings, such that this cover could be opened by sliding. Roller guides shall not be shorter than the length shown on the drawings.

GALVANIZED IRON PIPE GUARDRAILS AND HANDRAILS

Galvanized iron pipe guardrail and handrail shall be provided at operating platforms and other places shown on the drawings. Sizes and dimensions shall be as shown in detail on the drawings. All railings shall be of threaded ends and furnished with complete joint fittings.

Vertical members for guardrails shall be installed plumbed and horizontal members parallel to the surface of anchorage. Vertical members shall be installed in prepared sockets, braced in true alignment and secured permanently by either threaded floor flange which is anchored to the concrete structure by means of expansion bolts as shown on the drawings or by cement grout consisting of 1 part cement and 3 parts sand (by wt.) mixed to a consistency as directed by the Engineer. Bolts in bolted connections shall be firmly tightened.

Galvanized surfaces that are abraded or damaged during installation shall be thoroughly wire brushed removing all loose and cracked coating and then painted with two coats of high zinc- dust content paint conforming to the requirements of Federal Specification MIL-P-21035 or approved equal.

BEARING PLATES FOR BRIDGES

Bearing plates, bars, rockers, assemblies, and other expansion or fixed devices for bridges shall be constructed in accordance with the details shown on the Drawings and shall be hot-dip galvanized after fabrication conforming to ASTM Designation A120 or its latest revision.

The bearing plates shall be set level and the rockers and other expansion devices shall be set to conform to the temperature at the time of erection or to the setting specified.

When bearing assemblies or masonry plates are shown on the Drawings to be placed (not embedded) directly on concrete, the concrete bearing area shall be constructed slightly above grade and shall be finished by grinding or other approved means to a true level plane which shall not vary perceptively from a straight edge placed in any direction across the area. The finished plane shall not vary more than 0.30 centimeter from the elevation shown on the Drawings.

When elastic bearing pads, or preformed fabric pads are shown on the Drawings, the concrete surface on which pads or packing are to be placed shall be wood float finished to a level plane which shall not vary more than 0.40 centimeter from a straight edge placed in any direction across the area. The finished plane shall not vary more than 0.30 centimeter from the elevation shown on the Drawings.

BEARING PADS AND FILLER BOARDS

Bearing pads of sizes indicated on the Drawings shall be neophrene, hardness 60 and filler boards shall be canex board or as indicated on the Drawings. The concrete surfaces on which bearing pads are to be placed shall be wood float finished to a level plane which shall not vary more than 0.15 centimeter from a straight edge placed in any direction across the area. The finished plane shall not vary more than 0.30 centimeter from the elevation shown on the Drawings.

PERFORATED DRAIN PIPES

Perforated drain pipes shall be installed at locations shown on the drawings and as directed by the Engineer. The sizes and type of materials to be used shall be as indicated on the drawings.

BOLTS, ANCHORS, ANGLES, NUTS, WASHERS AND OTHER METALS

Except for studbolts, the length of connection bolts shall be in 6 mm variations and when in the structure, the bolts shall extend at least six millimeters beyond the nuts. Anchor bolts and studbolts shall be as shown on the Drawings. Threads of anchor bolts shall be given a heavy coat of rust preventive compound in the shop. Washers shall be used under heads of all connection bolts where shown or called for on the drawings. Bevelled washers shall be used on sloping flanges.

GROUT AND MORTAR

Grout and mortar for miscellaneous metalworks shall be mixed in the proportions and to the specified consistency in accordance with the requirements of Section XV, Concrete. Before placing grout and mortar, the surfaces of concrete on which grout will be placed shall be roughened and shall be cleaned of all laitance, loose or defective concrete coatings and other foreign materials by effective means followed by thorough washing and such surfaces shall be kept moist for at least 24 hours.

TIMBER

This work shall consist of timber structures constructed to the dimension, lines and grades shown on the Drawings and in accordance with the specification. The timber shall be treated or kiln dried.

In handling treated timber, care shall be exercised so as not to break or penetrate the treatment with any tool or handling equipment. Any damage timber shall be replaced without any extra compensation. Any cut made or hole bored in treated timber that exposes untreated wood shall be given 3-coats of hot creosote oil before the exposed part is assembled.

All timber shall be of the specie specified in the drawing, shall be sound, free from knots, splits, ring separation, wormholes or any defects which will impair its strength or render it unfit for its intended use.

All timber which is to be stored on the job for any length of time, prior to its use in the structure, shall be neatly stacked in piles to prevent warping or distortion. Untreated timber shall be open stacked at least 300 mm above the ground and shall be close-stacked and piled to prevent warping. The ground underneath and in the vicinity of all piles shall be cleared of all weeds and rubbish.

METHOD OF MEASUREMENT

Measurement for payment of miscellaneous metalwork and materials will be made either on the weight of metalwork in kilogram or on the number of assembly or pieces actually installed in accordance with the table as follows:

<u>Metal/Material</u>	<u>Measurement</u>
1. Trashrack or screens including frames, guides and anchors	Kilogram/Set
2. Steel ladder rungs	Kilogram
3. Steel grating, including frames guides and anchors	Kilogram
4. G.I. Pipe guardrails and handrails	Kilogram/L.M.
5. Bearing Plates for Bridges	Piece
6. Bearing Pads and Filler Boards for Bridges	Piece
7. Perforated drain pipes	Kilogram/L.M.
8. Embedded metals including plates, anchors, angles, strap anchors, bolts, nuts and washers, flanges, fittings, bends, tees, cross, elbows and other metals or materials which are not paid under other items in the Bill of Quantities	Kilogram/Lump sum
9. Timber	Set/Assembly or bd. ft.

Weights shall be computed based on the theoretical weight of such material duly certified by the manufacturer.

BASIS OF PAYMENT

Payment for miscellaneous metalwork will be made at the contract unit price per kilogram, per piece, or per assembly whichever is called for in the Bill of Quantities which price and payment shall constitute full compensation for furnishings all labor tools, materials and all incidentals and subsidiary works necessary for the successful completion of the miscellaneous metalworks and materials described under this Section.

CONSTRUCTION SAFETY AND HEALTH

BASIC PPE'S FOR WORKERS:

- 1. Helmet/Safety Hardhat**
- 2. Safety Shoes**
- 3. Rubber Boots**
- 4. Working Gloves**
- 5. Rain Coats**

Section VII. Drawings

(annexed in a separate folder)

Section VIII. Bill of Quantities

Bill of Quantities						
Project Title:		JANTIANON SIP, PACKAGE 3				
Contract No:		NOSO-LMC-SIP-10-2024				
Description of Contract:		CONSTRUCTION OF LINED CANAL AND CANAL STRUCTURES OF SUB-LATERALS "B #1" and "B #2" CANAL				
Location:		Amlan, Negros Oriental				
ITEM NO.	DESCRIPTION				QTY.	UNIT
A. CANALIZATION						
1	Common Excavation (Mechanized)				423.00	cu.m.
2	Side Borrow with Compaction				198.00	cu.m.
3	2,400 psi Reinforced Concrete				114.00	cu.m.
4	Furnishing & Installation of RSB, All sizes				4,560.00	kgs.
B. CANAL STRUCTURES						
1	Common Structure Excavation (Mechanized)				1,889.00	cu.m.
2	3,000 psi Reinforced Concrete				495.00	cu.m.
3	Structure Backfill with Compaction				949.00	cu.m.
4	Fabrication & Installation of Steel Trashrack				9.00	unit
5	Fabrication & Installation of STO Steel Gate				8.00	unit
6	Furnishing & Installation of RSB, All sizes				29,700.00	kgs.
C. HEALTH & SAFETY					1.00	l.s.

Section IX. Checklist of Technical and Financial Documents

I. TECHNICAL COMPONENT ENVELOPE

Class “A” Documents

Legal Documents

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

Technical Documents

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

Financial Documents

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

Class “B” Documents

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

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

II. FINANCIAL COMPONENT ENVELOPE

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

Other documentary requirements under RA No. 9184

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

Section IX. LOCAL CONDITION

LC-01 PROJECT LOCATION

JANTIANON SIP, PACKAGE 3 is located in Amlan, Negros Oriental. The Project is approximately 40 kilometers from Dumaguete City. Accessible through Dumaguete City - Sibulan-San Jose-Amlan, Negros Oriental route.

LC-02 ACCESS TO THE SITE

The contract work is located at Amlan, Negros Oriental. Passing through different service roads by fairly to well graveled road which may deteriorate if used during rainy days. Maintenance and repair of these service roads by the contractor is necessary if so used by them. The cost of maintenance and repair shall be included in the unit bid price of the contractor.

LC-03 FUEL AND POWER SUPPLIES

The major fuel station outlets such as Petron, Caltex and Shell are found in the nearest city of the project and other surrounding municipalities.

The main source of energy is supplied by the Negros Oriental Electric Cooperative II (NORECO II) and locally distributed by the respective electric cooperatives and is presently available at the above-stated address of the project site.

LC-04 CLIMATE AND HYDROLOGY

Using the Corona Climate Classification System, Negros Oriental falls within the Type III classification, which is characterized by seasons not very pronounced, relatively dry from November to April, and wet during the rest of the year. The maximum rain periods are not very pronounced, with the short dry season lasting only from one to three months. These localities are only partly sheltered from the northeast monsoon and trade winds and open to the Southwest monsoon or at least to frequent cyclonic storms.

Rainfall summarized in the following table, but NIA will assume no responsibility whatsoever for the accuracy of these data. Any risk arising from the interpretation of such data is to be entirely borne by the Contractor.

CLIMATE

Month	Rainfall in BES/1 (mm)	Rainy Days BES/2
Jan.	199.40	9
Feb.	170.50	7
March	127.40	1
April	90.06	2
May	178.30	4
June	174.03	7
July	142.65	9
Aug.	163.00	4
Sept.	165.25	7
Oct.	196.00	1
Nov.	212.30	7
Dec.	164.60	7
Total	2049.6	

/1: BES is the rainfall station close to the project area

/2: Daily rainfall less than 5 mm is deemed zero and not counted as rainy day.

LC-05 BANKING FACILITIES

Most rural banks are available at nearby of the project area while major banking facilities are found in Dumaguete City like; Development Bank of the Philippines, Land Bank of the Philippines, Philippine National Bank, Bank of the Philippine Island, Allied Bank, Bank of Commerce, Metro Bank and other private banks.

LC-06 COMMUNITY AND FIRST AID FACILITIES

The Contractor is advised that the NIA will take no direct part in providing community facilities such as churches, shops, community center and recreation facilities for Contractor's employees. The Contractor shall make his own arrangements for such as he considers being necessary for the approval of the NIA and shall meet all codes or regulations in effect. It shall be the responsibility of the Contractor to furnish and operate first aid for his personnel. Such facilities may be integrated with the NIA facilities, if any, upon mutual agreement.

LC-07 CONTRACTOR'S WORKING AREA AND SITE OFFICE

The Contractor shall, at his own expense, be responsible for housing, feeding and accommodation of all his employees for the execution of the Contract Work. Construction equipment, materials, tools, supplies, and other incidentals, and all cost incurred for the protection and safety shall be borne by him.

LC-08 WATER SUPPLY

The Contractor shall, at his own expense, be responsible for the provision or installation, operation and maintenance of a safe, adequate and temporary supply of drinking and domestic water, and the adequate water supply for his construction purposes.

LC-09 RIGHT OF WAY

The NIA will provide all right of way, free of charge to the contractor, which, in the opinion of the Regional Manager, necessary for carrying out the contract work.

LC-10 SITE INVESTIGATION

It is the responsibility of the Contractor to visit the work site to make their own investigation to satisfy themselves as to the existing conditions affecting the work to be done under these Specifications.

The Contractor shall assume all responsibilities for deduction and conclusions that he may obtain or arrive at from the site inspection.

INFORMATION AND DATA REFERRED TO IN THESE BID DOCUMENTS

PROJECT: JANTIANON SIP, PACKAGE 3 (CONSTRUCTION OF LINED CANAL AND CANAL STRUCTURES OF SUB-LATERALS "B #1 " AND "B #2" CANAL), AMLAN, NEGROS ORIENTAL

1. Site Visit and Inspection

Register at NIA-Negros Oriental Satellite Office, Osmeña St., Poblacion, Sibulan, Negros Oriental NIA, Regional Office No.7, Dao District, Tagbilaran City, Bohol

2. Wet Season Period, Article LC-04

3. Contract Duration - 270 calendar days

4. List of Officers/Offices to be furnished correspondence from the Contractor

The Regional Manager
NIA Regional Office 7
Dao District, Tagbilaran City

5. Minimum Equipment Requirement for the Contract:

Equipment		Capacity	Number of Units
1.	Dump Truck		1
2.	Cargo Truck		1
3.	Backhoe		1
4.	Concrete Mixer	1 bagger	2
5.	Concrete Vibrator		2
6.	Plate Compactor		1
7.	Survey Instrument		1
8.	Bar Cutter		1

6. List of Initial Equipment required to be mobilized within ten (7) calendar days after receipt of Notice to Proceed

Equipment		Capacity	Number of Units
1.	Dump Truck		1
2.	Cargo Truck		1
3.	Backhoe		1
4.	Concrete Mixer	1 bagger	2
5.	Concrete Vibrator		2
6.	Plate Compactor		1
7.	Survey Instrument		1
8.	Bar Cutter		1

Section X. BIDDING FORMS

**STATEMENT OF THE BIDDERS OF ALL ITS ONGOING GOVERNMENT & PRIVATE
CONTRACTS INCLUDING CONTRACTS AWARDED BUT NOT YET STARTED**

Business Name : _____

Business Address : _____

NAME OF CONTRACT	CONTRACT DATE	CONTRACT PERIOD	CONTRACT AMOUNT	Amount or Value of Outstanding Works or Unperformed Portion
<u>Government</u> -				
<u>Private</u> -				

Submitted by : _____
(Printed Name & Signature)

Designation : _____

Date : _____

National Irrigation Administration
Region 7

**STATEMENT OF THE BIDDER'S SINGLE LARGEST COMPLETED CONTRACTS (SLCC) SIMILAR TO
THE CONTRACT TO BE BID**

Business Name : _____

Business Address : _____

NAME OF COMPLETED CONTRACT	DATE OF CONTRACT	CONTRACT DURATION	CONTRACT AMOUNT
<u>Government</u> -			
<u>Private</u> -			

Note: This statement shall be supported with:

Owner's Certificate of Final Acceptance or a final rating of at least Satisfactory in the CPES

Submitted by : _____
(Printed Name & Signature)

Designation : _____

Date : _____

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

BID SECURING DECLARATION
Project Identification No.: NOSO-LMC-SIP-10-2024

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

I/We, the undersigned, declare that:

1. I/We understand that, according to your conditions, bids must be supported by a Bid Security, which may be in the form of a Bid Securing Declaration.
2. I/We accept that: (a) I/we will be automatically disqualified from bidding for any procurement contract with any procuring entity for a period of two (2) years upon receipt of your Blacklisting Order; and, (b) I/we will pay the applicable fine provided under Section 6 of the Guidelines on the Use of Bid Securing Declaration, within fifteen (15) 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]

Omnibus Sworn Statement

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

AFFIDAVIT

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

1. [Select one, delete the other:]

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

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

2. [Select one, delete the other:]

[If a sole proprietorship:] As the owner and sole proprietor, or authorized representative of [Name of Bidder], I have full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for [Name of the Project] of the [Name of the Procuring Entity], as shown in the attached duly notarized Special Power of Attorney;

[If a partnership, corporation, cooperative, or joint venture:] I am granted full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for [Name of the Project] of the [Name of the Procuring Entity], as shown in the attached [state title of attached document showing proof of authorization (e.g., duly notarized Secretary's Certificate, Board/Partnership Resolution, or Special Power of Attorney, whichever is applicable)];

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

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

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

6. [Select one, delete the rest:]

[If a sole proprietorship:] The owner or sole proprietor is not related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

[If a partnership or cooperative:] None of the officers and members of [Name of Bidder] is related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the

Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

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

7. [Name of Bidder] complies with existing labor laws and standards; and
8. [Name of Bidder] is aware of and has undertaken the responsibilities as a Bidder in compliance with the Philippine Bidding Documents, which includes:
 - a. Carefully examining all of the Bidding Documents;
 - b. Acknowledging all conditions, local or otherwise, affecting the implementation of the Contract;
 - c. Making an estimate of the facilities available and needed for the contract to be bid, if any; and
 - d. Inquiring or securing Supplemental/Bid Bulletin(s) issued for the [Name of the Project].
9. [Name of Bidder] did not give or pay directly or indirectly, any commission, amount, fee, or any form of consideration, pecuniary or otherwise, to any person or official, personnel or representative of the government in relation to any procurement project or activity.

10. In case advance payment was made or given, failure to perform or deliver any of the obligations and undertakings in the contract shall be sufficient grounds to constitute criminal liability for Swindling (Estafa) or the commission of fraud with unfaithfulness or abuse of confidence through misappropriating or converting any payment received by a person or entity under an obligation involving the duty to deliver certain goods or services, to the prejudice of the public and the government of the Philippines pursuant to Article 315 of Act No. 3815 s. 1930, as amended, or the Revised Penal Code.

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

[Insert NAME OF BIDDER OR ITS AUTHORIZED
REPRESENTATIVE]

[Insert signatory's legal capacity]
Affiant

[Jurat]

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

BID FORM

Date: _____

Project Identification No.: NOSO-LMC-SIP-10-2024

To: [name and address of Procuring Entity]

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 guidelines¹² for this purpose;
- h. We are not participating, as Bidders, in more than one Bid in this bidding process, other than alternative offers in accordance with the Bidding Documents;
- i. We understand that this Bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal Contract is prepared and executed; and
- j. We understand that you are not bound to accept the Lowest Calculated Bid or any other Bid that you may receive.
- k. We likewise certify/confirm that the undersigned, is the duly authorized representative of the bidder, and granted full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for the [Name of Project] of the [Name of the Procuring Entity].

1. 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: _____

Bill of Quantities and Bid Prices										
Project Title:	JANTIANON SIP, PACKAGE 3									
Contract No:	NOSO-LMC-SIP-10-2024									
Description of Contract:	CONSTRUCTION OF LINED CANAL AND CANAL STRUCTURES OF SUB-LATERALS "B #1" and "B #2" CANAL									
Location:	Amlan, Negros Oriental									
ITEM NO.	DESCRIPTION			QTY.	UNIT	UNIT BID PRICE IN WORDS & IN FIGURES			TOTAL	
A. CANALIZATION										
1	Common Excavation (Mechanized)			423.00	cu.m.				₱	
2	Side Borrow with Compaction			198.00	cu.m.				₱	
3	2,400 psi Reinforced Concrete			114.00	cu.m.				₱	
4	Furnishing & Installation of RSB, All sizes			4,560.00	kgs.				₱	
B. CANAL STRUCTURES										
1	Common Structure Excavation (Mechanized)			1,889.00	cu.m.				₱	
2	3,000 psi Reinforced Concrete			495.00	cu.m.				₱	
3	Structure Backfill with Compaction			949.00	cu.m.				₱	
4	Fabrication & Installation of Steel Trashrack			9.00	unit				₱	
5	Fabrication & Installation of STO Steel Gate			8.00	unit				₱	
6	Furnishing & Installation of RSB, All sizes			29,700.00	kgs.				₱	
C. HEALTH & SAFETY										
				1.00	l.s.				₱	
<p>The undersigned bidder hereby certifies that he has fully informed himself of all condition, local and otherwise affecting the carrying out of the work and that his bid has been prepared strict accordance with the terms and condition.</p>										
<p>Name of Firm: _____</p> <p style="text-align: right;">Name in Print & Signature of Bidder _____</p>										

DETAILED COST ESTIMATE						
Contract No.	:					
Name of Project	:					
DERIVATION OF UNIT COST				Unit		
				Quantity		
Item No.	:					
Work Description	:					
DESCRIPTION		QTY	UNIT	UNIT COST	AMOUNT	
A. ESTIMATED DIRECT COST (EDC)						
1. MATERIAL COST						
TOTAL MATERIAL COST:						
2. LABOR COST						
TOTAL LABOR COST:						
3. EQUIPMENT COST						
TOTAL EQUIPMENT COST:						
TOTAL A (Estimated Direct Cost):						
B. MARK - UPS						
	OCM					
	Contractor's Profit					
TOTAL B (OCM and Contractor's Profit):						
C. VALUE ADDED TAX (VAT)						
TOTAL C (VAT) (5% of A and B):						
TOTAL COST OF WORK ITEM (Sum of A, B and C)						
UNIT COST (Total Cost of Work Item/Quantity)						

ESTIMATED DIRECT COST (EDC)	INDIRECT COST % FOR OCM AND PROFIT		TOTAL INDIRECT COST % FOR OCM AND PROFIT
	OCM (% OF EDC)	PROFIT (% OF EDC)	
Up to Php 5 Million	15	10	25
Above Php 5M up to Php 50M	12	8	20
Above Php 50M up to Php 150M	10	8	18
Above Php 150M	8	8	16

OCM - Overhead, Contingencies and Miscellaneous

VAT COMPONENT - shall be **5%** of the sum of EDC, OCM and Profit

