

**PHILIPPINE BIDDING DOCUMENTS**

# **Procurement of INFRASTRUCTURE PROJECTS**

Government of the Republic of the Philippines

**CONSTRUCTION OF ROADWAY SLOPE  
PROTECTION, CITY OF BATAC, ILOCOS  
NORTE**

**Sixth Edition  
July 2020**

# Preface

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

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

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

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

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

- a. All the documents listed in the Table of Contents are normally required for the procurement of Infrastructure Projects. However, they should be adapted as necessary to the circumstances of the particular Project.
- b. Specific details, such as the “*name of the Procuring Entity*” and “*address for bid submission*,” should be furnished in the Instructions to Bidders, Bid Data Sheet, and Special Conditions of Contract. The final documents should contain neither blank spaces nor options.
- c. This Preface and the footnotes or notes in italics included in the Invitation to Bid, BDS, General Conditions of Contract, Special Conditions of Contract, Specifications, Drawings, and Bill of Quantities are not part of the text of the final document, although they contain instructions that the Procuring Entity should strictly follow.
- d. The cover should be modified as required to identify the Bidding Documents as to the names of the Project, Contract, and Procuring Entity, in addition to date of issue.
- e. Modifications for specific Procurement Project details should be provided in the Special Conditions of Contract as amendments to the Conditions of Contract. For easy completion, whenever reference has to be made to specific clauses in the Bid Data Sheet or Special Conditions of Contract, these terms shall be printed in bold typeface on Sections I (Instructions to Bidders) and III (General Conditions of Contract), respectively.

- f. For guidelines on the use of Bidding Forms and the procurement of Foreign-Assisted Projects, these will be covered by a separate issuance of the Government Procurement Policy Board.

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# ***Glossary of Terms, Abbreviations, and Acronyms***

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

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

**BAC** – Bids and Awards Committee.

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

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

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

**BIR** – Bureau of Internal Revenue.

**BSP** – Bangko Sentral ng Pilipinas.

**CDA** – Cooperative Development Authority.

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

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

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

**CPI** – Consumer Price Index.

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

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

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

**GFI** – Government Financial Institution.

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

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

**GOP** – Government of the Philippines.

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

**LGUs** – Local Government Units.

**NFCC** – Net Financial Contracting Capacity.

**NGA** – National Government Agency.

**PCAB** – Philippine Contractors Accreditation Board.

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

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

**PSA** – Philippine Statistics Authority.

**SEC** – Securities and Exchange Commission.

**SLCC** – Single Largest Completed Contract.

**UN** – United Nations.

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

### **Notes on the Invitation to Bid**

The Invitation to Bid (IB) provides information that enables potential Bidders to decide whether to participate in the procurement at hand. The IB shall be posted in accordance with Section 21.2 of the 2016 revised IRR of RA No. 9184.

Apart from the essential items listed in the Bidding Documents, the IB should also indicate the following:

- a. The date of availability of the Bidding Documents, which shall be from the time the IB is first advertised/posted until the deadline for the submission and receipt of bids;
- b. The place where the Bidding Documents may be acquired or the website where it may be downloaded;
- c. The deadline for the submission and receipt of bids; and
- d. Any important bid evaluation criteria.

The IB should be incorporated into the Bidding Documents. The information contained in the IB must conform to the Bidding Documents and in particular to the relevant information in the Bid Data Sheet.





*Republic of the Philippines*  
*Province of Ilocos Norte*  
**CITY GOVERNMENT OF BATAC**

**Invitation to Bid for *Construction of Roadway Slope Protection,*  
*City of Batac, Ilocos Norte***

1. The *City Government of Batac*, through the **20% Development Fund Continuation 2022 – Environmental Management** intends to apply the sum of **Nineteen Million Nine Hundred Eighty-Eight Thousand Two Hundred Twenty-Six Pesos and 16/100 (PhP 19,988,226.16)** being the Approved Budget for the Contract (ABC) to payments under the contract for ***Construction of Roadway Slope Protection, City of Batac, Ilocos Norte with Project Identification Number: CGB-2022 –PB-09-019.*** Bids received in excess of the ABC shall be automatically rejected at bid opening.
2. The *City Government of Batac* now invites bids for the above Procurement Project. Completion of the Works is required **Two Hundred Seventy-Five (275) calendar days**. Bidders should have completed a contract similar to the Project. The description of an eligible bidder is contained in the Bidding Documents, particularly, in Section II (Instructions to Bidders).
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 *City Government of Batac* and inspect the Bidding Documents at the address given below from **8:00am to 5:00pm**.
5. A complete set of Bidding Documents may be acquired by interested bidders on **September 21, 2023 (8:00AM to 5:00 PM) to October 11, 2023 (8:00 AM to 12:00 PM)** from given address and website/s below *and upon payment of the applicable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB, in the amount of Php 25,000.00.* The Procuring Entity shall allow the bidder to present its proof of payment for the fees in person, by facsimile, or through electronic means.
6. The *City Government of Batac* will hold a Pre-Bid Conference on **September 29, 2023 at 3:30** in the afternoon at the BAC Office, 3<sup>rd</sup> Floor City Hall Building which shall be open to prospective bidders.
7. Bids must be duly received by the BAC Secretariat through manual submission at the office address as indicated below on or before **October 11, 2023 at 3:30 PM**. Late bids shall not be accepted.
8. All bids must be accompanied by a bid security in any of the acceptable forms and in the amount stated in **ITB** Clause 16.
9. Bid opening shall be on **October 11, 2023 at 3:30 PM** at BAC Office 3<sup>rd</sup> Floor City Hall Building. Bids will be opened in the presence of the or its authorized representatives (with his/her authorization) who choose to attend the activity.

10. The *City Government of Batac* 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:

**ENGR. MICHELLE G. MANUEL**  
*BAC Secretariat Head - Infrastructure*  
*BAC Office 3<sup>rd</sup> Floor, City Hall Building*  
*City Government of Batac*  
*Washington Street, Brgy. #1-S Valdez*  
*City of Batac, Ilocos Norte 2906*  
*Email: [bacbataccity@gmail.com](mailto:bacbataccity@gmail.com)*  
*Tel.No.: (077) 6706433*

12. You may visit the following websites:

For downloading of Bidding Documents: *you may visit [www.batac.gov.ph](http://www.batac.gov.ph)*

**MR. MARLON F. SORIA**  
*HRMO / BAC Chairman*

## *Section II. Instructions to Bidders*

### **Notes on the Instructions to Bidders**

This Section on the Instruction to Bidders (ITB) provides the information necessary for bidders to prepare responsive bids, in accordance with the requirements of the Procuring Entity. It also provides information on bid submission, eligibility check, opening and evaluation of bids, post-qualification, and on the award of contract.

## 1. Scope of Bid

The Procuring Entity, *City Government of Batac* invites Bids for the ***Construction of Roadway Slope Protection, City of Batac, Ilocos Norte***, with ***Identification Number: CGB-2022 –PB-09-019***.

The Procurement Project (“**Construction of Roadway Slope Protection**”) 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 in the amount of **Php 20,000,000.00**

2.2. The source of funding is:

a. *20% Development Fund Continuation 2022 – Environmental Management*

## 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 **September 29, 2023 at 3:30** in the afternoon at BAC Office 3rd Floor, City Hall Building, City Government of Batac and/or through videoconferencing/webcasting as indicated in paragraph 6 of the IB.

## **9. Clarification and Amendment of Bidding Documents**

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

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

- 10.1. The first envelope shall contain the eligibility and technical documents of the Bid as specified in **Section IX. Checklist of Technical and Financial Documents**.
- 10.2. If the eligibility requirements or statements, the bids, and all other documents for submission to the BAC are in foreign language other than English, it must

be accompanied by a translation in English, which shall be authenticated by the appropriate Philippine foreign service establishment, post, or the equivalent office having jurisdiction over the foreign bidder's affairs in the Philippines. For Contracting Parties to the Apostille Convention, only the translated documents shall be authenticated through an apostille pursuant to GPPB Resolution No. 13-2019 dated 23 May 2019. The English translation shall govern, for purposes of interpretation of the bid.

- 10.3. A valid PCAB License is required, and in case of joint ventures, a valid special PCAB License, and registration for the type and cost of the contract for this Project. Any additional type of Contractor license or permit shall be indicated in the **BDS**.
- 10.4. A List of Contractor's key personnel (e.g., Project Manager, Project Engineers, Materials Engineers, and Foremen) assigned to the contract to be bid, with their complete qualification and experience data shall be provided. These key personnel must meet the required minimum years of experience set in the **BDS**.
- 10.5. A List of Contractor's major equipment units, which are owned, leased, and/or under purchase agreements, supported by proof of ownership, certification of availability of equipment from the equipment lessor/vendor for the duration of the project, as the case may be, must meet the minimum requirements for the contract set in the **BDS**.

## **11. Documents Comprising the Bid: Financial Component**

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

## **12. Alternative Bids**

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

## **13. Bid Prices**

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

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

- 14.1. Bid prices may be quoted in the local currency or tradeable currency accepted by the BSP at the discretion of the Bidder. However, for purposes of bid evaluation, Bids denominated in foreign currencies shall be converted to

Philippine currency based on the exchange rate as published in the BSP reference rate bulletin on the day of the bid opening.

14.2. *Payment of the contract price shall be made in:*

- a. Philippine Pesos.

## **15. Bid Security**

- 15.1. The Bidder shall submit a Bid Securing Declaration or any form of Bid Security in the amount indicated in the **BDS**, which shall be not less than the percentage of the ABC in accordance with the schedule in the **BDS**.
- 15.2. The Bid and bid security shall be valid until *120 days*. Any bid not accompanied by an acceptable bid security shall be rejected by the Procuring Entity as non-responsive.

## **16. Sealing and Marking of Bids**

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

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

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

## **17. Deadline for Submission of Bids**

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

## **18. Opening and Preliminary Examination of Bids**

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

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

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

## **19. Detailed Evaluation and Comparison of Bids**

- 19.1. The Procuring Entity's BAC shall immediately conduct a detailed evaluation of all Bids rated "*passed*" using non-discretionary pass/fail criteria. The BAC

shall consider the conditions in the evaluation of Bids under Section 32.2 of 2016 revised IRR of RA No. 9184.

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

## **Notes on the Bid Data Sheet (BDS)**

The Bid Data Sheet (BDS) consists of provisions that supplement, amend, or specify in detail, information, or requirements included in the ITB found in Section II, which are specific to each procurement.

This Section is intended to assist the Procuring Entity in providing the specific information in relation to corresponding clauses in the ITB and has to be prepared for each specific procurement.

The Procuring Entity should specify in the BDS information and requirements specific to the circumstances of the Procuring Entity, the processing of the procurement, and the bid evaluation criteria that will apply to the Bids. In preparing the BDS, the following aspects should be checked:

- a. Information that specifies and complements provisions of the ITB must be incorporated.
- b. Amendments and/or supplements, if any, to provisions of the ITB as necessitated by the circumstances of the specific procurement, must also be incorporated.

# 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 Roadway Slope Protection</i>																											
7.1	<i>Sub-contracting is not allowed.</i>																											
10.3	<i>None</i>																											
10.4	<table><tr><td colspan="3">The key personnel must meet the required minimum years of experience set below:</td></tr><tr><td><u>Key Personnel</u></td><td><u>General Experience</u></td><td><u>Relevant Experience</u></td></tr><tr><td>Project Engineer</td><td>General Construction</td><td>5 years</td></tr><tr><td>Materials Engineer</td><td>General Construction</td><td>1 year</td></tr><tr><td>Construction Foreman</td><td>General Construction</td><td>5 years</td></tr><tr><td>Skilled Worker</td><td>General Construction</td><td>5 years</td></tr><tr><td>Unskilled Laborer</td><td>General Construction</td><td>3 years</td></tr><tr><td>Safety Officer II</td><td>General Construction</td><td>3 years</td></tr></table>	The key personnel must meet the required minimum years of experience set below:			<u>Key Personnel</u>	<u>General Experience</u>	<u>Relevant Experience</u>	Project Engineer	General Construction	5 years	Materials Engineer	General Construction	1 year	Construction Foreman	General Construction	5 years	Skilled Worker	General Construction	5 years	Unskilled Laborer	General Construction	3 years	Safety Officer II	General Construction	3 years			
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Safety Officer II	General Construction	3 years																										
10.5	<table><tr><td colspan="3">The minimum major equipment requirements are the following:</td></tr><tr><td><u>Equipment</u></td><td><u>Capacity</u></td><td><u>Number of Units</u></td></tr><tr><td>Dump Truck</td><td>12 cu.yd.</td><td>3.00</td></tr><tr><td>Backhoe</td><td>0.80 cu.m.</td><td>1.00</td></tr><tr><td>Motorized Road Grader</td><td>140HP, G710A</td><td>1.00</td></tr><tr><td>Vibratory Roller</td><td>10mt, SD100DC</td><td>1.00</td></tr><tr><td>Water Truck/Pump</td><td>16000L</td><td>2.00</td></tr><tr><td>Plate Compactor</td><td>5 hp</td><td>1.00</td></tr><tr><td>One-Bagger Concrete Mixer</td><td></td><td>2.00</td></tr></table>	The minimum major equipment requirements are the following:			<u>Equipment</u>	<u>Capacity</u>	<u>Number of Units</u>	Dump Truck	12 cu.yd.	3.00	Backhoe	0.80 cu.m.	1.00	Motorized Road Grader	140HP, G710A	1.00	Vibratory Roller	10mt, SD100DC	1.00	Water Truck/Pump	16000L	2.00	Plate Compactor	5 hp	1.00	One-Bagger Concrete Mixer		2.00
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Vibratory Roller	10mt, SD100DC	1.00																										
Water Truck/Pump	16000L	2.00																										
Plate Compactor	5 hp	1.00																										
One-Bagger Concrete Mixer		2.00																										
12	<i>Value Engineering not allowed.</i>																											
15.1	<table><tr><td>The bid security shall be in the form of a Bid Securing Declaration or any of the following forms and amounts:</td></tr><tr><td><table><tr><td>a.</td><td>The amount of not less than 399,764.52, if bid security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit;</td></tr><tr><td>b.</td><td>The amount of not less than 999,411.31 if bid security is in Surety Bond.</td></tr></table></td></tr></table>	The bid security shall be in the form of a Bid Securing Declaration or any of the following forms and amounts:	<table><tr><td>a.</td><td>The amount of not less than 399,764.52, if bid security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit;</td></tr><tr><td>b.</td><td>The amount of not less than 999,411.31 if bid security is in Surety Bond.</td></tr></table>	a.	The amount of not less than 399,764.52, if bid security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit;	b.	The amount of not less than 999,411.31 if bid security is in Surety Bond.																					
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b.	The amount of not less than 999,411.31 if bid security is in Surety Bond.																											
19.2	Partial bids are not allowed.																											
20	<i>None</i>																											
21	Additional contract documents relevant to the Project that may be required by existing laws and/or the Procuring Entity, such as construction schedule and S-curve, manpower schedule, construction methods, equipment utilization schedule, construction safety and health program approved by the DOLE, and other acceptable tools of project scheduling.																											

# *Section IV. General Conditions of Contract*

## **Notes on the General Conditions of Contract**

The General Conditions of Contract (GCC) in this Section, read in conjunction with the Special Conditions of Contract in Section V and other documents listed therein, should be a complete document expressing all the rights and obligations of the parties.

Matters governing performance of the Contractor, payments under the contract, or matters affecting the risks, rights, and obligations of the parties under the contract are included in the GCC and Special Conditions of Contract.

Any complementary information, which may be needed, shall be introduced only through the Special 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***

### **Notes on the Special Conditions of Contract**

Similar to the BDS, the clauses in this Section are intended to assist the Procuring Entity in providing contract-specific information in relation to corresponding clauses in the GCC found in Section IV.

The Special Conditions of Contract (SCC) complement the GCC, specifying contractual requirements linked to the special circumstances of the Procuring Entity, the Procuring Entity's country, the sector, and the Works procured. In preparing this Section, the following aspects should be checked:

- a. Information that complements provisions of the GCC must be incorporated.
- b. Amendments and/or supplements to provisions of the GCC as necessitated by the circumstances of the specific purchase, must also be incorporated.

However, no special condition which defeats or negates the general intent and purpose of the provisions of the GCC should be incorporated herein.

# Special Conditions of Contract

GCC Clause	
2	<i>The intended completion date is <b>Two Hundred Seventy-Five (275) calendar days from the Effective Date of the Contract.</b></i>
4.1	N/A
6	N/A
7.2	Five (5) years.
10	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 <i><b>Seven (7)</b></i> days of delivery of the Notice of Award.
11.2	N/A
13	The amount of the advance payment <i><b>shall not exceed 15% of the total contract price and schedule of payment.</b></i>
14	<i>Not Allowed</i>
15.1	N/A
15.2	N/A



## *Section VI. Specifications*

### **CONSTRUCTION METHOD AND PROCEDURE**

#### **Methodology on General Approach:**

Upon receipt of the Notice to Proceed (NTP) from the implementing Agency, equipment, tools, materials and manpower, are to be mobilized to the project site.

The contractor immediately precedes the construction of the temporary facilities for his manpower, materials, equipment, and tools.

The activities should simultaneously follow the scheme on the construction schedule submitted. (Please refer to the construction schedule).

Any works encountered but not included in the program of works will be reported immediately to the City Government of Batac – Project Engineer for confirmation if there will be variation order to be made.

Cleaning the vicinity of the project and dispose all construction debris and waste should be made before the turnover of the project.

**PROGRAM OF WORK:** (Please refer to the Detailed Estimate)

**FINANCIAL PROGRAM:** (Please refer to the Cash Flow by Quarter and Payment Schedule)

Prepared by:  
JOEL F. ESTAL  
Engineer III

## ITEM 102 – EXCAVATION

### 102.1 Description

This Item shall consist of roadway and drainage and borrow excavation and the disposal of material in accordance with this Specification and in conformity with the lines, grades and dimensions shown on the Plans or established by the Engineer.

#### 102.1.1 Roadway Excavation

Roadway excavation will include excavation and grading for roadways, parking areas, intersections, approaches, slope rounding, benching, waterways and ditches; removal of unsuitable material from the roadbed and beneath embankment areas; and excavating selected material found in the roadway as ordered by the Engineer for specific use in the improvement. Roadway excavation will be classified as "unclassified excavation", "rock excavation", "common excavation", or "muck excavation" as indicated in the Bill of Quantities and hereinafter described.

- 1 **Unclassified Excavation.** Unclassified excavation shall consist of the excavation and disposal of all materials regardless of its nature, not classified and included in the Bill of Quantities under other pay items.
- 2 **Rock Excavation.** Rock excavation shall consist of igneous, sedimentary and metamorphic rock which cannot be excavated without blasting or the use of rippers, and all boulders or other detached stones each having a volume of 1 cubic meter or more as determined by physical measurements or visually by the Engineer.
- 3 **Common Excavation.** Common excavations shall consist of all excavation not included in the Bill of Quantities under "rock excavation" or other pay items.
- 4 **Muck Excavation.** Muck excavation shall consist of the removal and disposal of deposits of saturated or unsaturated mixtures of soils and organic matter not suitable for foundation material regardless of moisture content.

#### 102.1.2 Borrow Excavation

Borrow excavation shall consist of the excavation and utilization of approved material required for the construction of embankments or for other portions of the work, and shall be obtained from approved sources, in accordance with Clause 61 and the following:

##### (1) Borrow, Case 1

Borrow Case 1 will consist of material obtained from sources designated on the Plans or in the Special Provisions.

##### (2) Borrow, Case 2

Borrow Case 2 will consist of material obtained from sources provided by the Contractor.

The material shall meet the quality requirements determined by the Engineer unless otherwise provided in the Contract.

### 102.2 Construction Requirements

#### 102.2.1 General

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

All excavations shall be finished to reasonably smooth and uniform surfaces. No materials shall be wasted without authority of the Engineer. Excavation operations shall be conducted so that material outside of the limits of slopes will not be disturbed. Prior to excavation, all necessary clearing and grubbing in that area shall have been performed in accordance with Item 100, Clearing and Grubbing.

#### 102.2.2 Conservation of Topsoil

Where provided for on the Plans or in the Special Provisions, suitable topsoil encountered in excavation and on areas where embankment is to be placed shall be removed to such extent and to such depth as the Engineer may direct. The removed topsoil shall be transported and deposited in storage piles at locations approved by the Engineer. The topsoil shall be completely removed to the required depth from any designated area prior to the beginning of regular excavation or embankment work in the area and shall be kept separate from other excavated materials for later use.





### 102.2.3 Utilization of Excavated Materials

All suitable material removed from the excavation shall be used in the formation of the embankment, subgrade, shoulders, slopes, bedding, and backfill for structures, and for other purposes shown on the Plans or as directed.

The Engineer will designate as unsuitable those soils that cannot be properly compacted in embankments. All unsuitable material shall be disposed off as shown on the Plans or as directed without delay to the Contractor.

Only approved materials shall be used in the construction of embankments and backfills.

All excess material, including rock and boulders that cannot be used in embankments shall be disposed off as directed.

Material encountered in the excavation and determined by the Engineer as suitable for topping, road finishing, slope protection, or other purposes shall be conserved and utilized as directed by the Engineer.

Borrow material shall not be placed until after the readily accessible roadway excavation has been placed in the fill, unless otherwise permitted or directed by the Engineer. If the Contractor places more borrow than is required and thereby causes a waste of excavation, the amount of such waste will be deducted from the borrow volume.

### 102.2.4 Prewatering

Excavation areas and borrow pits may be prewatered before excavating the material. When prewatering is used, the areas to be excavated shall be moistened to the full depth, from the surface to the bottom of the excavation. The water shall be controlled so that the excavated material will contain the proper moisture to permit compaction to the specified density with the use of standard compacting equipment. Prewatering shall be supplemented where necessary, by truck watering units, to ensure that the embankment material contains the proper moisture at the time of compaction.

The Contractor shall provide drilling equipment capable of suitably checking the moisture penetration to the full depth of the excavation.

### 102.2.5 Presplitting

Unless otherwise provided in the Contract, rock excavation which requires drilling and shooting shall be presplit.

Presplitting to obtain faces in the rock and shale formations shall be performed by: (1) drilling holes at uniform intervals along the slope lines, (2) loading and stemming the holes with appropriate explosives and stemming material, and (3) detonating the holes simultaneously.

Prior to starting drilling operations for presplitting, the Contractor shall furnish the Engineer a plan outlining the position of all drill holes, depth of drilling, type of explosives to be used, loading pattern and sequence of firing. The drilling and blasting plan is for record purposes only and will not absolve the Contractor of his responsibility for using proper drilling and blasting procedures. Controlled blasting shall begin with a short test section of a length approved by the Engineer. The test section shall be presplit, production drilled and blasted and sufficient material excavated whereby the Engineer can determine if the Contractor's methods are satisfactory. The Engineer may order discontinuance of the presplitting when he determines that the materials encountered have become unsuitable for being presplit.

The holes shall be charged with explosives of the size, kind, strength, and at the spacing suitable for the formations being presplit, and with stemming material which passes a 9.5 mm (3/8 inch) standard sieve and which has the qualities for proper confinement of the explosives.

The finished presplit slope shall be reasonably uniform and free of loose rock. Variance from the true plane of the excavated backslope shall not exceed 300 mm (12 inches); however, localized irregularities or surface variations that do not constitute a safety hazard or an impairment to drainage courses or facilities will be permitted.





A maximum offset of 600 mm (24 inches) will be permitted for a construction working bench at the bottom of each lift for use in drilling the next lower presplitting pattern.

#### 102.2.6 Excavation of Ditches, Gutters, etc.

All materials excavated from side ditches and gutters, channel changes, irrigation ditches, inlet and outlet ditches, toe ditchers, furrow ditches, and such other ditches as may be designated on the Plans or staked by the Engineer, shall be utilized as provided in Subsection 102.2.3.

Ditches shall conform to the slope, grade, and shape of the required cross-section, with no projections of roots, stumps, rock, or similar matter. The Contractor shall maintain and keep open and free from leaves, sticks, and other debris all ditches dug by him until final acceptance of the work.

Furrow ditches shall be formed by plowing a continuous furrow along the line staked by the Engineer. Methods other than plowing may be used if acceptable to the Engineer. The ditches shall be cleaned out by hand shovel work, by ditcher, or by some other suitable method, throwing all loose materials on the downhill side so that the bottom of the finished ditch shall be approximately 450 mm (18 inches) below the crest of the loose material piled on the downhill side. Hand finish will not be required, but the flow lines shall be in satisfactory shape to provide drainage without overflow.

#### 102.2.7 Excavation of Roadbed Level

Rock shall be excavated to a depth of 150 mm (6 inches) below subgrade within the limits of the roadbed, and the excavation backfilled with material designated on the Plans or approved by the Engineer and compacted to the required density.

When excavation methods employed by the Contractor leave undrained pockets in the rock surface, the Contractor shall at his own expense, properly drain such depressions or when permitted by the Engineer fill the depressions with approved impermeable material.

Material below subgrade, other than solid rock shall be thoroughly scarified to a depth of 150 mm (6 inches) and the moisture content increased or reduced, as necessary, to bring the material throughout this 150 mm layer to the moisture content suitable for maximum compaction. This layer shall then be compacted in accordance with Subsection 104.3.3.

#### 102.2.8 Borrow Areas

The Contractor shall notify the Engineer sufficiently in advance of opening any borrow areas so that cross-section elevations and measurements of the ground surface after stripping may be taken, and the borrow material can be tested before being used. Sufficient time for testing the borrow material shall be allowed.

All borrow areas shall be bladed and left in such shape as to permit accurate measurements after excavation has been completed. The Contractor shall not excavate beyond the dimensions and elevations established, and no material shall be removed prior to the staking out and cross-sectioning of the site. The finished borrow areas shall be approximately true to line and grade established and specified and shall be finished, as prescribed in Clause 61, Standard Specifications for Public Works and Highways, Volume 1. When necessary to remove fencing, the fencing shall be replaced in at least as good condition as it was originally. The Contractor shall be responsible for the confinement of livestock when a portion of the fence is removed.

#### 102.2.9 Removal of Unsuitable Material

Where the Plans show the top portion of the roadbed to be selected topping, all unsuitable materials shall be excavated to the depth necessary for replacement of the selected topping to the required compacted thickness.

Where excavation to the finished graded section results in a subgrade or slopes of unsuitable soil, the Engineer may require the Contractor to remove the unsuitable material and backfill to the finished graded section with approved material. The Contractor shall conduct his operations in such a way that the Engineer can take the necessary cross-sectional measurements before the backfill is placed.



The excavation of muck shall be handled in a manner that will not permit the entrapment of muck within the backfill. The material used for backfilling up to the ground line or water level, whichever is higher, shall be rock or other suitable granular material selected from the roadway excavation, if available. If not available, suitable material shall be obtained from other approved sources. Unsuitable material removed shall be disposed off in designated areas shown on the Plans or approved by the Engineer.

102.3 Method of Measurement

The cost of excavation of material which is incorporated in the Works or in other areas of fill shall be deemed to be included in the Items of Work where the material is used.

Measurement of Unsuitable or Surplus Material shall be the net volume in its original position.

For measurement purposes, surplus suitable material shall be calculated as the difference between the net volume of suitable material required to be used in embankment corrected by applying a shrinkage factor or a swell factor in case of rock excavation, determined by laboratory tests to get its original volume measurement, and the net volume of suitable material from excavation in the original position. Separate pay items shall be provided for surplus common, unclassified and rock material.

The Contractor shall be deemed to have included in the contract unit prices all costs of obtaining land for the disposal of unsuitable or surplus material.

102.4 Basis of Payment

The accepted quantities, measured as prescribed in Section 102.3 shall be paid for at the contract unit price for each of the Pay Items listed below that is included in the Bill of Quantities which price and payment shall be full compensation for the removal and disposal of excavated materials including all labor, equipment, tools, and incidentals necessary to complete the work prescribed in this Item.

Payment will be made under:

Pay Item N Descriptor Unit of Measurement

102 (1)	Unsuitable Excavation	Cubic Meter
102 (2)	Surplus Common Excavation	Cubic Meter
102 (3)	Surplus Rock Excavation	Cubic Meter
102 (4)	Surplus Unclassified Excavation	Cubic Meter

ITEM 104 – EMBANKMENT

104.1 Description

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

104.2 Material Requirements

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

Suitable Material – Material which is acceptable in accordance with the Contract and 1 which can be compacted in the manner specified in this Item. It can be common material or rock.



Selected Borrow, for topping – soil of such gradation that all particles will pass a sieve with 75 mm (3 inches) square openings and not more than 15 mass percent will pass the 0.075 mm (No. 200) sieve, as determined by AASHTO T 11. The material shall have a plasticity index of not more than 6 as determined by AASHTO T 90 and a liquid limit of not more than 30 as determined by AASHTO T 89.

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

- (a) Materials containing detrimental quantities of organic materials, such as grass, roots and sewerage.
- (b) Organic soils such as peat and muck.
- (c) Soils with liquid limit exceeding 80 and/or plasticity index exceeding 55.
- (d) Soils with a natural water content exceeding 100%.
- (e) Soils with very low natural density, 800 kg/m<sup>3</sup> or lower.
- (f) Soils that cannot be properly compacted as determined by the Engineer

### **104.3 Construction Requirements**

#### **104.3.1 General**

Prior to construction of embankment, all necessary clearing and grubbing in that area shall have been performed in conformity with Item 100, Clearing and Grubbing.

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

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

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

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

#### **104.3.2 Methods of Construction**

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





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

Unless shown otherwise on the Plans or special Provisions, where an embankment of less than 1.2 m (4 feet) below subgrade is to be made, all sod and vegetable matter shall be removed from the surface upon which the embankment is to be placed, and the cleared surfaced shall be completely broken up by plowing, scarifying, or steeping to a minimum depth of 150 mm except as provided in Subsection 102.2.2. This area shall then be compacted as provided in Subsection 104.3.3. Sod not required to be removed shall be thoroughly disc harrowed or scarified before construction of embankment. Wherever a compacted road surface containing granular materials lies within 900 mm (36 inches) of the subgrade, such old road surface shall be scarified to a depth of at least 150 mm (6 inches) whenever directed by the Engineer. This scarified materials shall then be compacted as provided in Subsection 104.3.3.

When shoulder excavation is specified, the roadway shoulders shall be excavated to the depth and width shown on the Plans. The shoulder material shall be removed without disturbing the adjacent existing base course material, and all excess excavated materials shall be disposed off as provided in Subsection 102.2.3. If necessary, the areas shall be compacted before being backfilled.

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

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

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





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

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

Dumping and rolling areas shall be kept separate, and no lift shall be covered by another until compaction complies with the requirements of Subsection 104.3.3.

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

#### **104.3.3 Compaction**

##### **Compaction Trials**

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

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

##### **Earth**

The Contractor shall compact the material placed in all embankment layers and the material scarified to the designated depth below subgrade in cut sections, until a uniform density of not less than 95 mass percent of the maximum dry density determined by AASHTO T 99 Method C, is attained, at a moisture content determined by Engineer to be suitable for such density. Acceptance of compaction may be based on adherence to an approved roller pattern developed as set forth in Item 106, Compaction Equipment and Density Control Strips.





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

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

## **Rock**

Density requirements will not apply to portions of embankments constructed of materials which cannot be tested in accordance with approved methods.

Embankment materials classified as rock shall be deposited, spread and leveled the full width of the fill with sufficient earth or other fine material so deposited to fill the interstices to produce a dense compact embankment. In addition, one of the rollers, vibrators, or compactors meeting the requirements set forth in Subsection 106.2.1, Compaction Equipment, shall compact the embankment full width with a minimum of three complete passes for each layer of embankment.

### **104.3.4 Protection of Roadbed During Construction**

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

### **104.3.5 Protection of Structure**

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

### **104.3.6 Rounding and Warping Slopes**

**Rounding**-Except in solid rock, the tops and bottoms of all slopes, including the slopes of drainage ditches, shall be rounded as indicated on the Plans. A layer of earth overlaying rock shall be rounded above the rock as done in earth slopes.

**Warping**-adjustments in slopes shall be made to avoid injury in standing trees or marring of weathered rock, or to harmonize with existing landscape features, and the transition to such adjusted slopes shall be gradual. At intersections of cuts and fills, slopes shall be adjusted and warped to flow into each other or into the natural ground surfaces without noticeable break.

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#### **104.3.7 Finishing Roadbed and Slopes**

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

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

#### **104.3.8 Serrated Slopes**

Cut slopes in rippable material (soft rock) having slope ratios between 0.75:1 and 2:1 shall be constructed so that the final slope line shall consist of a series of small horizontal steps. The step rise and tread dimensions shall be shown on the Plans. No scaling shall be performed on the stepped slopes except for removal of large rocks which will obviously be a safety hazard if they fall into the ditchline or roadway.

#### **104.3.9 Earth Berms**

When called for in the Contract, permanent earth berms shall be constructed of well graded materials with no rocks having a diameter greater than 0.25 the height of the berm. When local material is not acceptable, acceptable material shall be imported, as directed by the Engineer.

##### **Compacted Berm**

Compacted berm construction shall consist of moistening or drying and placing material as necessary in locations shown on the drawings or as established by the Engineer. Material shall contain no frozen material, roots, sod, or other deleterious materials. Contractor shall take precaution to prevent material from escaping over the embankment slope. Shoulder surface beneath berm will be roughened to provide a bond between the berm and shoulder when completed. The Contractor shall compact the material placed until at least 90 mass percent of the maximum density is obtained as determined by AASHTO T 99, Method C. The cross-section of the finished compacted berm shall reasonably conform to the typical cross-section as shown on the Plans.

##### **Uncompacted Berm**

Uncompacted berm construction shall consist of drying, if necessary and placing material in locations shown on the Plans or as established by the Engineer. Material shall contain no frozen material, roots, sod or other deleterious materials. Contractor shall take precautions to prevent material from escaping over the embankment slope.

#### **104.4 Method of Measurement**

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



Material from excavation per Item 102 which is used in embankment and accepted by the Engineer will be paid under Embankment and such payment will be deemed to include the cost of excavating, hauling, stockpiling and all other costs incidental to the work.

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

**104.5 Basis of Payment**

The accepted quantities, measured as prescribed in Section 104.4, shall be paid for at the Contract unit price for each of the Pay Items listed below that is included in the Bill of Quantities. The payment shall continue full compensation for placing and compacting all materials including all labor, equipment, tools and incidentals necessary to complete the work prescribed in this Item.

Payment will be made under:

Pay Item Number	Description	Unit of Measurement
104 (1)	Embankment	Cubic Meter
104 (2)	Selected, Borrow for topping, Case 1	Cubic Meter
104 (3)	Selected Borrow for topping, Case 2	Cubic Meter
104 (4)	Earth Berm	Meter

**ITEM 500 – PIPE CULVERTS AND STORM DRAINS**

**500.1 Description**

This item shall consist of the construction or reconstruction of pipe culverts and storm drains, hereinafter referred to as "conduit" in accordance with this Specification and in conformity with the lines and grades shown on the Plans or as established by the Engineer.

**500.2 Material Requirements**

Material shall meet the requirements specified in the following specifications:

Zinc coated (galvanized) corrugated iron or steel culverts and underdrains	AASHTO M 36
Cast iron culvert pipe	AASHTO M 64
Concrete sewer, storm drain and culvert pipe	AASHTO M 86
Reinforced concrete culvert, storm drain and sewer pipe	AASHTO M 170
Bituminous coated corrugated metal culvert pipe and pipe arches	AASHTO M 190
Reinforced concrete arch culvert, storm drain and sewer pipe	AASHTO M 206
Reinforced concrete elliptical culvert, storm drain and sewer pipe	AASHTO M 207
Asbestos cement pipe for culverts and storm drains	AASHTO M 217





Joint Mortar – Joint mortar for concrete pipes shall consist of 1 part, by volume of Portland Cement and two (2) parts of approved sand with water as necessary to obtain the required consistency.

Portland Cement and sand shall conform to the requirements of Item 405, Structural Concrete. Mortar shall be used within 30 minutes after its preparation.

**Rubber gaskets**

**AASHTO M 198**

Oakum – Oakum for joints in bell and spigot pipes shall be made from hemp (Cannabis Sativa) line or Benares Sunn fiber or from a combination of these fibers. The oakum shall be thoroughly corded and finished and practically free from lumps, dirt and extraneous matter.

**Hot poured joint sealing compound**

**AASHTO M 173**

Bedding material shall conform to the requirements of Subsection 500.3.2, Bedding.

Backfill material shall conform to the requirements of Subsection 500.3.6, Backfilling.

When the location of manufacturing plants allow, the plants will be inspected periodically for compliance with specified manufacturing methods, and material samples will be obtained for laboratory testing for compliance with materials quality requirements. This shall be the basis for acceptance of manufacturing lots as to quality.

Prior to and during incorporation of materials in the work, these materials will be subjected to the latest inspection and approval of the Engineer.

**500.3 Construction Requirements**

**500.3.1 Trenches Excavation**

Trenches shall be excavated in accordance with the requirement of Item 103, Structure Excavation, to a width sufficient to allow for proper jointing of the conduit and thorough compaction of the bedding and backfill materials under and around the conduit. Where feasible, trench wall shall be vertical.

The completed trench bottom shall be firm for its full length and width. Where required, in the case of crop drains, the trench shall have a longitudinal camber of the magnitude specified.

When so specified on the Plans, the excavation for conduits placed in embankment fill, shall be made after the embankment has been completed to the specified or directed height above the designed grade of the conduit.

**500.3.2 Bedding**

The bedding shall conform to one of the classes specified. When no bedding class is specified, the requirements for Class C bedding shall apply.

Class A bedding shall consist of a continuous concrete cradle conforming to the plan details.



Class B bedding shall consist of bedding the conduit to a depth of not less than 30 percent of the vertical outside diameter of the conduit. The minimum thickness of bedding material beneath the pipe shall be 100 mm. The bedding material shall be sand or selected sandy soil all of which passes a 9.5 mm sieve and not more than 10 percent of which passes a 0.075 mm sieve. The layer of the bedding material shall be shaped to fit the conduit for at least 15 percent of its total height. Recesses in the trench bottom shall be shaped to accommodate the bell when bell and spigot type conduit is used.

Class C bedding shall consist of bedding the conduit to a depth of not less than 10 percent of its total height. The foundation surface, completed in accordance with Item 103, Structure Excavation, shall be shaped to fit the conduit and shall have recesses shaped to receive the bells, if any.

For flexible pipe, the bed shall be roughly shaped and a bedding blanket of sand or fine granular material as specified above shall be provided as follows:

Pipe Corrugation Depth	Minimum Bedding Depth
10 mm	25 mm
25 mm	50 mm
50 mm	75 mm

For large diameter structural plate pipes the shaped bed need not exceed the width of bottom plate.

**Laying Conduit**

The conduit laying shall begin at the downstream end of the conduit line. The lower segment of the conduit shall be in contact with the shaped bedding throughout its full length. Bell or groove ends of rigid conduits and outside circumferential laps of flexible conduits shall be placed facing upstream. Flexible conduit shall be placed with longitudinal laps or seams at the sides.

Paved or partially-lined conduit shall be laid such that the longitudinal center line of the paved segment coincides with the flow line. Elliptical and elliptically reinforced conduits shall be placed with the major axis within 5 degrees of a vertical plane through the longitudinal axis of the conduit.

**500.3.4 Jointing Conduit**

Rigid conduits may either be of bell and spigot or tongue and groove design unless another type is specified. The method of joining conduit sections shall be such that the ends are fully entered and the inner surfaces are reasonably flush and even.

Joints shall be made with (a) Portland Cement mortar, (b) Portland Cement grout, (c) rubber gaskets, (d) oakum and mortar, (e) oakum and joint compound, (f) plastic sealing compound, or by a combination of these types, or any other type, as may be specified. Mortar joints shall be made with an excess of mortar to form a continuous bead around the outside of the conduit and finished smooth on the inside. For grouted joints, molds or runners shall be used to retain the poured grout. Rubber ring gaskets shall be installed so as to form a flexible water-tight seal. Where oakum is used, the joint shall be called with this material and then sealed with the specified material.





When Portland Cement mixtures are used, the completed joints shall be protected against rapid drying by any suitable covering material.

Flexible conduits shall be firmly joined by coupling bands.

Conduits shall be inspected before any backfill is placed. Any pipe found to be out of alignment, unduly settled, or damaged shall be taken up and relaid or replaced.

#### **500.3.5 Field Strutting**

When required by the Plans, vertical diameter of round flexible conduit shall be increased 5 percent by shop elongation or by means of jacks applied after the entire line of conduit has been installed on the bending but before backfilling. The vertical elongation shall be maintained by means of sills and struts or by horizontal ties shall be used on paved invert pipe.

Ties and struts shall be 300 mm in place until the embankment is completed and compacted, unless otherwise shown on the Plans.

These construction specifications shall also apply in the case of relaid conduits. In addition, all conduits salvaged for relaying shall be cleaned of all foreign materials prior to reinstallation.

#### **500.3.6 Backfilling**

Materials for backfilling on each side of the conduit for the full trench width and to an elevation of 300 mm above the top of the conduit shall be fine, readily compactible soil or granular material selected from excavation or from a source of the Contractor's choice, and shall not contain stones that would be retained on a 50 mm sieve, chunks of highly plastic clay, or other objectionable material. Granular backfill material shall have not less than 95 percent passing a 12.5 mm sieve and not less than 95 percent retained on a 4.75 mm sieve. Oversized material, if present, shall be removed at the source of the material, except as directed by the Engineer.

When the top of the conduit is flushed with or below the top of the trench, backfill material shall be placed at or near optimum moisture content and compacted in layers not exceeding 150 mm (compacted) on both sides to an elevation 300 mm above the top of the conduit. Care shall be exercised to thoroughly compact the backfill under the haunches of the conduit. The backfill shall be brought up evenly on both sides of the conduit for the full required length. Except where negative projecting embankment-type installation is specified, the backfill material shall be placed and compacted for the full depth of the trench.

When the top of the conduit is above the top of the trench, backfill shall be placed at or near optimum moisture content and compacted in layers not exceeding 300 mm (compacted) and shall be brought up evenly on both sides of the conduit for its full length to an elevation 300 mm above the top of the conduit. The width of the backfill on each side of the conduit for the portion above the top of the trench shall be equal to twice the diameter of the conduit or 3.5 m, whichever is less. The backfill material used in the trench section and the portion above the top of the trench for a distance on each side of the conduit equal to the horizontal inside diameter and to 300 mm above the top of the conduit shall conform to the requirements for backfill materials in this Subsection. The remainder of the backfill shall consist of materials from excavation and borrow that is suitable for embankment construction.

Compaction to the density specified in Item 104, Embankment, shall be achieved by use of mechanical tampers or by rolling.





All conduits after being bedded and backfill as specified in this Subsection shall be protected by one metre cover of fill before heavy equipment is permitted to cross during construction of the roadway.

#### **500.3.7 Imperfect Trench**

Under this method, for rigid conduit, the embankment shall be completed as described in Subsection 500.3.6, Backfilling, to a height above the conduit equal to the vertical outside diameter of the conduit plus 300 mm. A trench equal in width to the outside horizontal diameter of the conduit and to the length shown on the plans or as directed by the Engineer shall then be excavated to within 300 mm of the top of the conduit, trench walls being as nearly vertical as possible. The trench shall be loosely filled with highly compressible soil. Construction of embankment above shall then proceed in a normal manner.

#### **500.4 Method of Measurement**

Conduit of the different types and sizes, both new and relaid, will be measured by the linear metre in place. Conduit with sloped or skewed ends will be measured along the invert.

Each section will be measured by the number of units installed.

Branch connection and elbows will be included in the length measurement for conduit, or they may be measured by the number of units installed.

Class B bedding material placed and approved shall be measured by the cubic metre in place.

When the Bid Schedule contains an estimated quantity for "Furnishing and Placing Backfill Material, Pipe Culvert", the quantity to be paid for will be the number of cubic metre complete in place and accepted, measured in final position between limits as follows:

1. Measurement shall include backfill material in the trench up to the top of the original ground line but will not include any material placed outside of vertical planes 450 mm up outside of and parallel to the inside wall of pipe at its widest horizontal dimension.

2. When the original ground line is less than 300 mm above the top of the pipe, the measurement will also include the placing of all backfill materials, above the original ground line adjacent to the pipe for a height of 300 mm above the top of pipe and for a distance on each side of the pipe not greater than the widest horizontal dimension of the pipe.

3. The measurement shall include the placing of backfill material in all trenches of the imperfect trench method. Materials re-excavated for imperfect trench construction will be measured for payment under Item 103, Structure Excavation.

#### **500.5 Basis of Payment**

The accepted quantities of conduit, determined as provided in Section 500.4, Method of Measurement, shall be paid for at the contract unit price per linear meter for the conduit of the types and sizes specified complete in place. End sections and, when so specified, branch connections and elbows, shall be paid for at the contract unit price per piece for the kind and size specified complete in place.



Excavation for culverts and storm drains, including excavation below flow line grade and for imperfect trench, shall be measured and paid for as provided in Item 103, Structure Excavation.

Concrete for Class A bedding will be paid for under Item 405, Structural Concrete.  
When the Bid Schedule does not contain as estimated quantity for "Furnishing and Placing Backfill Material, Pipe Culvert" payment for placing backfill material around pipe culverts will be considered as included in the payment for excavation of the backfill material.

Payment will be made under:

Payment Item Number	Description	Unit of Measurement
500 (1)	Pipe Culverts, - mm	Linear Meter
	Class -	
500 (2)	Storm Drain, - mm	Linear Meter
	Class -	

**ITEM 506 – STONE MASONRY**

**506.1 Description**

This Item shall consist of stone masonry in minor structures, in headwalls for culverts, in retaining walls at the toes of slopes, and at other places called for on the Plans, constructed on the prepared foundation bed, in accordance with this Specification and in conformity with the lines, grades, sections, and dimensions shown on the Plans or as ordered in writing by the Engineer.

**506.2 Material Requirements**

**506.2.1 Stone**

The stone shall be clean, hard, and durable and shall be subject to the Engineer's approval. Adobe stone shall not be used unless otherwise specified.

Sizes and Shapes – Unless other sizes are shown on the Plans, stones have a thickness of not less than 150 mm, and widths of not less than one and one-half times their respective thickness, and lengths of not less than one and one half times their respective widths. Each stone shall be of good shape and be free of depressions and projections that might weaken or prevent it from being properly bedded.

Dressing – The stone shall be dressed to remove any thin or weak portions. Face stones shall be dressed to provide bed and joint lines that do not vary more than 20 mm from the true lines and to ensure the meeting of bed and joint lines without the rounding of corners of the stones in excess of 30 mm in radius. Bed surfaces of the face stones shall be approximately normal to the face of the stones for about 80 mm and from this point may depart from a normal plane not to exceed 50 mm in 300 mm.

Finish for Exposed Faces – Face stones shall be pitched to the line along the beds and joints. The maximum projection of rock faces beyond the pitch lines shall not be more than 50 mm.



## **506.2.2 Mortar**

Cement, fine aggregate, and water shall conform to the respective requirements for those materials as specified under Item 405, Structural Concrete, except as to the grading of fine aggregate which shall all pass the 2.36 mm (No. 8) sieve, not less than 15 nor more than 40 percent shall pass the 0.3 mm (No. 50 ) sieve, and not more than 10 percent shall pass the 0.15 mm (No.100) sieve.

The mortar for the masonry shall be composed of one part of Portland Cement and two parts of fine aggregate by volume and sufficient water to make the mortar of such consistency that it can be handled easily and spread with a trowel. Mortar shall be mixed only in those quantities required for immediate use. Unless an approved mortar mixing machine is used, the fine aggregate and cement shall be mixed dry in a tight box until the mixture assumes a uniform color, after which, water shall be added as the mixing continues until the mortar attains the proper consistency. Mortar that is not used within 90 minutes after the water has been added shall be discarded. Retempering of mortar will not be permitted.

## **506.3 Construction Requirement**

### **506.3.1 Selection and Placing**

When the masonry is to be placed on a prepared foundation bed, the bed shall be firm and normal to, or in steps normal to, the face of the wall, and shall have been approved by the Engineer before any stone is placed.

Care shall be taken to prevent the bunching of small stone or stones of the same size. Large stones shall be used in the corners.

All stones shall be cleaned thoroughly and wetted immediately before being set, and the bed which is to receive them shall be cleaned and moistened before the mortar is spread. They shall be laid with their longest faces horizontal in full beds of mortar, and the joints shall be flushed with mortar.

The exposed faces of individual stones shall be parallel to the faces of the walls in which the stones are set.

The stones shall be so handled as not to jar displace the stones already set. Suitable equipment shall be provided for setting stones larger than those that can be handled by two men. The rolling or turning of stones on the walls will not be permitted. If a stone is loosened after the mortar has taken initial set, it shall be removed, the mortar cleaned off, and the stone relaid with fresh mortar.

### **506.3.2 Bed and Joints**

Beds for face stones may vary from 20 mm to 50 mm in thickness. They shall not extend an unbroken line through more than 5 stones. Joints may vary from 20 mm to 50 mm in thickness. They shall not extend in an unbroken line through more than two stones. They may be at angles with the vertical from  $0^{\circ}$  to  $45^{\circ}$ . Face stone shall bond at least 150 mm longitudinally and 50 mm vertically. At no place shall corners of four stones be adjacent to each other.

Cross beds for vertical faced walls shall be level, and for battered walls may vary from level to normal to the batter line of the face of the wall.



### **506.3.3 Headers**

Headers shall be distributed uniformly throughout the walls of the structures so as to form at least one-fifth of the exposed faces. They shall be of such lengths as to extend from the front face of the wall into the backing of at least 300 mm. When a wall is 450 mm or less in thickness, the headers shall extend entirely from front to back face.

### **506.3.4 Backing.**

Backing shall be built mostly of large stones as shown in the approved Plans or as directed by the Engineer. The individual stones composing the backing and hearting shall be well bonded with the stones in the face wall and with each other. All openings and interstices in the backing shall be filled completely with mortar or with spalls surrounded completely by mortar.

### **506.3.5 Pointing**

Both bed and vertical joints shall be finished as shown on the Plans or as directed by the Engineer. The mortar in joints on top of surface of masonry shall be crowned slightly at the center of the masonry to provide drainage.

### **506.3.6 Coping**

Copings, if called for, shall be finished as shown on the Plans. Where copings are not called for, the top of the wall shall be finished with stones wide enough to cover the top of the wall from 450 mm to 1000 mm in length, and of random heights, with a minimum height of 150 mm. Stone shall be laid in such a manner that the top course is an integral part of the wall. The tops of top course of stone shall be pitched to line, in both vertical and horizontal planes.

### **506.3.7 Weepholes**

It shall conform to the requirements of Item 504, Riprap and Grouted Riprap under Subsection 504.3.4, Weepholes.

### **506.3.8 Cleaning Exposed Faces**

Immediately after being laid, and while the mortar is fresh, all face stones shall be thoroughly cleaned of mortar stains and shall be kept clean until the work is completed.

### **506.3.9 Curing**

In hot or dry weather, the masonry shall be satisfactory protected from the sun and shall be kept wet for a period of at least three days after completion.

### **506.4 Method of Measurement**

The quantity to be paid for shall be the number of cubic meters of stone masonry complete in place and accepted. Projections extending beyond the faces of the walls shall not be included. In computing the quantity for payment, the dimensions used shall be those shown on the Plans or ordered in writing by the Engineer. No deductions shall be made for weepholes, drain pipes or other openings of less than one square meter in area.

### **506.5 Basis of Payment**





The quantity of masonry, determined as provided in Section 506.4, Method of Measurement, shall be paid for at the contract unit price per cubic meter for Stone Masonry, which price and payment shall be full compensation for furnishing and placing all materials, including mortar for masonry, for all necessary excavations, and for all labor, equipment, tools and incidentals necessary to complete the Item.

Payment will be made under:

Pay Item Number	Description	Unit of Measurement
506	Stone Masonry	Cubic Meter

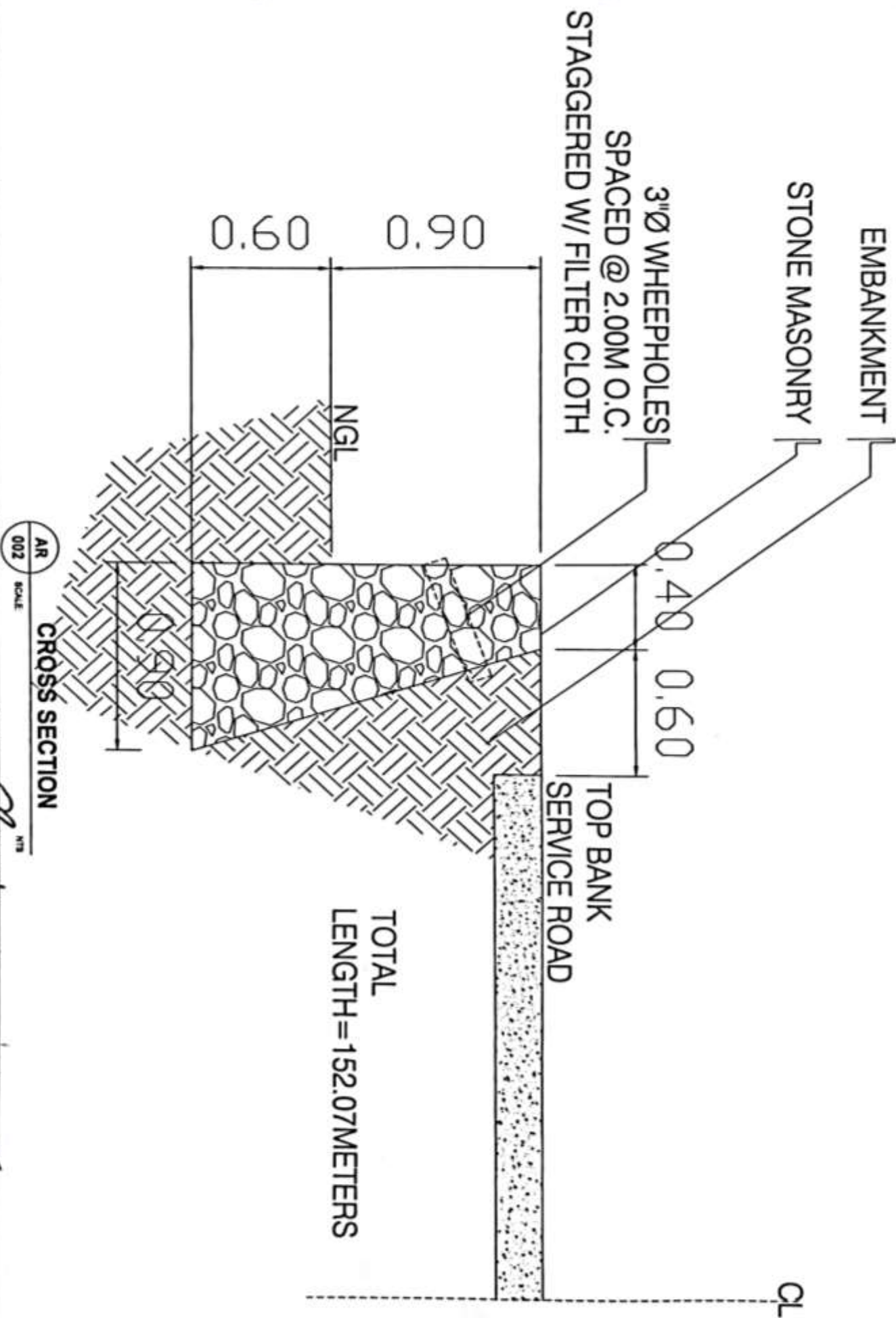
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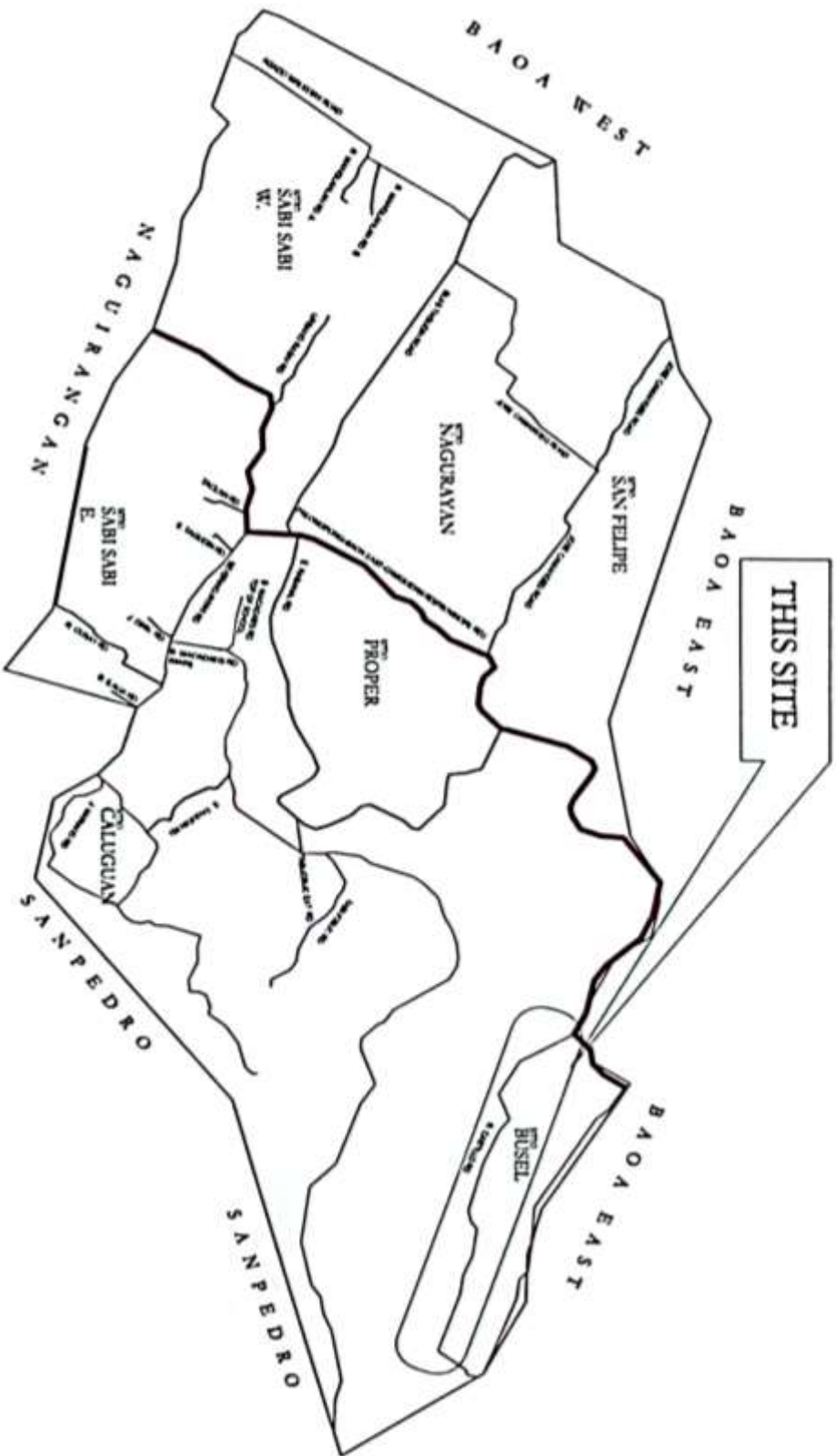
## Section VII. Drawings



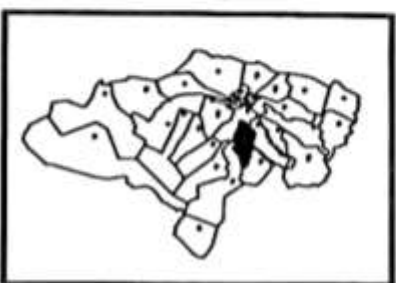








NORTH



MAP OF BATANG CITY

# VICINITY MAP

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001

SCALE

NTS



REPUBLIC OF THE PHILIPPINES  
CITY OF BATANG  
CITY ENGINEERING OFFICE

CONSTRUCTION OF ROADWAY  
BLDGM PROTECTION

PROJECT TITLE  
PROJECT LOCATION, NEAREST CITY OF BATANG, LATEST 2015  
PROJECT NO.  
PROJECT NO.

AS SHOWN  
PROJECT NO.  
PROJECT NO.

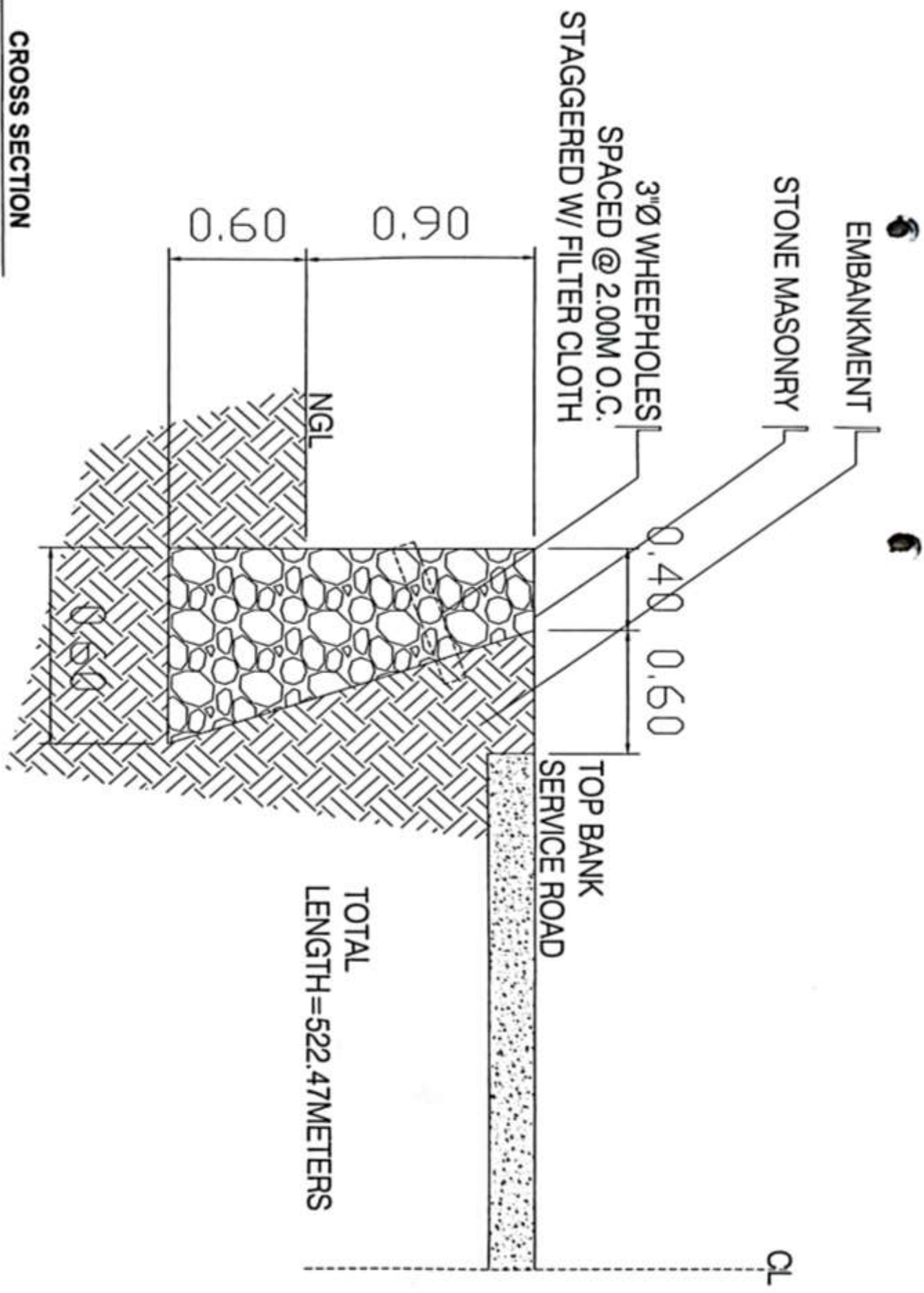
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# CROSS SECTION

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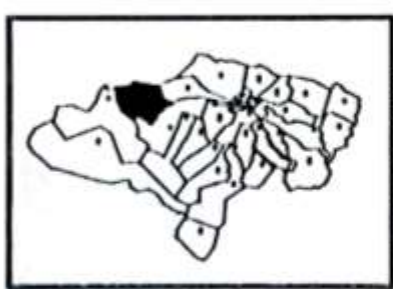
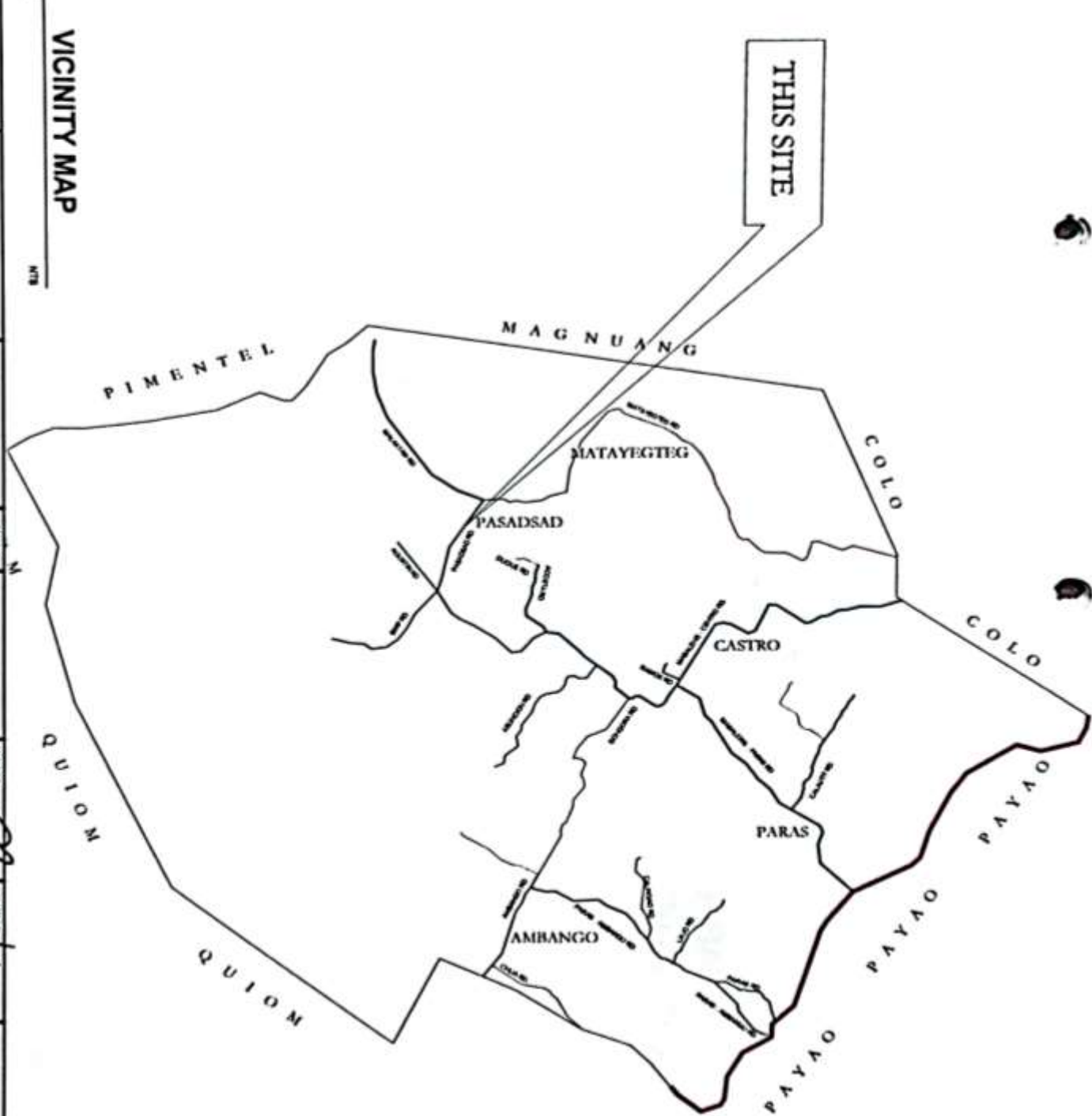
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LOCATION MAP 1:50,000 CITY OF BAGUIO		PROJECT LOCATION MAP 1:50,000 CITY OF BAGUIO		DRAWING NO. SHEET NO.		DATE REVISION		CHECKED BY DESIGNED BY AS SHOWN		APPROVED BY HON. ALBERT D. CHUA CITY MANOR		SHEET NO. 2		SHEET NO. 2	



AR  
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VICINITY MAP

NTS



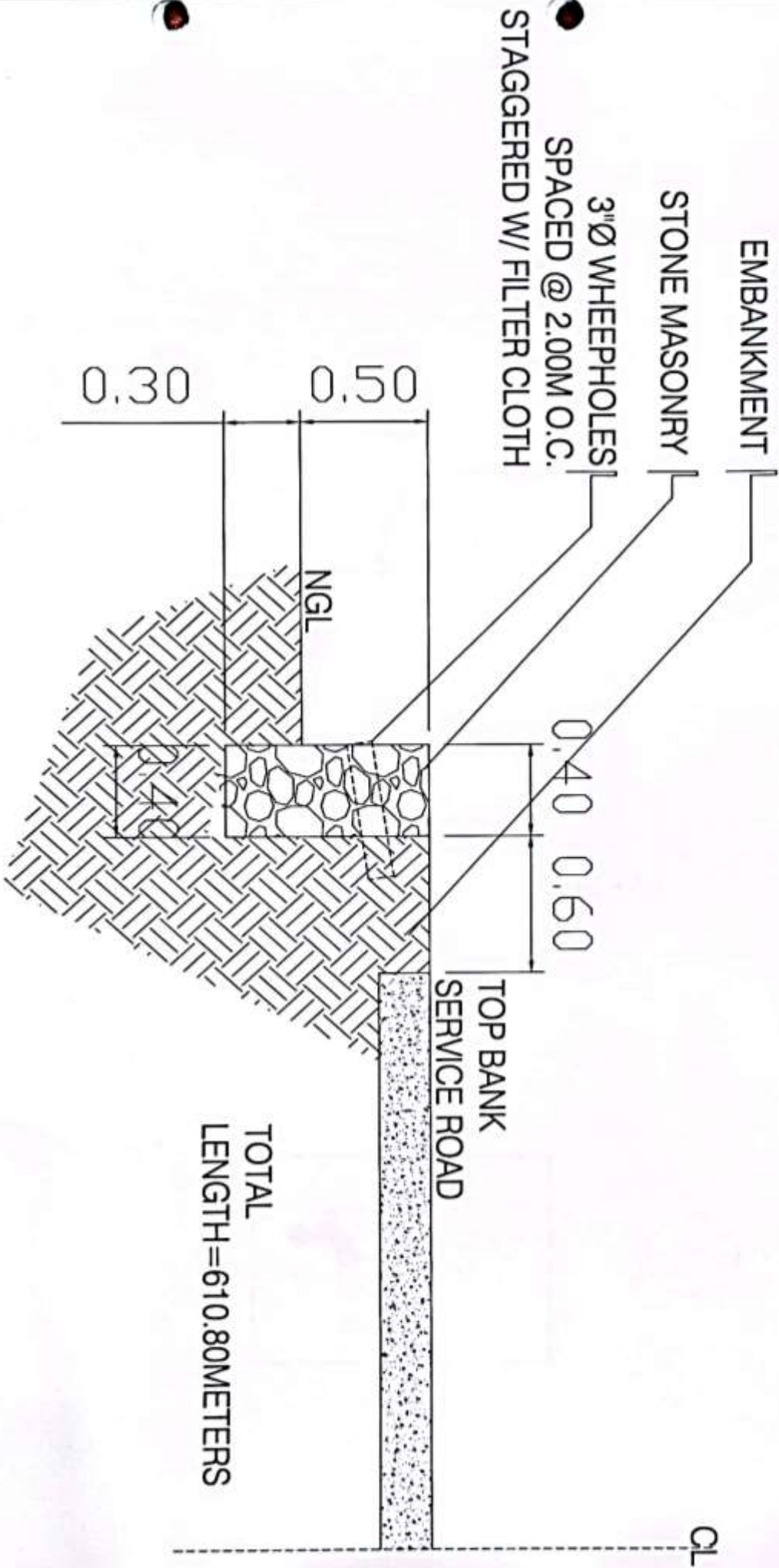
NORTH  
MAP OF BATANG CITY

OFFICE OF THE ENGINEER CITY ENGINEERING OFFICE		COMMISSION OF RECORDS BLDG PROTECTION	
DATE: 10/10/2010		DATE: 10/10/2010	
BY: [Signature]		BY: [Signature]	
CHECKED: [Signature]		CHECKED: [Signature]	
APPROVED: [Signature]		APPROVED: [Signature]	
HON. ALBERT D. CHUA		HON. ALBERT D. CHUA	
1		2	









TOTAL  
LENGTH=610.80METERS

# CROSS SECTION

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002

SCALE

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		REPUBLIC OF THE PHILIPPINES CITY OF BAGUIO CITY ENGINEERING OFFICE		PROJECT TITLE CONSTRUCTION OF ROADWAY SLOPE PROTECTION		LOCATION: BAYAN 14, BAGUIO, CITY OF BAGUIO	
DESIGNED BY	CHECKED BY	APPROVED BY	DATE	PROJECT NO.	DATE	PROJECT NO.	DATE
 DESIGNED BY	 CHECKED BY	 APPROVED BY	DATE	PROJECT NO.	DATE	PROJECT NO.	DATE
HON. ALBERT D. CHUA CITY MAYOR				SHEET NO. 2 OF 2			



REPUBLIC OF THE PHILIPPINES  
CITY OF BATANG  
CITY ENGINEERING OFFICE  
CONSTRUCTION OF ROADWAY  
ALONG PROTECTION

PROJECT TITLE  
PROJECT LOCATION: BANGKAYAN

DATE  
SCALE

AS SHOWN

DESIGNED BY  
CHECKED BY  
APPROVED BY

DATE  
SCALE

APPROVED BY  
HON. ALBERT D. CHUA  
CITY MANOR

DATE  
SCALE

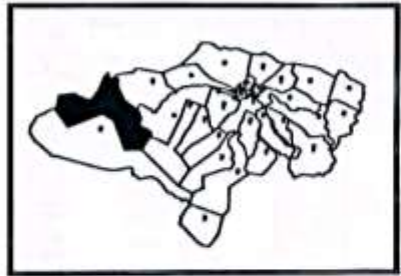
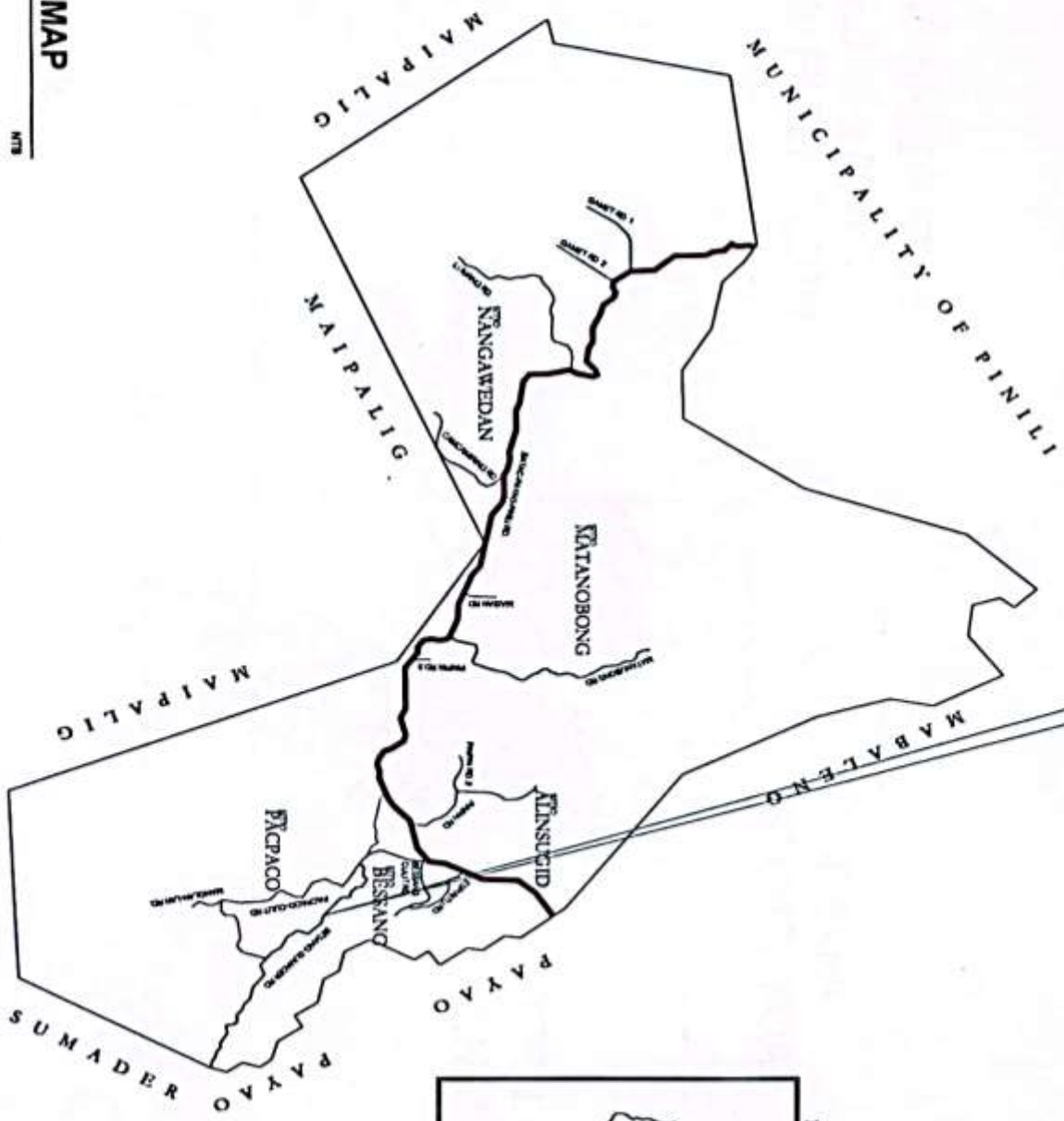
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# VICINITY MAP









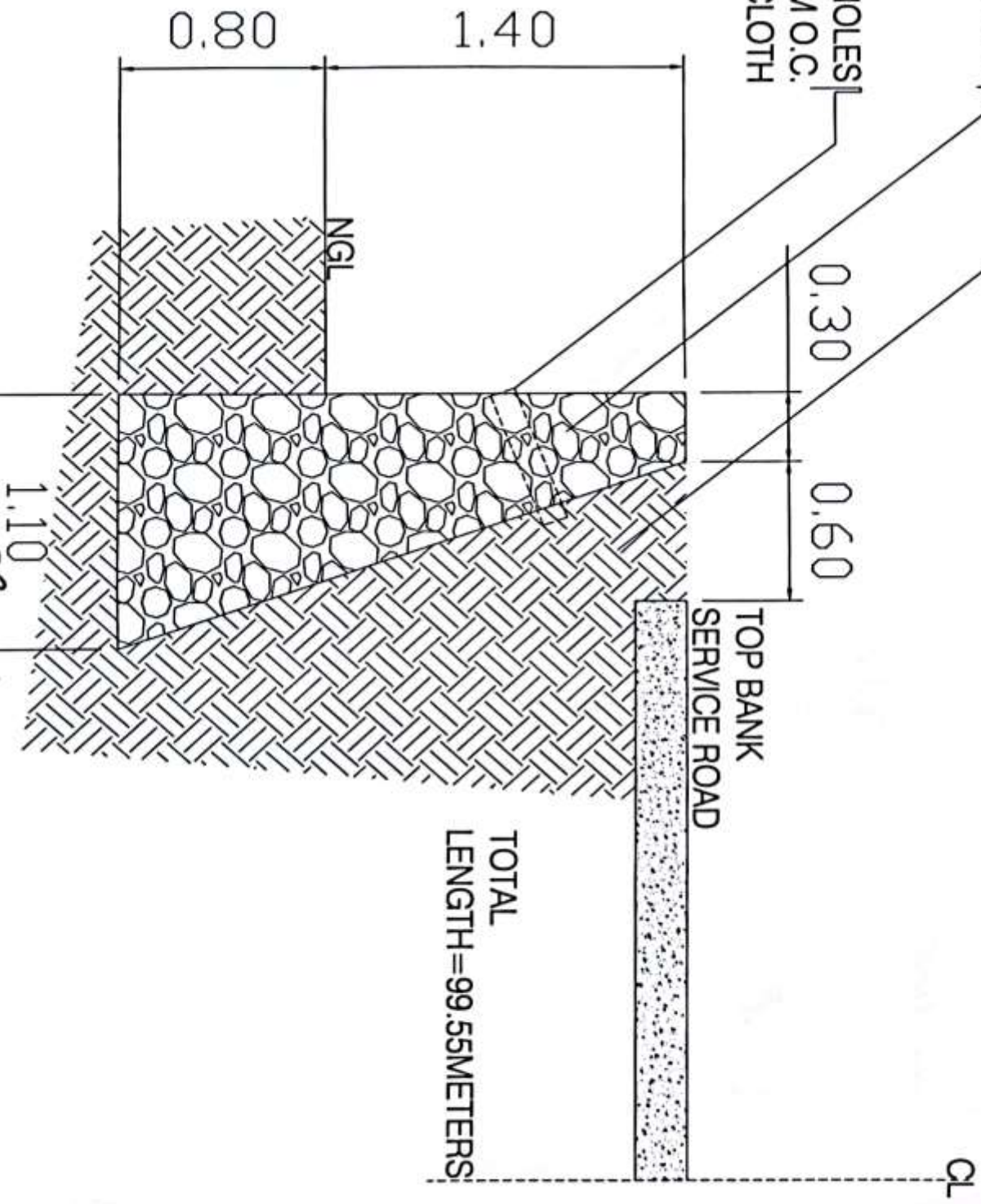



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CROSS SECTION

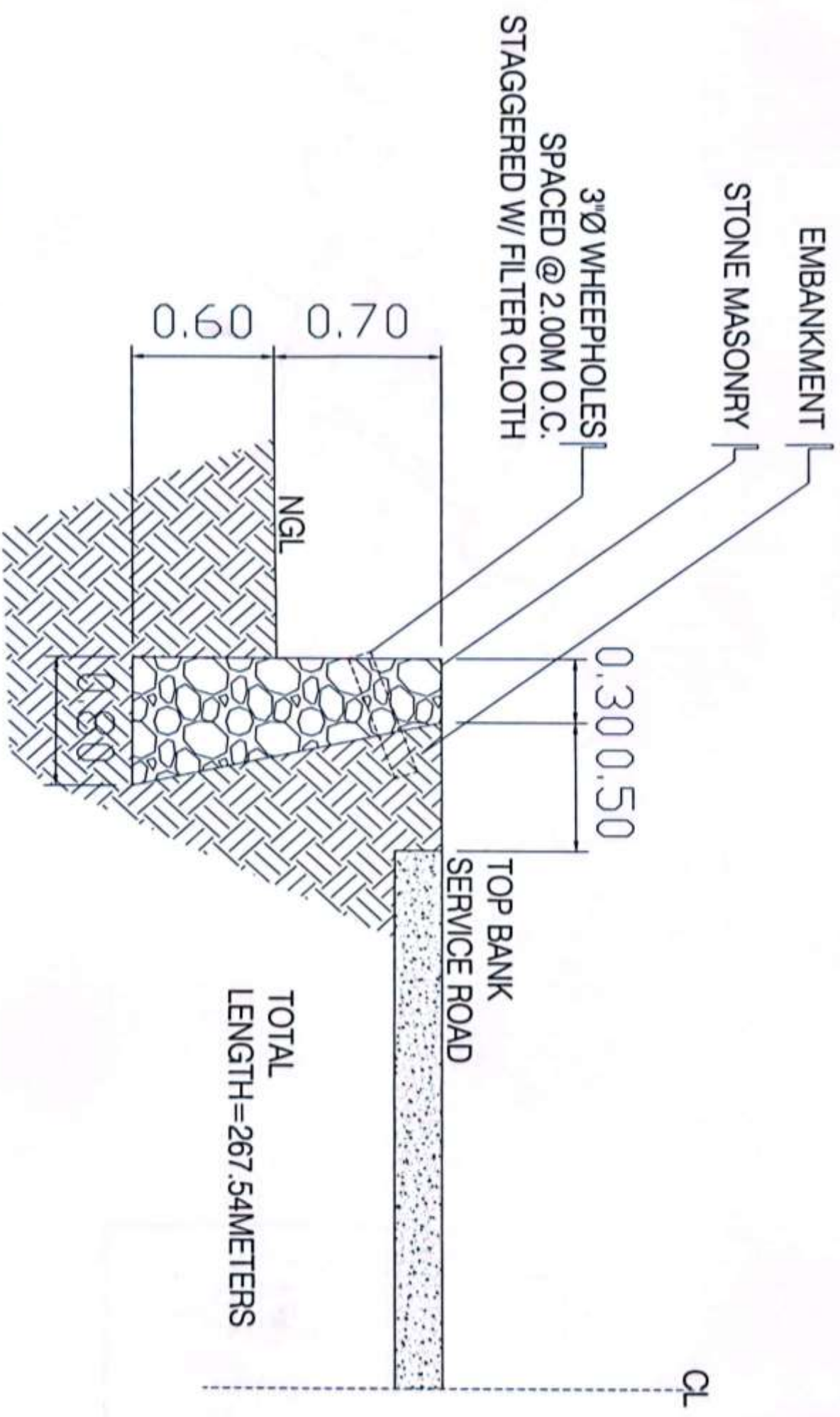
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		REPUBLIC OF THE PHILIPPINES CITY OF BAGUIO		PROJECT TITLE CONSTRUCTION OF ROADWAY SLOPE PROTECTION		DESIGNED BY GERALD J. L. L. L. L.		CHECKED BY HON. ALBERT D. CHUA		SHEET NO. AR	
CITY ENGINEERING OFFICE		PROJECT LOCATION: BAGUIO CITY		PROJECT NO.		DATE		BY		2	
LOCATION: BAGUIO CITY		PROJECT NO.		DATE		BY		2		2	







# CROSS SECTION

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002

SCALE

NTS

		MUNICIPALITY OF THE PHILIPPINES CITY OF MANILA CITY ENGINEERING OFFICE		PROJECT TITLE CONSTRUCTION OF ROADSIDE SLOPE PROTECTION	
LOCATION: ROAD 14, MANILA CITY OF MANILA		PROJECT LOCATION: ROAD 14, MANILA CITY OF MANILA		DATE: 10/10/2023	
DRAWN BY: [Signature] CHECKED BY: [Signature]		AS SHOWN: [Signature]		APPROVED BY: [Signature]	
HON. ALBERT D. CHUA CITY MANAGER		SHEET NO. AR 2 / 2			



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# VICINITY MAP

NTS

REPUBLIC OF THE PHILIPPINES  
CITY OF BATANGAS  
CITY ENGINEERING OFFICE

PROJECT TITLE  
CONSTRUCTION OF ROADWAY  
BLDGM PROTECTION

PROJECT LOCATION (INDICATING CITY OF BATANGAS JURISDICTION)

AS SHOWN

APPROVED

DATE

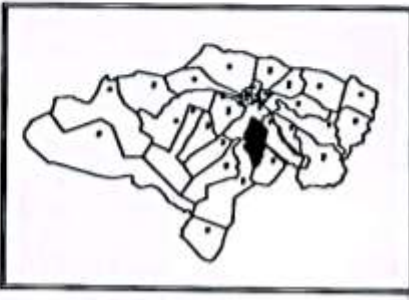
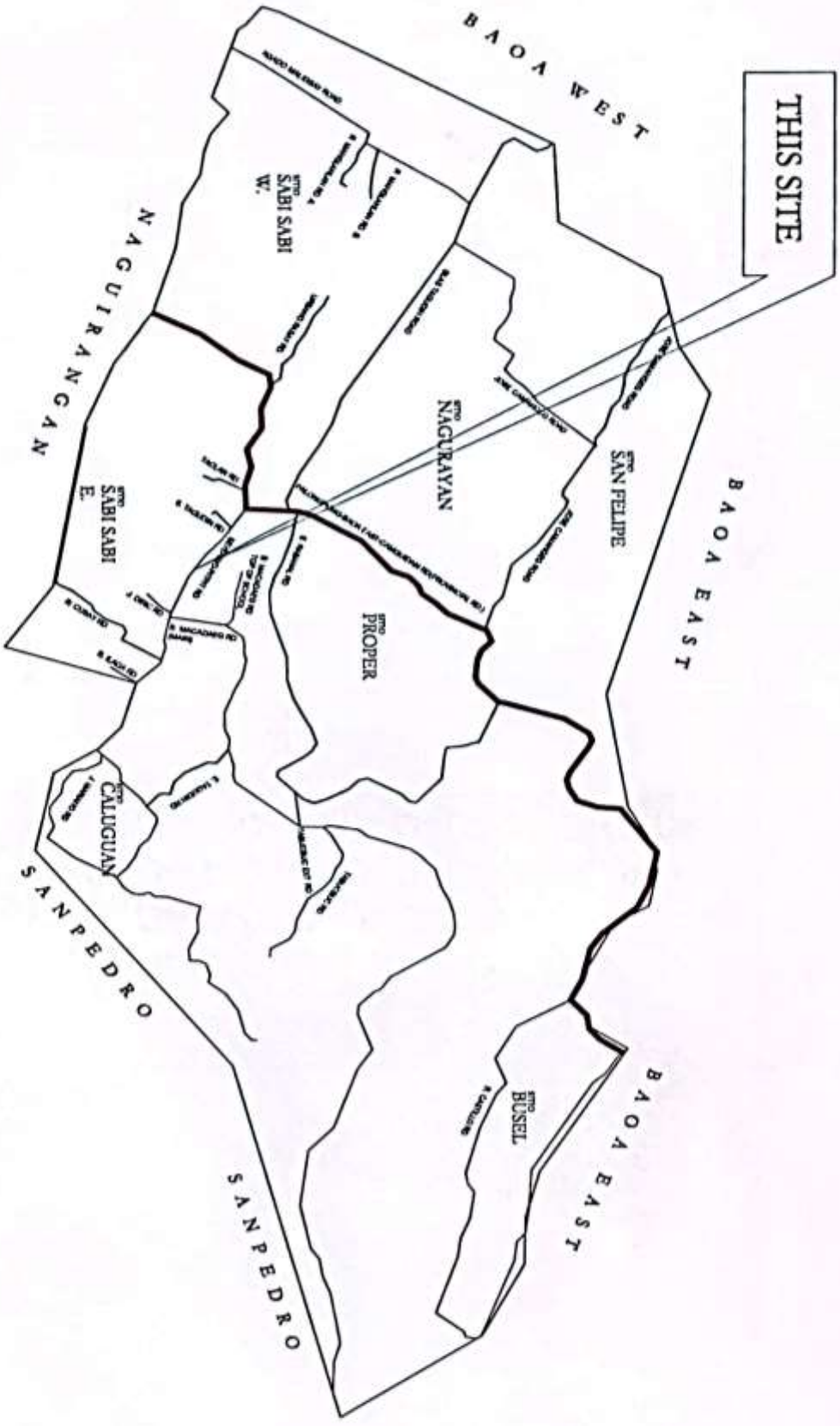
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DATE

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MAP OF BATANGAS CITY









REPUBLIC OF THE PHILIPPINES  
CITY OF BATIC  
CITY ENGINEERING OFFICE  
LOCATION MAP FOR THE CITY OF BATIC

PROJECT TITLE  
CONSTRUCTION OF ROADWAY  
SLOPE PROTECTION

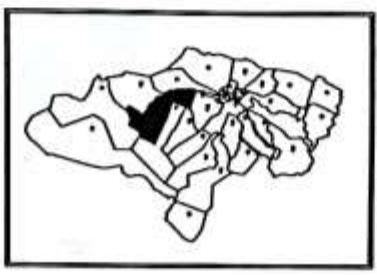
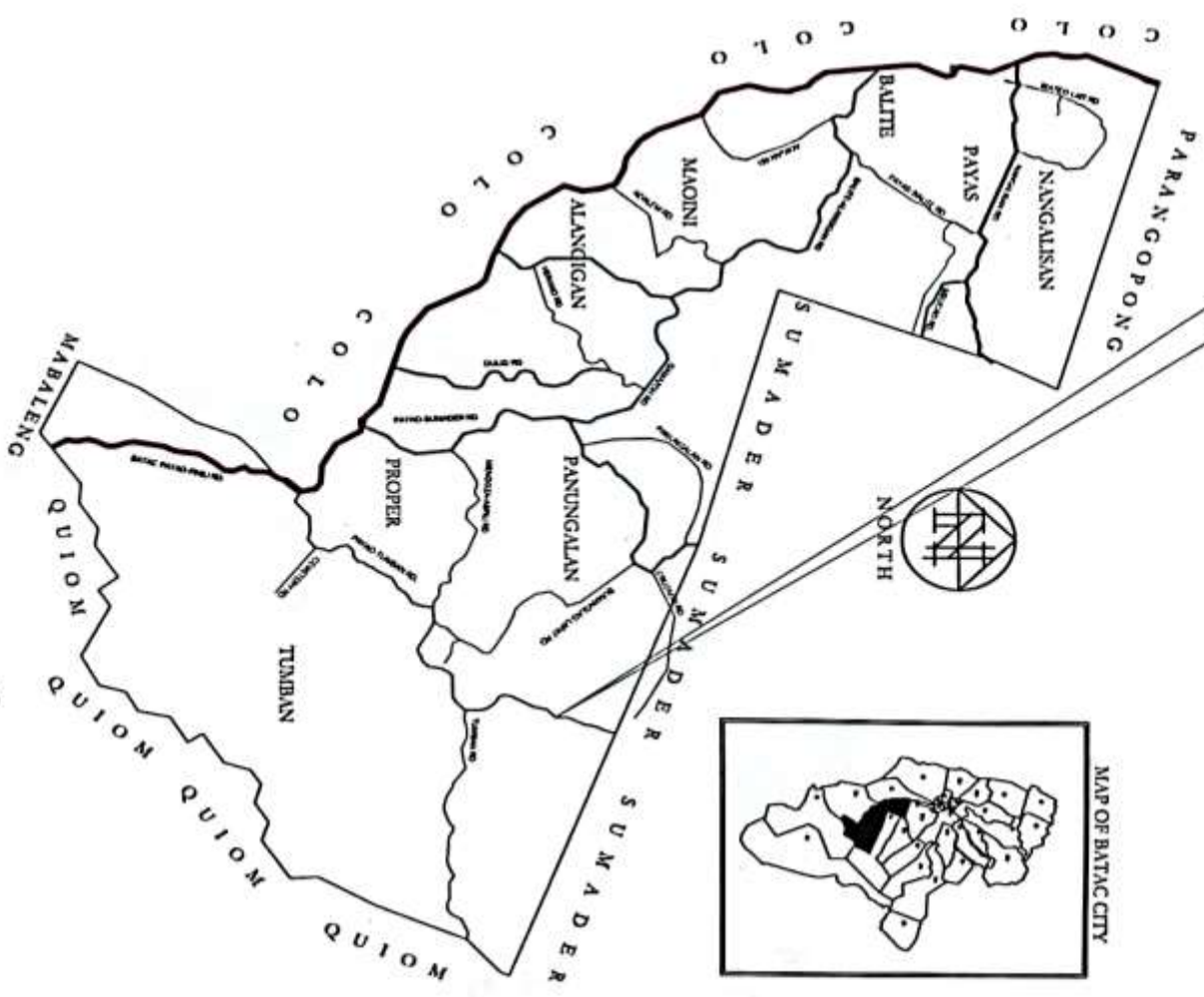
PROJECT LOCATION MAP  
CITY OF BATIC, LUSKANG

DESIGNED BY  
CHECKED BY  
AS SHOWN

APPROVED BY  
HON. ALBERT D. CHUA  
CITY MAYOR

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SCALE: NTS

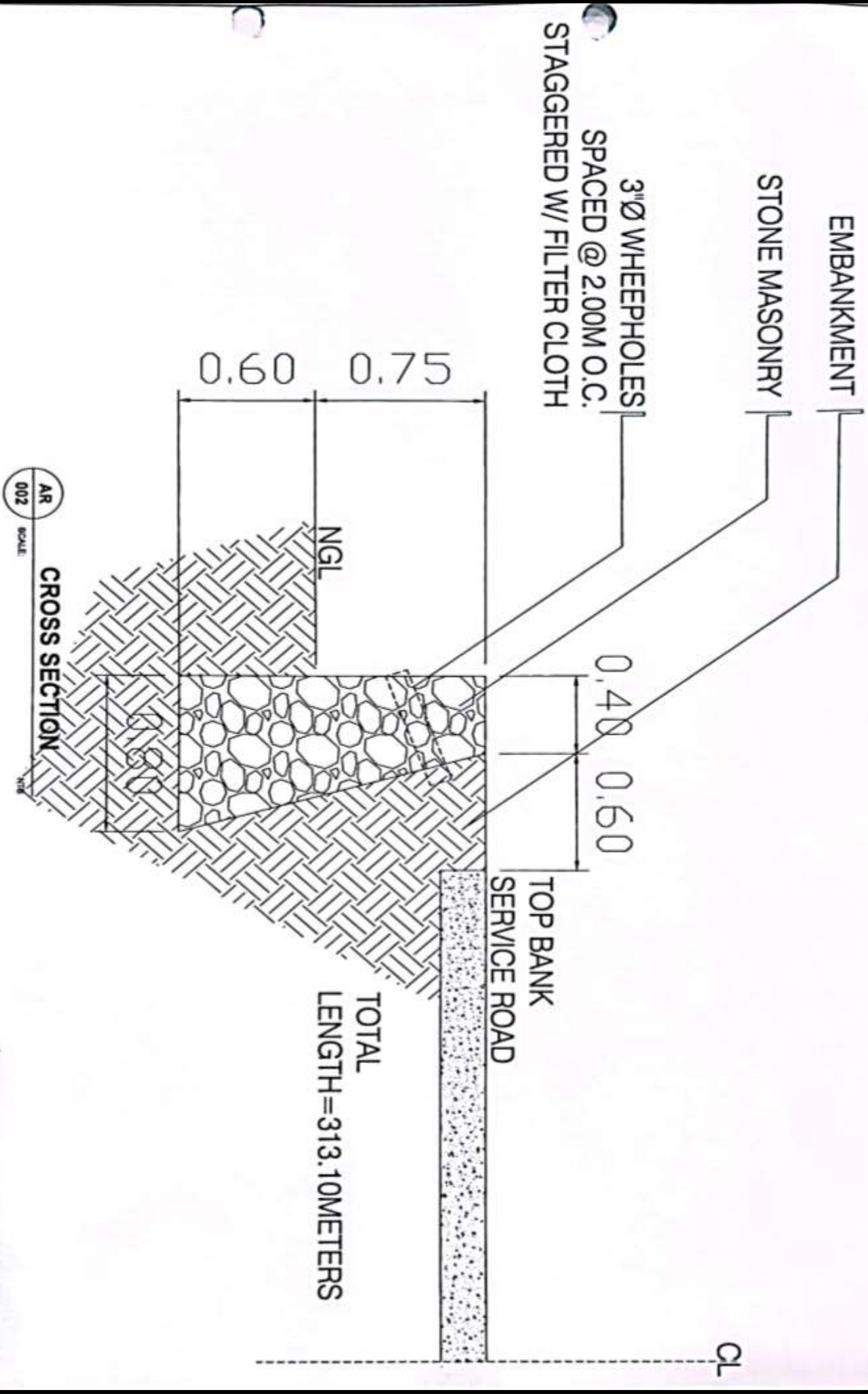
# VICINITY MAP







MEMORANDUM FOR THE ENGINEER CITY OF MANILA		PROJECT TITLE CONSTRUCTION OF ROADWAY EROSION PROTECTION	
LOCATION: PIONEER 14 SQUARE, CITY OF MANILA		PROJECT LOCATION: PIONEER 14 SQUARE, CITY OF MANILA	
APPROVED BY HON. ALBERT D. CHUA CITY MAYOR	DESIGNED BY JULIA SYAL	CHECKED BY JULIA SYAL	DATE 2024
2	2	2	2





Republic of the Philippines  
CITY GOVERNMENT OF BATAC  
Washington st., 1-5 Volderz, City of Batac  
Province of Ilocos Norte

Project : CONSTRUCTION OF ROADWAY SLOPE PROTECTION  
Subject : CONSTRUCTION SCHEDULE WITH CASHFLOW

Item	WORK DESCRIPTION	AMOUNT	Duration In (days)	WT%	1ST				2ND		3RD		4TH	
					37	71	105	139	173	207	241	275		
B.5	Project Billboard/ Signboard	35,237.42	275	0.18%										
B.7(1)	Occupational Safety and Health Program	1,237,044.75	275	6.19%										
B.8(1)	Traffic Management	261,960.24	275	1.31%										
B.9	Mobilization / Demobilization	116,363.42	2	0.58%										
102(2)	Surplus Common Excavation	1,054,026.65	16	5.27%										
104(2)a	Embankment from Borrow (Common Soil)	151,521.16	4	0.76%										
500(1)a1	Pipe Culverts (610 mm. diameter)	126,697.86	4	0.63%										
500(1)a3	Pipe Culverts (910 mm. diameter)	26,234.45	1	0.13%										
506(1)	Stone Masonry	16,979,140.21	248	84.95%										
TOTAL CONTRACT AMOUNT		19,988,226.16	275.00	100.00%										
PLANNED WEEKLY ACCOMPLISHMENT (AMOUNT)		72,660.16			557,667.95	2,983,259.40	3,059,725.56	2,708,383.94	2,631,917.19	2,631,917.19	2,707,677.77	2,707,677.77		
PLANNED CUMULATIVE WEEKLY ACCOMPLISHMENT (%)					2.79%	17.17%	33.02%	46.57%	59.74%	72.91%	86.45%	100.00%		
PLANNED CUMULATIVE WEEKLY ACCOMPLISHMENT (AMOUNT)					557,667.95	3,540,927.35	6,600,652.91	9,309,036.25	11,940,953.44	14,572,870.62	17,280,548.39	19,988,226.16		
PLANNED MONTHLY ACCOMPLISHMENT (%)					2.79%	14.93%	15.31%	13.55%	13.17%	13.17%	13.55%	13.55%		
PLANNED MONTHLY CASH FLOW					557,667.95	2,983,259.40	3,059,725.56	2,708,383.94	2,631,917.19	2,631,917.19	2,707,677.77	2,707,677.77		
PLANNED CUMULATIVE MONTHLY ACCOMPLISHMENT (%)					2.79%	17.72%	33.07%	46.57%	59.74%	72.91%	86.45%	100.00%		
PLANNED CUMULATIVE MONTHLY CASH FLOW					557,667.95	3,540,927.35	6,600,652.91	9,309,036.25	11,940,953.44	14,572,870.62	17,280,548.39	19,988,226.16		

Prepared By:  
Joel F. Estol  
Engineer III

Noted:  
Hilario G. Nalupia  
City Engineer





Republic of the Philippines  
CITY GOVERNMENT OF BATAC  
Washington St., 1-5 Valdez, City of Batac  
Province of Ilocos Norte

Project : CONSTRUCTION OF ROADWAY SLOPE PROTECTION  
Subject : EQUIPMENT SCHEDULE

Item	WORK DESCRIPTION	AMOUNT	Duration in (days)	WT%	1ST				2ND		3RD		4TH	
					37	71	105	139	173	207	241	275		
B.5	Project Billboard/ Signboard	35,237.42	275	0.18%										
B.7(1)	Occupational Safety and Health Program	1,237,044.75	275	6.19%										
B.8(1)	Traffic Management	261,960.24	275	1.31%										
B.9	Mobilization / Demobilization	116,363.42	2	0.58%										
102(2)	Surplus Common Excavation	1,054,026.65	16	5.27%										
104(2)a	Embankment from Borrow (Common Soil)	151,521.16	4	0.76%										
500(1)a1	Pipe Culverts (610 mm. diameter)	126,697.86	4	0.63%										
500(1)a3	Pipe Culverts (910 mm. diameter)	26,234.45	1	0.13%										
506(1)	Stone Masonry	16,979,140.21	248	84.95%										
TOTAL CONTRACT AMOUNT		19,988,226.16	275.00	100.00%										
					DUMP TRUCK									
					BACK HOE									
					ROAD GRADER									
					WATER TRUCK									
					PLATE COMPACTOR									
					ONE BAGGER MIXER									

Prepared By:  
Joel F. Estal  
Engineer III

Noted:  
Hilarion G. Nolasco  
City Engineer



Republic of the Philippines  
CITY GOVERNMENT OF BATAC  
Washington st., 1-5 Valdez, City of Batoc  
Province of Ilocos Norte

Project : CONSTRUCTION OF ROADWAY SLOPE PROTECTION  
Subject : S CURVE

Item	WORK DESCRIPTION	AMOUNT	Duration in (days)	WT%	Chart Title									
					1ST		2ND		3RD		4TH			
					37	71	105	139	173	207	241	275		
B.5	Project Billboard/ Signboard	35,237.42	275	0.18%										
B.7(1)	Occupational Safety and Health Program	1,237,044.75	275	6.19%										
B.8(1)	Traffic Management	261,960.24	275	1.31%										
B.9	Mobilization / Demobilization	116,363.42	2	0.58%										
102(2)	Surplus Common Excavation	1,054,026.65	16	5.27%										
104(2)a	Embankment from Borrow (Common Soil)	151,521.16	4	0.76%										
500(1)a1	Pipe Culverts (610 mm. diameter)	126,697.86	4	0.63%										
500(1)a3	Pipe Culverts (910 mm. diameter)	26,234.45	1	0.13%										
506(1)	Stone Masonry	16,979,140.21	248	84.95%										
TOTAL CONTRACT AMOUNT		19,988,226.16	275.00	100.00%										
PLANNED WEEKLY ACCOMPLISHMENT (AMOUNT)					557,667.95	2,983,259.40	3,059,725.56	2,708,383.34	2,631,917.19	2,631,917.19	2,707,677.77	2,707,677.77		
PLANNED CUMULATIVE WEEKLY ACCOMPLISHMENT (%)					2.79%	17.12%	33.02%	46.57%	59.74%	72.91%	86.45%	100.00%		
PLANNED CUMULATIVE WEEKLY ACCOMPLISHMENT (AMOUNT)					557,667.95	3,540,927.35	6,600,652.91	9,309,036.25	11,940,953.44	14,572,870.62	17,280,548.39	19,988,226.16		
PLANNED MONTHLY ACCOMPLISHMENT (%)					2.79%	14.93%	16.31%	13.55%	13.17%	13.17%	13.55%	13.55%		
PLANNED MONTHLY CASH FLOW					557,667.95	2,983,259.40	3,059,725.56	2,708,383.34	2,631,917.19	2,631,917.19	2,707,677.77	2,707,677.77		
PLANNED CUMULATIVE MONTHLY ACCOMPLISHMENT (%)					2.79%	17.72%	33.02%	46.57%	59.74%	72.91%	86.45%	100.00%		
PLANNED CUMULATIVE MONTHLY CASH FLOW					557,667.95	3,540,927.35	6,600,652.91	9,309,036.25	11,940,953.44	14,572,870.62	17,280,548.39	19,988,226.16		

Prepared By:  
Joel T. Estol  
Engineer III

Noted:  
Hilario C. Ndupia  
City Engineer





Republic of the Philippines  
CITY GOVERNMENT OF BATANGAS  
Washington St., 1-5 Valdez, City of Batangas  
Province of Ilocos Norte

Project : CONSTRUCTION OF ROADWAY SLOPE PROTECTION  
Subject : EQUIPMENT SCHEDULE

Item	WORK DESCRIPTION	AMOUNT	Duration in (days)	WT%	1ST		2ND		3RD		4TH	
					37	71	105	139	173	207	241	275
B.5	Project Billboard/ Signboard	35,237.42	275	0.18%								
B.7(1)	Occupational Safety and Health Program	1,237,044.75	275	6.19%								
B.8(1)	Traffic Management	261,960.24	275	1.31%								
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104(2)a	Embankment from Borrow (Common Soil)	151,521.16	4	0.76%								
500(1)a1	Pipe Culverts (610 mm. diameter)	126,697.86	4	0.63%								
500(1)a3	Pipe Culverts (910 mm. diameter)	26,234.45	1	0.13%								
506(1)	Stone Masonry	16,979,140.21	248	84.95%								
TOTAL CONTRACT AMOUNT		19,988,226.16	275.00	100.00%								
					1	2	2	2	2	2	2	2
					4	4	8	8	4	4	3	3
					2	18	24	24	16	16	18	18
					1	1	1	1	1	1	1	1
					1	1	1	1	1	1	1	1
					5	26	36	36	24	24	25	25

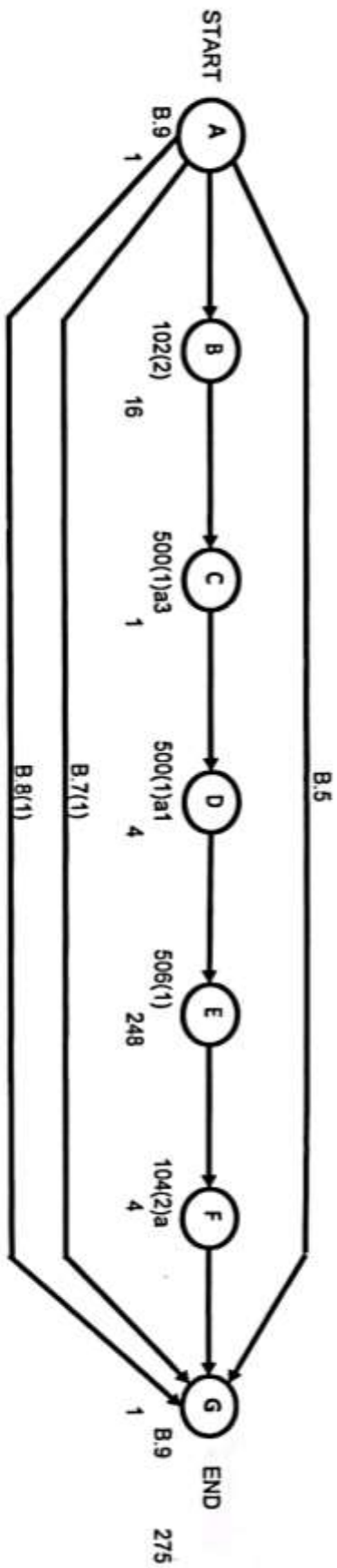
Prepared By:  
Joe F. Estol  
Engineer III

Noted:  
Hilario S. Nduapio  
City Engineer



Republic of the Philippines  
CITY GOVERNMENT OF BATAC  
Washington st., 1-S Valdez, City of Batac  
Province of Ilocos Norte

Project : CONSTRUCTION OF ROADWAY SLOPE PROTECTION  
Subject : PERT CPM



Prepared By: Joel F. Estal  
Engineer III

Noted: Hilarion G. Nalupta  
City Engineer



*Section VIII. Bill of Quantities*

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE (Pesos)	AMOUNT PESOS
<b>PART B</b>	<b>Other General Requirements</b>				
B.5	Project Billboard/Signboard	ea.	10.00	In words: <u>Pesos</u>  In Figures: <u>Php</u>	In Figures: <u>Php.</u>
B.7(1)	Occupational Safety and Health Program	mo.	9.17	In words: <u>Pesos</u>  In Figures: <u>Php</u>	In Figures: <u>Php.</u>
B.8(1)	Traffic Management	mo.	9.17	In words: <u>Pesos</u>  In Figures: <u>Php</u>	In Figures: <u>Php.</u>
B.9	Mobilization/ Demobilization	L.S.	1.00	In words: <u>Pesos</u>  In Figures: <u>Php</u>	In Figures: <u>Php.</u>
<b>TOTAL PART B</b>				In words: <u>Pesos</u>  In Figures: <u>Php</u>	In Figures: <u>Php.</u>
<b>PART C</b>	<b>Earthworks</b>				
102(2)	Surplus Common Excavation	cu.m	2,552.30	In words: <u>Pesos</u>  In Figures: <u>Php</u>	In Figures: <u>Php.</u>
104(2)a	Embankment from Borrow (Common Soil)	cu.m.	1,244.72	In words: <u>Pesos</u>  In Figures: <u>Php</u>	In Figures: <u>Php.</u>

				In Figures: <u>Php</u>	
<b>TOTAL PART C</b>				In words: <u>Pesos</u> <hr/> In Figures: <u>Php</u>	In Figures: <u>Php.</u>
<b>PART G</b>	<b>Drainage and Slope Protection Structures</b>				
500(1)a1	Pipe Culverts (610mm. diameter)	ln.m.	32.00	In words: <u>Pesos</u> <hr/> In Figures: <u>Php</u>	In Figures: <u>Php.</u>
500(1)a3	Pipe Culverts (910mm. diameter)	ln.m.	6.00	In words: <u>Pesos</u> <hr/> In Figures: <u>Php</u>	In Figures: <u>Php.</u>
506(1)	Stone Masonry	cu.m.	4,635.45	In words: <u>Pesos</u> <hr/> In Figures: <u>Php</u>	In Figures: <u>Php.</u>
<b>TOTAL PART G</b>				In words: <u>Pesos</u> <hr/> In Figures: <u>Php</u>	In Figures: <u>Php.</u>
<b>TOTAL</b>				In words: <u>Pesos</u> <hr/> In Figures: <u>Php</u>	In Figures: <u>Php.</u>

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

### **Notes on the Checklist of Technical and Financial Documents**

The prescribed documents in the checklist are mandatory to be submitted in the Bid, but shall be subject to the following:

- a. GPPB Resolution No. 09-2020 on the efficient procurement measures during a State of Calamity or other similar issuances that shall allow the use of alternate documents in lieu of the mandated requirements; or
- b. any subsequent GPPB issuances adjusting the documentary requirements after the effectivity of the adoption of the PBDs.

The BAC shall be checking the submitted documents of each Bidder against this checklist to ascertain if they are all present, using a non-discretionary “pass/fail” criterion pursuant to Section 30 of the 2016 revised IRR of RA No. 9184.

# Checklist of Technical and Financial Documents

## I. TECHNICAL COMPONENT ENVELOPE

### *Class “A” Documents*

#### Legal Documents

- ☐ (a) Valid PhilGEPS Registration Certificate (Platinum Membership) (all pages);  
**or**
- ☐ (b) Registration certificate from Securities and Exchange Commission (SEC), Department of Trade and Industry (DTI) for sole proprietorship, or Cooperative Development Authority (CDA) for cooperatives or its equivalent document;  
**and**
- ☐ (c) Mayor’s or Business permit issued by the city or municipality where the principal place of business of the prospective bidder is located, or the equivalent document for Exclusive Economic Zones or Areas;  
**and**
- ☐ (e) Tax clearance per E.O. No. 398, s. 2005, as finally reviewed and approved by the Bureau of Internal Revenue (BIR).

#### Technical Documents

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

- ☐ (l) The prospective bidder’s audited financial statements, showing, among others, the prospective bidder’s total and current assets and liabilities, stamped



“received” by the BIR or its duly accredited and authorized institutions, for the preceding calendar year which should not be earlier than two (2) years from the date of bid submission; **and**

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

***Class “B” Documents***

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

**II. FINANCIAL COMPONENT ENVELOPE**

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

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

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

