Amadeo Water District

Drilling of One (1) Exploratory/ Production Well by ROTARY DRILLING METHOD at Brgy. Pangil, Amadeo, Cavite

August 2023

TABLE OF CONTENTS

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

Invitation to Bid for Drilling of One (1) Exploratory/Production Well by Rotary Drilling Method at Brgy. Pangil, Amadeo, Cavite

1. The **AMADEO WATER DISTRICT**, through the **CY 2023 Corporate Budget Approved by the Governing Board** intends to apply the sum of **Four Million Six Hundred Seventy One Thousand Six Hundred Nineteen Pesos and Ninety Seven Centavos (PhP 4,671,619.97)** being the Approved Budget for the Contract (ABC) to payments under the contract for **Drilling of One (1) Exploratory/Production Well by Rotary Drilling Method at Brgy. Pangil, Amadeo, Cavite – AWD PB 2023-004.** Bids received in excess of the ABC shall be automatically rejected at bid opening.

2. The **AMADEO WATER DISTRICT** now invites bids for the above Procurement Project. Completion of the Works is required **within 141 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 **AMADEO WATER DISTRICT** and inspect the Bidding Documents at the address given below from **Monday – Friday, 8:00am to 5:00pm**.

5. A complete set of Bidding Documents may be acquired by interested bidders on **16 August 2023**, 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 **Five Thousand Pesos (PhP 5,000.00)**. The Procuring Entity shall allow the bidder to present its proof of payment for the fees to be presented in person or through electronic means.

6. The **AMADEO WATER DISTRICT** will hold a Pre-Bid Conference[1] on **24 August 2023, 10:00am** at **Amadeo Water District Office at 012 J. dela Peña St., Brgy. 9, Amadeo, Cavite** 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 **06 September 2023, at 1:00 pm**. Late bids shall not be accepted.

[1] May be deleted in case the ABC is less than One Million Pesos (PhP1,000,000) where the Procuring Entity may not hold a pre-bid conference.

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 **06 September 2023, at 1:20 pm** at the given address below. Bids will be opened in the presence of the bidders' representatives who choose to attend the activity.

10. The **AMADEO WATER DISTRICT** 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.

ENGR. RHODERICK L. MARANAN
BAC Chairperson
AMADEO WATER DISTRICT
012 J. dela Pena St., Brgy. 9,
Amadeo, Cavite
Tel. no. (046) 483-1508
E-mail address: amadeowd@yahoo.com
Website address: amadeowater.com

11. You may visit the following websites:

For downloading of Bidding Documents:

https://amadeowater.com/philgeps-postings/ AWD PB 2023-004

16 August 2023

ENGR. RHODERICK L. MARANAN
BAC Chairperson

Section II.
Instructions to Bidders

1. Scope of Bid

The Procuring Entity, **AMADEO WATER DISTRICT** invites Bids for the **Drilling of One (1) Exploratory/Production Well by Rotary Drilling Method at Brgy. Pangil, Amadeo, Cavite**, with Project Identification Number **AWD PB 2023-004.**

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

2. Funding Information

2.1. The GOP through the source of funding as indicated below for **CY 2023** in the amount of **Four Million Six Hundred Seventy One Thousand Six Hundred Nineteen Pesos and Ninety Seven Centavos (PhP 4,671,619.97)**.

2.2. The source of funding is:

GOCC and GFIs, the Corporate Operating Budget.

3. Bidding Requirements

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

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

The Bidder, by the act of submitting its Bid, shall be deemed to have inspected the site, determined the general characteristics of the contracted Works and the conditions for this Project, such as the location and the nature of the work; (b) climatic conditions; (c) transportation facilities; (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:

Subcontracting is not allowed.

8. Pre-Bid Conference

The Procuring Entity will hold a pre-bid conference for this Project on the specified date and time at its physical address 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:

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 *04 January 2024*. 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 two (2) copies of the first and second components of its Bid, one original and one duplicate.

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

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

17. Deadline for Submission of Bids

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

18. Opening and Preliminary Examination of Bids

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

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

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

19. Detailed Evaluation and Comparison of Bids

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

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

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

20. Post Qualification

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

21. Signing of the Contract

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

Section III.
Bid Data Sheet

Bid Data Sheet

<table>
<tr><th>ITB Clause</th><th></th></tr>
<tr><td>5.2</td><td>For this purpose, contracts similar to the Project refer to contracts which have the same major categories of work, which shall be:
Well drilling (exploratory well) projects.</td></tr>
<tr><td>7.1</td><td>Subcontracting is not allowed.</td></tr>
<tr><td>10.3</td><td>A Valid PCAB License shall have the following requirements :

PCAB Principal Classification :

LICENSE PARTICULARS:
Classification: Well Drilling Work
Category: D

REGISTRATION PARTICULARS:
Kinds of Project: Well Drilling Work
Respective Size Range: SMALL B

In case of JV, it must be the Special PCAB license for JV partners. The PCAB License and Registration must be valid at the time of opening of bids.</td></tr>
<tr><td>10.4</td><td>The key personnel must meet the required minimum years of experience set below:
<table>
<tr><th>Key Personnel</th><th>General Experience</th><th>Relevant Experience</th></tr>
<tr><td>• Project Coordinator/ Engineer</td><td>at least 5 years in well drilling</td><td>3-5 years of relevant experience</td></tr>
<tr><td>• Site Supervisor</td><td>at least 5 years in well drilling</td><td>3-5 years of relevant experience</td></tr>
<tr><td>• Construction Safety Officer</td><td>at least 5 years in well drilling</td><td>3-5 years of relevant experience</td></tr>
<tr><td>• Drilling Rig Operator</td><td>at least 5 years in well drilling</td><td>3-5 years of relevant experience</td></tr>
<tr><td>• Welder</td><td>at least 5 years in well drilling</td><td>3-5 years of relevant experience</td></tr>
<tr><td>• Data Logger Operator/ Technician</td><td>at least 5 years in well drilling</td><td>3-5 years of relevant experience</td></tr>
</table></td></tr>
</table>

	The Professional's experience data (résume/bio-data) shall be supported with their licences and/or accreditation certificates as follows : 1. Valid PRC License for the Project Engineer as Civil Engineer 2. DOLE Certification or Certificate of Training from DOLE Accredited Provider for the Construction Safety and Health Officer OTHER SUPPORTING DOCUMENTS : 1. Individual Resume/Bio-Data
10.5	**No further instructions**
12	**Not allowed**
15.1	The bid security shall be in the form of a Bid Securing Declaration or any of the following forms and amounts: a. The amount of not less than **PhP 93,432.40** *[two percent (2%) of ABC],* if bid security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit; b. The amount of not less than **PhP 233,581.00** *[five percent (5%) of ABC]* if bid security is in Surety Bond.
16	Physical Submission of Bids: **Each Bidder shall submit one (1) original and one (1) duplicate copies of the first and second components of its bid.** For authentication purposes, all pages of the bidding documents for submission must be certified by the authorized signatory of the participating Bidder/Company. The bidders are also reminded to **PUT PROPER TAB ON EACH BIDDING DOCUMENTS.**
19.2	**Partial bids are not allowed.**
20	**NWRB Accreditation** **Permit to Drill** **Environmental Compliance Certificate**
21	The winning bidder shall submit the following additional documents relevant to the Project ten (10) calendar days from the receipt of the Notice of Award: a. Organizational chart for the contract to be bid. b. Construction schedule (bar chart for the construction activities) and S-curve (for financial requirements); c. Manpower schedule (weekly or monthly scheduling of skilled and unskilled workers); d. Construction methods (narrative description of how the contractor will undertake the works under the contract). e. Equipment utilization schedule (weekly scheduling of the minimum equipment required for the contract); f. Affidavit of site inspection from the contractor, despite the fact that by the act of submitting its bid, the bidder shall be deemed to have inspected the

	site and determined the general characteristics of the contract works; g. Construction safety and health program of the contractor. (This refers to a narrative description of the safety and health program of the contractor in accordance with DOLE D.O. no. 13. This program shall then be submitted by the winning bidder to the Bureau of Working Condition of the DOLE before any project will be allowed to start); h. Project Evaluation Review Technique/Critical Path Method (PERT/CPM). i. Environmental Management Plan *Note: during the implementation of the Project the winning bidder shall comply to the following:* 1. Written request prior to the commencement of any activity for approval 2. Activity must strictly follow the activity sequence as listed above 3. Strata samples collected every meter shall be properly marked and submitted to AWD. 4. Pump test results (i.e. step – drawdown and constant discharge result) shall be submitted to AWD.

Section IV.
General Conditions of Contract

1. Scope of Contract

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

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

2. Sectional Completion of Works

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

3. Possession of Site

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

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

4. The Contractor's Obligations

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

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

5. Performance Security

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

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

6. Site Investigation Reports

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

7. Warranty

7.1. In case the Contractor fails to undertake the repair works under Section 62.2.2 0of the 2016 revised IRR, the Procuring Entity shall forfeit its performance security, subject its property (ies) to attachment or garnishment proceedings, and perpetually disqualify it from participating in any public bidding. All payables of the GOP in his favor shall be offset to recover the costs.

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

8. Liability of the Contractor

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

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

9. Termination for Other Causes

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

10. Dayworks

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

11. Program of Work

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

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

12. Instructions, Inspections and Audits

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

13. Advance Payment

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

14. Progress Payments

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

15. Operating and Maintenance Manuals

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

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

Section V. Special Conditions of Contract

Special Conditions of Contract

GCC Clause	
2	**The Intended Completion Date is One Hundred Forty One (141) Calendar Days (including 22 pre-determined unworkable days which will commence on the date of receipt of the Notice to Proceed.**
4.1	**The schedule of delivery of the possession of the site to the Contractor, shall be in full to carry out the projects on its intended completion date.**
6	**None required**
7.2	**Five (5) years.**
10	**No dayworks are applicable to the contract**.
11.1	The Contractor shall submit the Program of Work to the Procuring Entity's Representative within **ten (10) calendar days** of delivery of the Notice of Award.
11.2	The amount to be withheld for late submission of an updated Program of Work is **Five Thousand Pesos (PhP 5,000.00) for every day of delay**.
13	The amount of the advance payment is **15% of the total contract price,** which shall be given to the Contractor not later than fifteen (15) calendar days from receipt by the Procuring Entity of the Contractor's request, subject to the requirements under GCC Clause 13 Said period shall be exclusive of the time necessitated by and as a result of external factors such as pre-audit of the request for advance payment.
14	Materials and equipment delivered on the site but not completely put in place shall be included for payment.

15.1	The date by which operating and maintenance manuals are required is **not applicable.**
	
	The **Final Well Drilling Report** is required **15 calendar days upon completion of work.** It should contain at least the following information:
	• Introduction
	• Description of the Well
	• Well Location (Site and Map Location)
	• Well Construction
	• Well Development
	• Well Testing
	  ➢ Step Drawdown Test
	  ➢ Constant Discharge and Recovery Test
	• Plumbness Test
	• Water Quality
	  ➢ Physical and Chemical Analysis Result
	  ➢ Microbiological Test Result
	• Calculation of Drawdown
	• Conclusion and Recommendation
	• Geophysical Borehole Logging Data

	• Week Development Monitoring Sheet • Well Testing Data Sheet/Constant Discharge Test • Well Testing Data Sheet/ Recovery Test • Tentative Well Design • Work Schedule • Lithology and Penetration Rate • Mud Viscosity and Mud Weight • Mud Volume and Mud Conductivity • Geophysical Borehole Logging • Sieve Analysis • Final Well Design • Step Drawdown Test Graph • Calculation of B and C Values • Constant Discharge and Recovery Tests Graphs • Plumbness and Alignment Test • Progress Photographs The said report is required for final billing. The date by which "as built" drawings are required is **fifteen (15) calendar days after the date of physical completion**.
15.2	The amount to be withheld for failing to produce "as built" drawings and/or Final Well Drilling Report by the date required is **Five Thousand Pesos (PhP 5,000.00**) **for every day of delay.** The request for final payment shall not be processed pending submission and approval of the "**As Built Plans**" and other required documents as stipulated in SCC Clause 2.

Section VI. Specifications

PROJECT TECHNICAL SPECIFICATIONS

For the

PROPOSED DRILLING OF ONE (1) EXPLORATORY / PRODUCTION WELL – BRGY. PANGIL

Located at

BRGY. PANGIL, AMADEO, CAVITE

Prepared by:

ENGR. RHODERICK L. MARANAN
Senior Engineer A

Approved by:

ENGR. NILO C. DELA PEÑA
General Manager C

TABLE OF CONTENTS

1. DIVISION 1: GENERAL PROVISIONS

1. General

1.1. Provide all labor, equipment, materials, and forces necessary to provide the District with a new, complete and fully developed production well.

1.2. The new well will be drilled and completed in such a manner as to produce from all water bearing zones of acceptable properties and water quality identified by the District. The final well design will be determined after examination of the formation samples, sieve analyses of drill cuttings and downhole geophysical logs. If water-bearing zones drilled are considered adequate to produce the desired quantity and quality of water, the well will be completed, otherwise the pilot borehole will be destroyed and work under the contract terminated.

2. Contractor's Responsibilities

2.1. The Contractor is solely responsible for making all necessary provisions for mobilizing onto and demobilizing from the well site with their equipment, tools, supplies, materials, and personnel.

2.2. The Contractor shall haul away all drill cuttings and drilling fluids for proper disposal. Drill cuttings shall not be spread on the well site area unless approved by the Engineer.

2.3. The Contractor shall convey all water discharged during development and testing in a closed pipe to a suitable discharge point. All water discharged shall meet the requirements of the governing agencies.

2.4. The Contractor will submit all required reports and data to the District and other appropriate agencies.

2.5. The Contractor is responsible to have inspected the well site prior to submitting a bid and commencing construction activities.

2.6. The Contractor shall keep the District continuously informed of the on-site work schedule so that drilling, construction and testing activities can be monitored as required by the District.

2.7. The Contractor shall have a certified water quality testing laboratory acceptable to the District to complete analyses of the water samples.

2.8. The Contractor is responsible for any damage to properties adjacent to the well site caused by Contractor activities associated with the work described herein and shall restore these properties to their original condition.

2. DIVISION 2: GENERAL TECHNICAL SPECIFICATIONS

1. General

1.1. Technical Definitions

The following definitions shall apply:

a. **Borehole** – means any drilled section or boring before completion of a well as defined below.

b. **Casing** – means unslotted or non-perforated lining tubes.

c. **Development equipment** – means high velocity jetting tool, airlift equipment, surge plunger and all other equipment needed to restore the soil formation to its nearest natural condition that was damaged during the drilling process and improve the hydraulic properties of a well.

d. **Diameters** – means nominal diameters unless otherwise stated.
e. **Drilling Rig** – means the drilling equipment and the auxiliary equipment for its operation.
f. **Drilling Unit** – as defined in Division 2.2.2.1.
g. **Final Well Design** – means the drawing and description prepared by the Engineer upon completion of drilling specifying the final well construction.
h. **Lining Materials** – means any casing, screen, slotted lining or perforated lining tube whether permanently or temporarily installed in the borehole.
i. **Pumping Unit** – as defined in Division 2.8.7.1.

j. **Screens** – means continuous wedge wirewound stainless steel screens, slotted or perforated lining tube.
k. **Preliminary/Tentative Well Design** – means the Contract Drawing showing the estimated quantities of the work.
l. **Well** – means any completed hole in which all lining material has been set, all grouting completed and all temporary lining removed

1.2. Technical Standards

1.2.1. All materials or workmanship shall comply with the Specifications. Other standards equal or superior to those numerated in this Specifications, shall be acceptable, subject to the approval of the Engineer. The opinion of the Engineer must be obtained prior to utilizing such materials or workmanship on or off the site.

1.3. Water Supply and Illumination

1.3.1. In the absence of adequate quantities of water or illumination required for drilling at the drilling site, the Contractor shall make such arrangements including the provision for mobile tanks or fixed tanks as may be necessary to ensure a supply of water and illumination sufficient for drilling operations.

1.3.2. The contractor shall make such arrangements as may be necessary to illuminate all temporary working areas.

1.4. Electrical Power Supply

1.4.1. The Contractor will make arrangements as may be necessary for the connection of or supply of power to the site.

1.4.2. Payment for the provision of electrical power supplies shall be deemed to be included in the rates entered in the Bill of Quantities for

setting up equipment at the site, drilling rates and rates entered for operation of pumping unit.

1.5. Storage of Inflammable Fuels

1.5.1. The Contractor shall comply with all local authority regulations applicable to the use and storage of diesel oils, gasoline, and other inflammable fuels they use on the site, and shall ensure that adequate precautions are taken against fire.

1.6. Boundaries of Work

1.6.1. The District shall provide land or rights-of-way for the work specified in this Contract and make suitable provisions for ingress and egress. The Contractor shall not enter or occupy with men, tools, equipment or material, any ground outside the property of the District without the written consent of the Owner of such property. The Employee of the District, other Contractor and Agent working with the District may for all necessary purposes, enter upon the work premises used by the Contractor, and the Contractor shall conduct their work so as not to impede unnecessarily any work being done by others on or adjacent to the site.

1.7. Access Road

1.7.1. Construction or improvement of access roads to the well site shall, unless otherwise agreed, be done by the Contractor at their own cost, which is deemed to be included in the contract sum. The access road shall be kept in proper condition during the entire construction period.

1.8. Protection of Site

1.8.1. Except as otherwise provided herein, the Contractor shall protect all structures, walkways, pipelines, trees, shrubberies, lawns, etc., during the progress of their work, shall remove from the site all drill cuttings, debris, and unused materials, and shall upon the completion of the work restore the site as nearly as possible to its original condition, including removal of access tracks and the replacement, at the Contractor's sole expense, of any facility or landscaping which has been damaged beyond restoration to its original condition, all to the satisfaction of the Engineer.

Water pumped from the well shall be conducted to a place approved by the Engineer where it will be possible to dispose the water without damage to property or creation of a nuisance.

1.9. Site to be kept Tidy

1.9.1. The Contractor shall at all times keep the site and all working areas in a tidy and workmanship condition and free from rubbish and waste materials.

1.10. Temporary Buildings for Use by Contractor

1.10.1. The Contractor shall provide at the site the works such temporary buildings, tanks, workshops, etc. as may be necessary and proper for

their general use in connection with the works, and for the use of persons employed by them. The nature of the buildings, tanks, etc. and the positioning of them shall be subject to the prior approval of the Engineer and the relevant authorities.

1.11. Shop Drawings

1.11.1. The Contractor shall if requested by the Engineer prior to start of each operation, produce for the Engineer's approval shop drawings showing details of technical operations such as test of plumbness and alignment, the method of the slotted casing production, if so required, the methods of placement of formation stabilizer and/or cement grout, the arrangement for well testing, the method for well development and all other drawings pertinent to the well drilling, well construction operations and well development as requested by the Engineer.

1.11.2. Shop drawings shall be completed with respect to dimensions, design criteria, materials, methods of constructions and the like to enable the Engineer to review the information as required.

1.12. Well Head Protection

1.12.1. At all times the progress of the work, the Contractor shall protect the well in such manner as to effectively prevent either tampering with the well or the entrance of foreign matter into it, and upon its completion they shall provide and install a well head cap, satisfactory to the Engineer.

1.12.2. In the event that the well becomes contaminated or that water having undesirable physical or chemical characteristics has entered the well due to the negligence of the Contractor, they shall at their own expense perform such work or supply casings, seals, sterilizing agents or other materials as may be necessary to eliminate the contamination or to exclude any undesirable water in the well.

1.13. Transport of Personnel and Equipment

1.13.1. The Contractor shall supply and operate all transport required for transporting his/her employees, materials and equipment.

1.13.2. The cost of movement of personnel, materials and equipment shall be included in the rates given for drilling, development and pump operation.

1.14. Site Preparation and Reinstatement

1.14.1. The Contractor shall prepare the site, provide all necessary tanks and pits and make all necessary arrangements for erecting and dismantling the drilling unit and shall reinstate the site on completion of such phase of work to the satisfaction of the Engineer.

1.14.2. Payment shall be deemed to be included in the items entered in the Bill of Quantities for erection and dismantling of drilling rigs.

1.15. Standby Charge

Standby Charge will be paid only when drilling is suspended on the written instruction of the Engineer beyond ten (10) cumulative calendar days and for reasons not attributable to the Contractor.

2. General Well Drilling

2.1. Scope

2.1.1. The Contractor shall provide and operate one (1) or more mobile Rotary Drilling Unit required to complete the works within the contract period.

2.1.2. The Contractor shall provide all auxiliary equipment, lubricants, fuels and spares necessary to keep the drilling rig(s) in continuous operation.

2.2. Equipment

2.2.1. The drilling rig(s) together with all auxiliary equipment and personnel shall be defined as the Drilling Unit.

2.2.2. The drilling rig shall have sufficient capacity to drill the specified borehole in the diameter specified in the tentative well design to a depth which on the minimum is 25% higher than indicated in the Contract Drawings.

2.2.3. Payment for drilling will be by the linear meter of borehole as measured after removal of drill string. The rates set against drilling items in the Bill of Quantities shall be deemed to include all equipment, personnel, fuels and lubricants and the accessories required for operation of the Drilling Unit.

2.2.4. When the Drilling Unit is being used for a purpose other than drilling, then the rates for that purpose entered in the Bill of Quantities shall be deemed to include the running costs of the Drilling Unit.

2.3. Drilling Method

2.3.1. All drilling shall, unless otherwise specified in the Special Technical Conditions, be performed with the rotary drilling method.

2.3.2. The Contractor shall drill the hole to such depth and with such a diameter which shall enable an easy installation of casing and screen and placement of gravel envelope with a uniform thickness as specified, if required. During drilling of the hole, the Contactor shall ensure that the natural permeability of the yielding strata near the well bore is not irreversibly reduced due to the drilling method employed.

2.4. Strata Sampling

2.4.1. Strata samples shall be taken at 1meter intervals or more frequent if the formation penetrated changes. Samples shall be placed in plastic or other appropriate bags on which or in which the sampling depth and the date of sampling is written in such a manner that it is permanently readable.

2.4.2. The sampling procedure must provide that all the fractions of the penetrated strata are present in the sample.

2.4.3. Each sample shall be placed in a wooden box with space for storage of one sample and the sampling depth shall be written on the box.

2.4.4. A record of samples taken with the details described above shall be submitted to the Engineer every day.

2.4.5. Payment for sampling shall be deemed to be included in the rates entered for drilling in the Bill of Quantities.

2.4.6. The failure on the part of the Contractor to obtain, preserve and deliver samples or records, satisfactory to the Engineer, shall be considered as actual damage to District. In the event that, in the opinion of the Engineer, the failure of the Contractor to take and preserve the samples may affect the proper design of the well, the Contractor may be required to perform such work as the Engineer deems necessary to remedy such failure at no cost to the District Procuring Entity.

2.5. Drilling Mud

2.5.1. Bentonite shall be used and shall be the basis for the priced offer.

2.5.2. The bentonite shall be of premium quality in accordance with API Standard 13A (ISO Standard 13500:2009) with 150 kg/cum of make-up water yielding a mud with a viscosity of between 35 and 40 seconds using a Marsh Funnel Viscosimeter and a mud weight of not less than 1.10 kg/l (9.2 lb/US gal).

2.5.3. Make-up water shall be treated with caustic soda (soda ash) to maintain the pH between 8.0 and 9.0 prior to mixing of mud.

2.5.4. During drilling with mud, the Contractor shall perform hourly or per meter (as directed by the Engineer) measurements of the following mud characteristics:

a. pH value
b. Specific Gravity
c. Sand content
d. Filtration loss
e. Filter cake thickness
f. Funnel viscosity

2.5.5. The recorded mud characteristics shall not exceed the following values, without the prior approval of the Engineer:

a.	Specific Gravity	:	(1142 kg/m3 (9.5 lb/gal)
b.	Sand content	:	4%
c.	Filtration loss	:	10 ml
d.	Filter cake	:	1.5 mm

2.6. Working Hours

2.6.1. All major drilling activities, such as pilot hole drilling, reaming of pilot, installation of casings, screens and gravel, and continuous constant discharge pumping test shall, be on a round the clock basis.

3. Geophysical Logging

3.1. Scope

3.1.1. The Contractor shall, if specified in the Special Technical Conditions, perform geophysical logging as specified in the Special Technical Conditions.

3.2. Equipment

3.2.1. The geophysical logs may be recorded either by automatic recording on a chart strip or by manual reading of recorded values. In case the logs are recorded by the manual method, readings shall be taken per minimum 0.33 meter of borehole length.

3.2.2. The recorded logs shall be submitted to the Engineer immediately upon completion of logging as plots of recorded characteristics versus depth for his/her approval. In case of disapproval by the Engineer, the logs shall be repeated immediately.

3.3. Logs

3.3.1. Geophysical logging shall, unless otherwise specified in the Special Technical Conditions, comprise the following logs:

3.3.1.1. Caliper Log

3.3.1.2. Resistivity log (16” and 64”)

3.3.1.3. Gamma Ray Log

3.3.1.4. Self-potential log (SP)

4. Well Casing

4.1. Scope

4.1.1. The Contractor shall provide and install the well casing specified in the Contract Drawings and any temporary casing required during the work, unless otherwise specified in the Special Technical Conditions.

4.2. Casing Material

4.2.1. The Contractor shall, before commencement of work, submit for the approval of the Engineer the following details of all casing:

a. Type of material Internal and external diameters
b. Internal and External Diameter
c. Method of jointing
d. Name of Manufacturer
e. Standard the pipe is manufactured to

4.2.2. All permanent casing material shall be spiral welded and of a new stock unless otherwise specified in these documents.

4.2.3. The Contractor shall assume responsibility for any casing failure and shall correct, as approved by the Engineer, any casing failure at no cost to the District. In the event that the Contractor cannot correct a casing failure the Contractor shall replace the casing with material complying with the Specifications, or if necessary, better casing as approved by the Engineer at no extra cost for the District.

4.3. Temporary Casing

4.3.1. The Contractor shall provide such temporary casing as may be necessary to well to be sunk to the specified depth and to allow the insertion of permanent lining material as required. The Contractor shall remove the temporary casing before completing the well, unless otherwise specified in these documents.

4.4. Lining Installation

4.4.1. Lining material shall be assembled and located in the well at the required depth in a continuous operation. The lining material shall be set concentric within the borehole by centralizing guides unless otherwise agreed with the Engineer.

4.4.2. If the lining jams or is lost before it is set to the specified depth, the Contractor shall endeavor to remove the lining material from the well or, if unable to effect removal, shall redrill the well and replace the lining material at their own expense.

4.5. Lining Material Accessories

4.5.1. The Contractor shall provide as necessary the following accessories to set the lining material to the required depth:

a. Centralizers to be affixed to the lining material, if necessary, at intervals specified in the plans or by the Engineer, to locate the lining material in the center of the drill hole;
b. Supporting clamps, equipment and tools;
c. Reducing cones and connecting pieces;
d. Tuck-welded bottom plate at the end of the pump pipe;
e. Casing hangers; and
f. All other necessary equipment.

4.5.2. Except where expressly provided, all accessories shall be deemed to be included in the Bill of Quantities for the provision and insertion of lining material.

4.6. Testing for Plumbness and Alignment

4.6.1. All boreholes shall be constructed, plumb and true to line as defined herein. To demonstrate the compliance of their work with this requirement, the Contractor shall furnish all labor, tools and equipment and shall provide the detailed drawings and the description of the tests to the satisfaction of the Engineer.

4.6.2. Tests for plumbness and alignment must be made after the complete construction of the well and before its acceptance. Additional tests, however, may be made by the Contractor during the performance of the work. No specific payments shall be made for making these tests.

4.6.3. Should the results for plumbness and alignment show that the plumb bob or dummy fails to move freely throughout the length of the lining or borehole to a depth of the lowest anticipated pump setting and should the well vary from the vertical in excess of two-thirds of the smallest inside diameter of that part of the well being tested or beyond the limitations of this test, the plumbness and alignment of the well shall be corrected by the Contractor at their own expense. Should the Contractor fail to correct such faulty alignment or plumbness, the Engineer may refuse to accept the well and the Contractor shall drill a new well without charge to the District.

5. Well Screens

5.1. Scope

5.1.1. The Contractor shall provide and install the well screens specified in the Contract Drawings, unless otherwise specified in the Special Technical Conditions.

5.2. Type of Screens

5.2.1. The type of screens shall be as specified in the tentative well design and the Special Technical Conditions.

5.2.2. Slotted screens, if specified for installation, shall be so fabricated as to ensure the maximum yield of the well and to prevent clogging and encrustation and shall be free from jagged edges and irregularities that may accelerate clogging or corrosion.

5.3. Responsibility for Malfunction

5.3.1. The Contractor shall assume full responsibility for any malfunction of the screen caused by inadequate installation procedure and shall undertake any correction as approved by the Engineer at no extra cost to the District.

5.3.2. The screen must have no change of alignment at any of its joints after installation. If requested by the Engineer, the Contractor shall submit for approval by the Engineer the design and method of construction and installation of the screen.

5.3.3. In the event that the Contractor cannot correct a screen failure, the Contractor shall replace the screen with material complying with the specifications of this Contract at no extra cost to the District.

5.4. Screen Strength

5.4.1. The screen shall have adequate strength to resist the external forces that may be applied during and after installation.

5.5. Screen Accessories

5.5.1. All fittings, packers, couplings, joints, plugs and seals used during installation of well screen together with the installation procedure, shall be to the approval of the Engineer.

6. Formation Stabilizer/Gravel Pack

6.1. Scope

6.1.1. The Contractor shall provide and install formation stabilizer, or gravel pack if specified in the Contract Drawings and the Special Technical Conditions.

6.2. Material

6.2.1. The formation stabilizer/gravel pack material shall consist of well rounded, water-worn siliceous grains. Angular chipping or road stone must under no circumstances be used as formation stabilizer/gravel pack material.

6.2.2. The Contractor shall, during the mobilization period, submit to the Engineer for his/her approval, samples of the formation stabilizer they propose to use, stating the source of the formation stabilizer, quantities available, rate of delivery and any other information requested by the Engineer.

6.3. Method of Installation

6.3.1. The method of placing the formation stabilizer/gravel pack in the annulus shall be such that separation of the gravel and bridging is avoided.

6.3.2. The formation stabilizer/gravel pack shall immediately upon completion of lining installation, be placed in the annulus between the borehole and the lining, in the screened section(s) of the lining, as specified in the Final Well Design.

6.3.3. If the borehole was drilled by the rotary method, installation of formation stabilizer/gravel pack shall be done by circulation of the drilling mud with fluid marsh funnel viscosity not exceeding 30 seconds. The rate of circulation should be slow enough to prevent the segregation of bigger particles from smaller particles.

6.4. Monitoring of Formation Stabilizer/Gravel Level

6.4.1. The level of the formation stabilizer/gravel pack shall be monitored and maintained during the progress of development activities as specified in Division 2.7. Additional quantities of formation stabilizer/gravel pack shall be installed to maintain the level as specified in the Final Well Design. The cost of additional formation stabilizer/gravel pack shall be deemed included in the rates entered for the item, furnishing and installation of gravel pack materials, in the Bill of Quantities.

6.5. Gravel Fill-up Pipe

6.5.1. The gravel fill-up pipe shall be 50 mm diameter galvanized iron (GI) pipe fitted with a screw cap at one end and open at the other end. It shall be placed on top of the gravel pack and below the clay seal. It shall be installed after all the development activities are completed and before the clay seal is installed as specified in Division 2.9.3. The cost of installing the gravel fill-up pipe shall be deemed included in the rates specified in the item installation of formation stabilizer/gravel pack in the Bill of Quantities.

7. Well Development

7.1. Scope

7.1.1. The Contractor shall furnish compressors, surge plungers, jetting tools, electric generators, chemicals and any other equipment required for satisfactory well development and shall undertake the development as directed by the Engineer.

7.1.2. Development shall, if the percussion drilling method is applied, comprise surging with plunger and development by airlifting unless otherwise specified in the Special Technical Conditions.

7.1.3. Development shall, if the rotary method is applied, comprise of mud thinning/deflocculation, high velocity jetting along the continuous slot screens, surging with plunger in slotted screens and development by airlifting, unless otherwise specified in the Special Technical Conditions.

7.2. Expected Yield

7.2.1. The Contractor shall develop the well to its maximum expected yield, as specified in the Special Technical Conditions, by the methods specified in Division 3.7.2.1

7.3. Deflocculation

7.3.1. Upon completion of installation of lining or formation stabilizer/gravel pack, the drilling mud shall immediately be displaced from the well by pumping clean water into the sump pipe.

7.3.2. Mud displacement shall immediately be followed by injection and/or jetting through the screened sections with a mud thinner to deflocculated the mud cake on the borehole wall. The well shall then be left for 12-24 hours before developing is continued, to allow the mud thinner to react.

7.4. High Velocity Jetting

7.4.1. After the deflocculation material has been allowed to work for 12-24 hours all screened/slotted/perforated sections shall be developed by high velocity jetting.

7.4.2. The jetting tool shall be equipped with two or four nozzles. The nozzle design shall be such that it produces a concentrated jetting action. The tool shall be presented to the Engineer for approval before start of drilling operation.

7.4.3. The jetting tool shall be supplied with water through a high-pressure pump capable of producing a nozzle velocity of 50-70 m per second. The pump shall be equipped with a suitable pressure gauge on the discharge side to facilitate monitoring of nozzle velocity.

7.4.4. The development shall be carried out by slowly rotating the jetting tool and gradually lowering it in order to cover the entire surface of the screen.

7.4.5. At the same time as the high velocity jetting is performed, the well shall be discharged with a discharge rate slightly higher than the discharge rate from the jetting tool.

7.4.6. Each section of the screen shall be jetted until the return water is free from drilling mud, but no section shall be jetted less than 20 minutes per meter of screen.

7.5. Surging with Plunger

7.5.1. After development by high velocity jetting is completed, the Contractor shall develop the well by mechanical surging with surge plunger approved by the Engineer.

7.5.2. Before the start of surging the depth of the well bottom and the top of gravel pack shall be recorded.

7.5.3. Surging shall be done along the blank portions of the well, starting at the topmost section proceeding downward until the lowest blank casing before the sump pipe.

7.5.4. The length of time per surging interval shall be as directed by the Engineer.

7.5.5. The level of sediments deposited inside of the well at the end of every surging interval shall be measured and recorded before it is bailed out.

7.5.6. Surging shall be continued until accumulation of sediments in the sump pipe, during any surging operation, is negligible.

7.5.7. The length of development time is the total time consumed in the surging. Payment for the bailing out of sediments shall be deemed included in the rates entered for in the item development by surging including bailing out of sediments in the Bill of Quantities.

7.6. Development by Airlifting

7.6.1. Upon Completion of high-velocity jetting and/or surging with plunger, the well shall be discharged by airlifting method.

7.6.2. The compressor used for development by airlifting shall be capable of developing a minimum pressure enough to counteract the hydrostatic head equal to depth of the well. The delivery shall be no less than 21.25 cum air per minute.

7.6.3. The quantity of water discharged from the well and the drawdown in the well at the commencement of the development shall be limited and shall be gradually increased only as the water clears. From time to time the air flow shall be stopped to facilitate loosening of trapped sand grains. The well may also be backwashed by pumping clean water in to the well.

7.6.4. During the airlifting operation, position of air pipe and conductor pipe, drawdown in well, approximate yield and time for each change in position shall be recorded by the Contractor.

7.6.5. The development shall be completed with a conductor pipe not more than 0.5 m above the bottom of the well to ensure that all sand has been cleaned out of the sump pipe.

7.7. Well Cleaning

7.7.1. Upon completion of the development operations, the Contractor shall demonstrate to the satisfaction of the Engineer that the bottom of the well is clear of all sand, mud and other foreign materials.

7.8. Freedom from Sand

7.8.1. The Contractor shall develop the well by the methods specified until the water pumped from the well is substantially free from sand and until the turbidity is less than 5 nephelometric turbidity units (NTU).

7.8.2. The water pumped from the well shall not contain fine material in excess of 1.0 mg per liter when the well is pumped at its maximum yield. The equipment for measurement of the sand content shall be furnished by the Contractor.

7.9. Acceptance of Development

7.9.1. The development by the specified methods shall be repeated and continued until the well is thoroughly developed in accordance with the criteria specified in Division 2.7.8.

7.9.2. If the well yield after the well has been confirmed sand-free is still below the yield that is considered acceptable for the penetrated aquifer, then the Engineer may instruct the Contractor to perform further development.

8. Well Testing

8.1. Scope

8.1.1. The Contractor shall, unless otherwise specified in the Special Technical Conditions, provide and operate a Pumping Unit for the following purposes:

a. Step-drawdown pumping tests on the completed well

b. Continuous discharge pumping test on the completed well.

8.2. Equipment Capacity

8.2.1. The Contractor shall provide and operate pumping machinery capable of carrying out the specified pumping and shall provide adequate controls to allow discharge rates to be kept constant at varying pumping water levels and to permit pumping with a variation of not more than 5% of the designated discharge rate during any period of yield or aquifer testing.

8.2.2. The Pumping Unit set shall be able to deliver a discharge rate that is 50% higher than the expected yield of the well and a minimum discharge that is 15% of the expected yield of the well when suitably controlled by use of a gate valve.

8.2.3. Suitable pumping machinery will be deemed to be:

a. Submersible motor (electric) and pump unit together with generator and such accessories needed to run the pump.
b. Line-shaft pump and internal combustion prime mover together with all accessories needed to run the pump.

8.3. Equipment Operation

8.3.1. The Contractor shall supply and operate all equipment and accessories necessary for installation and removal of pumps.

8.3.2. The Contractor shall maintain on site sufficient fuels, lubricants, spares and other accessories needed to run the Pumping unit for whatever period may be specified by the Engineer.

8.3.3. The Contractor shall provide sufficient competent personnel including a qualified fitter and electrician, as may be necessary to install and operate the Pumping Unit.

8.4. Control of Discharge Rate

8.4.1. The Contractor shall, during the pumping tests, provide a suitable gate valve on the discharge pipeline, to facilitate easy control of the discharge rate. Discharge shall be controlled with a valve fitted behind the elbow and measured with a water meter, fitted at a distance of not less than 1 m behind the valve. An additional measuring device (e.g., oil drum and stopwatch) shall be provided for back up and checking. Drawdown and recovery of the water level is to be monitored with a water level indicator through the piezometer pipe at intervals as specified by the Engineer on the site. The Engineer may demand water quality measurements. He will provide the monitoring forms.

8.5. Water Level Sounding Pipe

8.5.1. The Contractor shall, if instructed by the Engineer, provide and install a temporary tube of at least 25 mm diameter from the top of the well to 2 meters above the pump bowl assembly to facilitate easy measurements of water level. The tube shall be open only at the bottom and top.

8.5.2. Payment for providing, installing and removing the tube shall be deemed to be included in the rates given for pumping tests.

8.6. Discharge Rate Monitoring

8.6.1. Discharge rates of up to 10 liters per second (36 cubic meters per hour) may be measured by drum filling (volumetric method). Discharge rates in excess of 10 liters per second shall be recorded with a production meter or by a V-notch (or rectangular) weir or discharge pipe fitted with orifice plate and piezometer tube. All items are subject to the Engineer's approval before start of drilling.

8.7. Definition of "Pumping Unit"

8.7.1. The equipment specified in Division 2.8.2 – 8.6 is referred to as the Pumping Unit.

8.8. Pumping Procedure

8.8.1. The Engineer will determine the pumping procedure necessary to obtain the objectives of this Contract.

8.9. Suspension of Pumping

8.9.1. If the Engineer finds the condition of any equipment, personnel, fuel, lubricants or accessories will prejudice the quality of data obtained from any pumping test, he may suspend the work in accordance with the provisions of the Conditions of the Contract.

8.10. Equipment Breakdown During Pumping

8.10.1. The pumping must be continuous and at a constant rate during the pumping tests. The Engineer will instruct the Contractor as to the expected maximum duration of each pumping test before start of each test.

8.10.2. If pumping is interrupted or the discharge rate fluctuates by more than 5% of the designated discharge rate, the test may be repeated after a period of recovery determined by the Engineer.

8.10.3. If any pumping test is interrupted because of equipment breakdown or inadequate supervision or discharge control, no payment will be made for any pumping period.

8.11. Duration of Tests

8.11.1. The step-drawdown pumping tests shall be performed on 5 steps with the duration of 1 hour each step.

8.11.2. The continuous constant discharge pumping test shall be performed for a period of 3-5 days, unless otherwise specified in the Special Technical Conditions or unless otherwise instructed by the Engineer.

8.12. Temporary Pipeline

8.12.1. The Contractor shall provide a temporary pipeline as directed by the Engineer for the discharge from pumping tests to a suitable watercourse or drain.

8.12.2. Under certain circumstances when re-infiltration cannot be avoided or it is costly to provide for this condition, the Engineer shall decide to what distance from the well, water may be discharged on the ground.

9. Cement Grouting

9.1. Scope

9.1.1. The Contractor shall, unless otherwise specified in the Special Technical Conditions, provide the cement and mixing equipment required for the mixing of the grouting indicated in the Tentative Well Design and shall place the cement grout, on top a clay seal, as specified.

9.2. Grouting Material

9.2.1. Cement grout shall consist of Portland cement and clean water, mixed in the proportion of 50 kg of Portland cement to maximum 30 liters of water.

9.2.2. All cement, unless otherwise specified in the Contract Documents, shall conform to the “Specifications for Portland Cement” (ASTM C150 – latest revision).

9.3. Clay Seal

9.3.1. Clay seal shall consist of bentonite made into mud balls and placed into the annulus between the final well casing and borehole wall. The consistency of the mud balls and its placement in the well shall be subject to the approval of the Engineer.

9.4. Method of Placing Grout Material

9.4.1. The method and equipment for placing the grout shall be to the approval of the Engineer. No method will be approved that does not provide for the forcing of grout from the bottom of the casing/hole/annulus to be grouted, to the surface. Flushing of the annular space with fluid to assure the space is open and to remove loose material will be required to the Contractor before grouting is commenced.

9.4.2. Any grouting operation shall be continuous and before starting, sufficient grout shall be mixed to complete the whole operation. During the grouting operation, the mixed grout shall be continuously stirred. The Contractor shall provide such tanks, hoppers and other equipment as may be necessary to meet these requirements.

9.5. Setting Time

9.5.1. No work will be allowed on the well within a period of 72 hours after completion of grouting unless a quick–setting cement is

used. In such case, the idle period may be reduced to 24 hours subject to the Engineer's prior approval.

10. Well Disinfection and Cleaning

10.1. Scope

10.1.1. The Contractor shall upon completion of well construction and well testing thoroughly clean the well of all foreign substances including tools, timbers, rope, debris of any kind, cement, oil, grease and scum.

10.1.2. The casing pipe shall be thoroughly swabbed using alkalis, if necessary, to remove oil and grease of joint dope.

I.

10.2. Chlorine Solution

10.2.1. The chlorine solution for disinfecting the well shall be such volume and strength that a concentration of at least 50 mg/liter of chlorine shall be obtained in all parts of the borehole.

10.2.2. The chlorine solution shall be prepared and applied in accordance with the directions of and to the satisfaction of the Engineer and shall remain in the well for a period of at least two hours.

10.3. Cleaning of Test Pump

10.3.1. In the event that the test pump is to be installed after the well has been disinfected, all exterior parts of the test pump coming in contact with the water shall be dubbed with a chlorine solution as directed by the Engineer.

10.4. Disinfection Procedure

10.4.1. Method A: Where practical, the chlorine solution of standard concentration used to disinfect the well shall be prepared on the surface in containers having a volume of water contained in the well. This prepared solution shall then be discharged rapidly into the well, care being taken to flush the walls of the well above the water level.

10.4.2. Method B: In lieu of using liquid chlorine solutions, a perforated pipe container capped at both ends containing a granular chlorine compound or HTH or Perchloro, may be moved up and down in the well by means of a weighted cable. The amount of compound applied should be such as to provide the standard concentration.

11. Well Completion

11.1. Scope

11.1.1. The Contractor shall provide and operate all equipment necessary to restore the site as near as possible to its condition before commencement of drilling and shall furnish and install a well head cap as specified in the Contract Drawings.

11.2. Site Restoration

11.2.1. The site shall be restored to a condition as nearly as possible to that which existed before the well drilling and testing activities commenced. This work shall include, but not limited to, restoration of fences and structures, removal of drill cuttings, leveling of the disturbed ground surfaces and replacement or compensation for the destroyed plants and landscaping.

11.3. Well Head Capping

11.3.1. The well head shall be completed with a well head assembly fully welded to the upper casing as well as water level sounding tube with screw cap in order to prevent any unauthorized tampering of the well.

12. Records and Submittal of Reports

12.1. Record

12.1.1. The Contractor shall keep a daily log and progress record at the site readily available for inspection during drilling of the pilot borehole, construction and testing of the new well.

12.1.2. The Contractor will be required to keep a record of penetration rate, mud losses and mud conditions.

12.1.3. The Contractor will be required to track construction progress by updating the S-Curve.

12.1.4. The cost of records shall be deemed to be included in the contract rates.

12.2. Submittal

12.2.1. The Contractor shall submit daily or weekly records or as recommended by the Engineer in containing the following information:

a. Site:
b. Date:
c. Description of each stratum encountered:
d. Depth below ground of each change of stratum: Depths and details of all disturbed samples:
e. Daily Activities

12.2.2. At the end of the well construction and before final payment is made, the Contractor shall submit to the Engineer containing the following information, but not limited to wit:

a. Letter Addressed to the General Manager.

b. Narrative report containing the following information: Introduction, Description of the Well, Well Location, Well Construction, Well Development, Well Testing, Step Drawdown Test, Constant Discharged and Recovery Test, Calculation of Drawdown, Conclusion and Recommendations

c. Pilot Hole Penetration and Mud Properties Report
d. Geophysical Borehole Logging Data
e. Final Well Design, Electric Log Test Result and Lithology
f. Mud Viscosity, Penetration Rate, Electric Log Test Result and Lithology
g. Reaming of Borehole Penetration Report
h. Constant Discharged Pumping Test
i. Recovery Test

j. Constant Discharged and Recovery Test Graph
k. Step-Drawdown Pumping Test
l. Graph for Time Drawdown Curved
m. Graph for Step Drawdown Test
n. Pumping Test Summary and Pump Requirements
o. Well Development by Airlifting Report

12.2.3. Other requirements under Division 2 and Division 3, including but not limited to the original site records, materials data sheet and shall be submitted separately.

12.2.4. All submittals shall be submitted to the District 2 hard and soft bind on uniform 8-1/2" x 11" or other appropriate paper required submittals shall be delivered to the Office of the General Manager. One copy of this submittals shall be emailed at **amadeowd@yahoo.com**.

12.2.5. The cost of submittals shall be deemed to be included in the contract rates.

3. DIVISION 3: SPECIAL TECHNICAL CONDITIONS

4. General

4.1. Scope

4.1.1. The work includes the drilling of one (1) exploratory/production well to be done at **N 14.2000840, E 120.9177351** in **Brgy. Pangil, Amadeo, Cavite.**

4.2. Water Level Sounding

4.2.1. The Contractor shall provide a functioning and accurate water sounding instrument acceptable to the Engineer to measure the water level during all drilling, development and testing of the wells. Failure to provide such instrument will subject the Contractor to a penalty of P3, 000.00 per day.

5. Well Drilling

5.1. Equipment

5.1.1. The Contractor shall provide and operate one (1) Rotary drilling rig using mud circulation including all auxiliary equipment necessary to complete the work within the contract period. The drilling rig must have the following tools, auxiliary equipment and appurtenances:

a. At least one (1) unit Rotary drilling rig including all auxiliary equipment
b. Well development equipment such as air lifting compressor but not limited to:
    i. Pumping equipment (Submersible Pump & Motor) and discharge columns (pump can discharge a minimum of 15lps @TDH = 150m).
    ii. Generator Set
    iii. Logging device
    iv. Water sounding instrument
    v. Other machineries and equipment needed for the project

5.1.2. The Contractor shall submit all of the following specifications listed below for the machineries/equipment to be used in the drilling including its auxiliary equipment.

5.1.2.1. Mobile Rotary Drilling Unit

a. Brand
b. Model type
c. Chasis No.
d. Serial no.
e. Date and place manufactured.
f. Derrick w/ kg rated capacity – (minimum of 12m & 22500kg)
g. Pulldown and Pullback capacity – (minimum of 13500kg)
h. Hoist capacity – (minimum of 7000kg)
i. Other details specification.

5.1.2.2. Air Lifting Compressor

a. Brand
b. Model type
c. Serial no.

d. Date and place manufactured.
e. Actual Air Delivery Capacity - minimum of 1000cfm (472lps).
f. Rated operating pressure (minimum of 250psi).
g. Other details specification.

5.1.2.3. Pumping Equipment

a. Brand
b. Model type
c. Serial no.
d. Date and place manufactured.
e. Pumping capacity (minimum of 15lps @ TDH = 150m) – Use Submersible Pump & Motor.
f. Other details specification.

5.2. Drilling Method

5.2.1. All drilling shall be performed with the rotary method.

6. Geophysical Logging

6.1. Scope

6.1.1. The work includes geophysical logging (refer to Division 2.3).

6.1.2. The Engineer and the operator of the logging device will decide jointly on the logging velocity. The logging direction shall generally be from bottom to top. Processing of the measurements and printout of graphs must take place on the site. The Contractor shall assign the borehole logging to a person familiar with the instrument and the data processing. “Learning-by-doing” will not be accepted.

6.1.3. The Contractor shall submit the following with minimum two logger for the approval of the Engineer one month prior to the commencement of Geophysical Logging:

a. Instrument Brand with Picture.
b. Two Logging Reports from the latest finished Project.
c. Operator Name and Experience
d. Other details of Instrument not mentioned but necessary to finish for geophysical logging.

7. Well Casing

7.1. Casing Material

7.1.1. All permanent casings to be installed shall be spiral welded steel casing with minimum wall thickness of 6 mm and should be of new stock, beveled ends, with outside paint coating.

8. Well Screen

8.1. General

8.1.1. The well screen should be of continuous and precise slot openings that can withstand high mechanical impacts, fabricated by circumferentially wrapping wedge wire around a circular array of internal rods. Wire should be designed to provide maximum inlet area consistent with strength requirements. For maximum collapse strength, each juncture between the horizontal wire and the vertical rods shall be pressure/fusion welded under water by the electrical resistance method. End fittings shall be welded by the MIG process to the screen body.

8.2. Material and Fittings

8.2.1. The well screen shall be fabricated from corrosion resistant type 304 Stainless Steel (or better) and strictly in accordance to A.I.S.I. standards. (Material certificates, mill's test certificates are to be supplied and shipped together with the goods.)

8.3. Slot Opening

8.3.1. Slot opening is selected with 1.50 mm. The maximum allowable tolerance is + 10%.

8.4. Well Screen Dimensions

8.4.1. Well screens have to be designed to match with the casing supplied under this contract.

8.4.2. Well screen overall length – 3.0 m

8.5. Well Screen Construction

8.5.1. Detailed information of the profile wire, slot forming profiles and the support cross bars are to be provided with the Manufacture for the approval of the Engineer.

8.6. Open Area

8.6.1. The minimum open screen area shall be as follows:

Screen	250 mm dia. Screen
1.5 mm	33.3%

8.7. End Fittings

Screen	250mm dia.
	Weld ring each end

8.7.1. Weld rings should be beveled ends to be welded to each other or the casings, supplied under this contract.

8.8. Hydrostatic Collapse Pressure

8.8.1. 130 m depth or less – 10 bar

8.9. Quality

8.9.1. Manufacturer shall submit the proof that the manufacturing is done according to accredited international quality control system.

9. Formation Stabilizer/Gravel Pack

9.1. Scope

9.1.1. The Contractor shall provide and install graded gravel pack materials with grain size 4 to 7 mm. The final grain size of the gravel pack to be installed, if any, shall be determined based on the strata samples collected during drilling.

10. Well Development

10.1. Scope

10.1.1. Well development for the production well shall consist of deflocculation, high pressure water jetting, airlifting and surging with plunger including bailing out of sediments.

10.2. Expected Yield

10.2.1. The production well is expected to yield 10-15 lps. Such data was derived based on the result of the georesistivity survey conducted last April 2004 with the following conclusion/recommendation:

"Result of the survey indicates that the two prominent aquifers for Amadeo are the Kaybubutong and Talisay Formation. Lateral extent of Kaybubutong Formation range from Brgy. Salaban up to Brgy. Pangi, possibly dictating aquifer system of Amadeo. The yield of Talisay formation cannot be disregarded in this study. Most wells drilled in Amadeo is partially penetrating the Kaybubutong Formation and possibly poorly designed and constructed well may add factor to the low yield of these wells (2-5 Lps), properly designed and constructed well may yield from 10 to 15 Lps. From Brgy. Salaban to Pangil, SWL may have an average of 50mbgl.

Hence, for Amadeo Water District, it is recommended that proposed wells to be drilled up to Talisay Formation. Hence, the following well designs are recommended for the proposed well drilling in Amadeo.

Location	***Well Depth (m)***	***Casing Diam. (mm)***	***Screen Length (m)***	***Expected Yield (Q)***
a) Brgy. Salaban	*250*	*250*	*60*	*10-15 Lps*
b) Bgry. Loma	*210*	*250*	*48*	*10-15 Lps*
c) Brgy. Poblacion, Dagatan, and Pangil	*180*	*250*	*39*	*10-15 Lps*

The discharges are assumed based of the Piezometric Maps prepared by the Cavite Water Supply Study and have to be verified by conducting pumping test. "

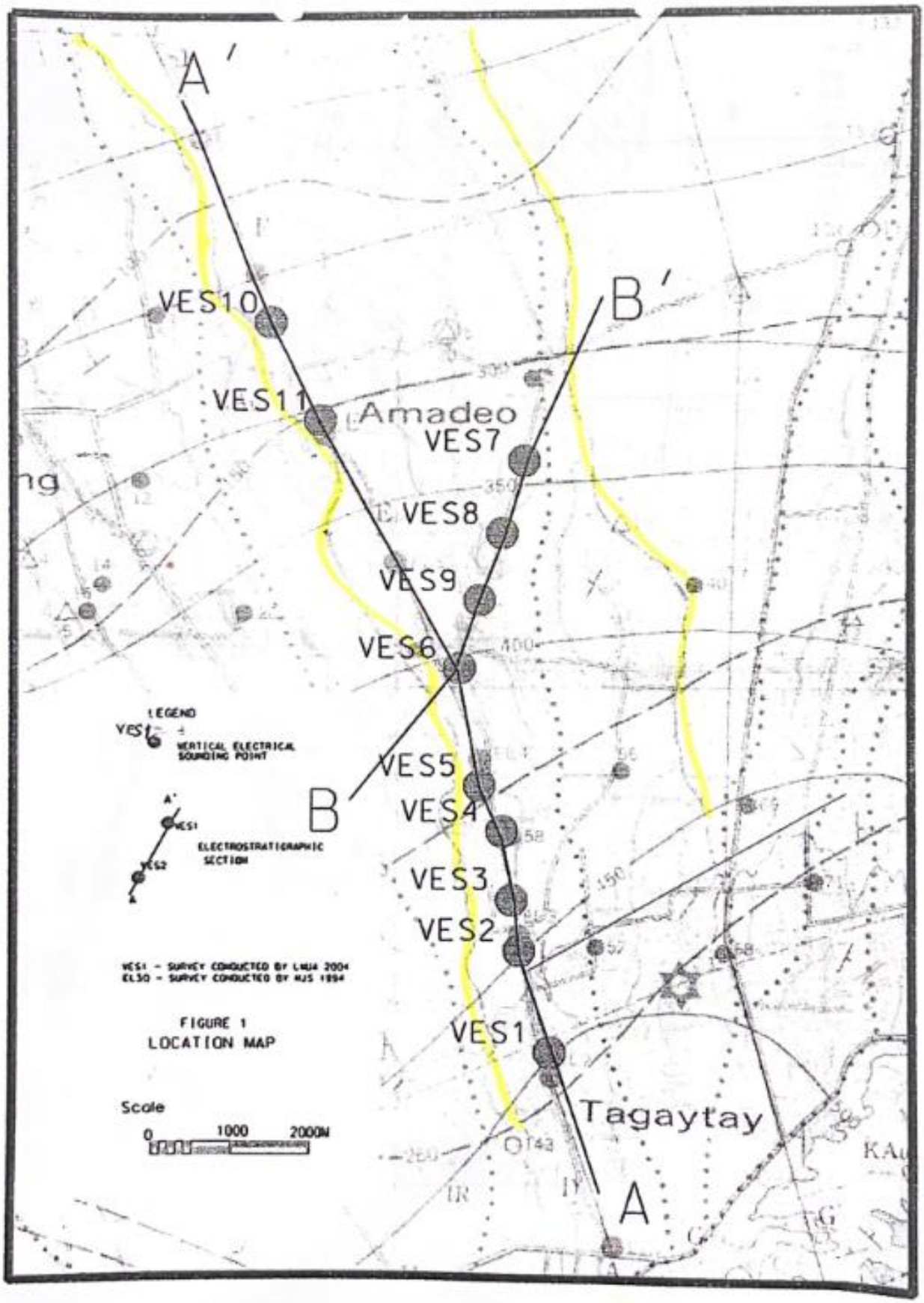
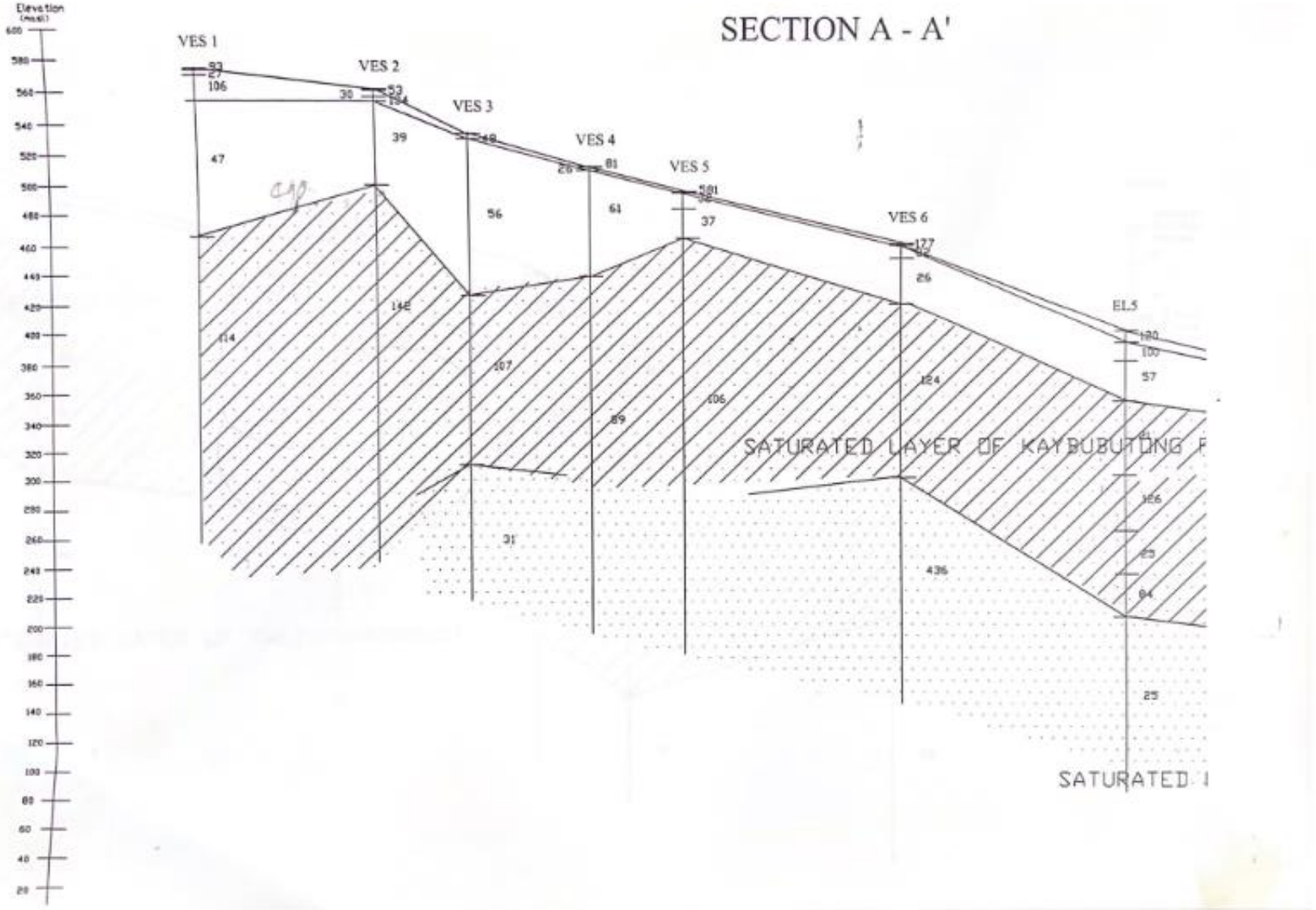
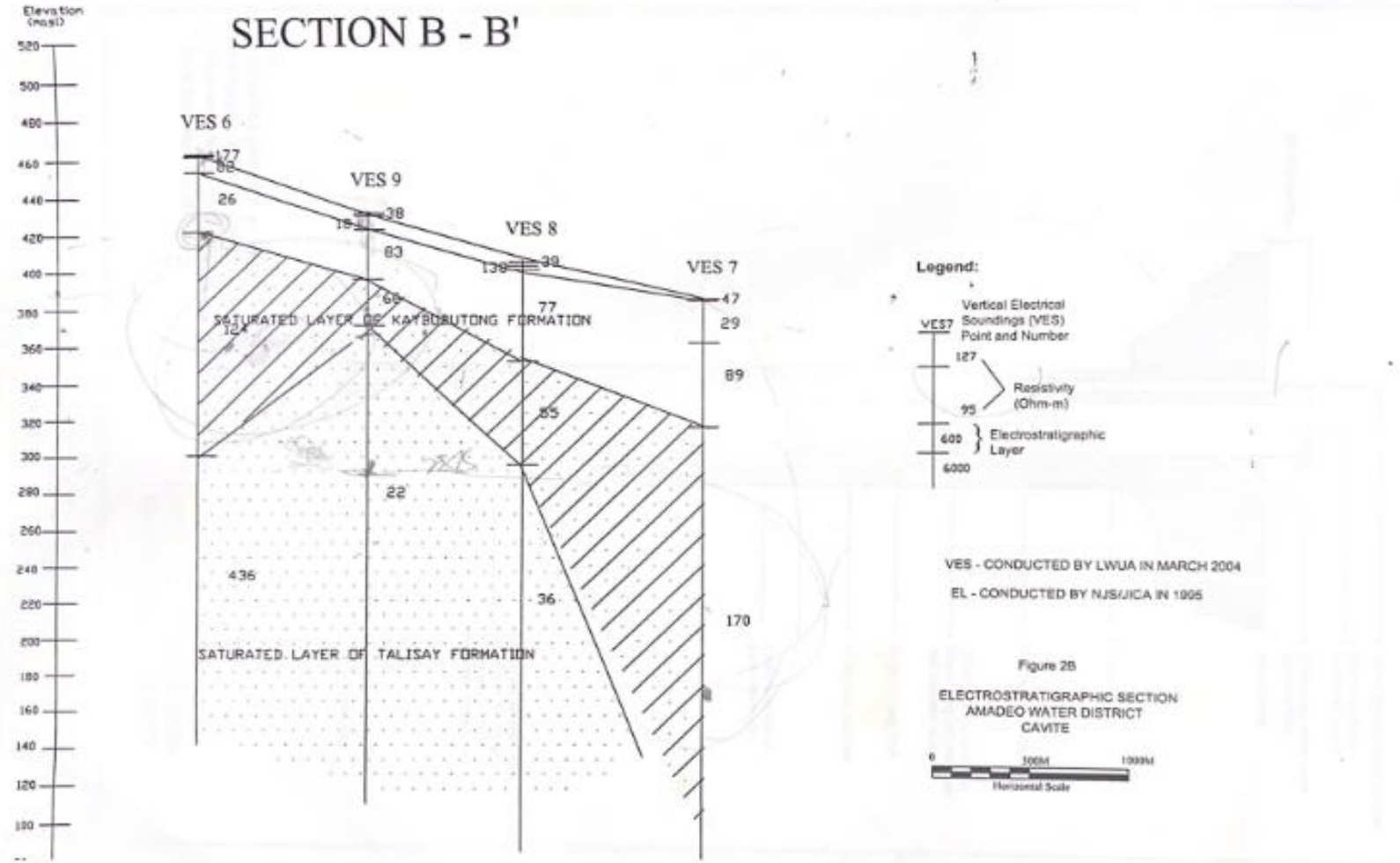


FIGURE 1
LOCATION MAP


SECTION A - A'
Elevation
VES 1
VES 2
VES 3
VES 4
VES 5
VES 6
EL.5
SATURATED LAYER OF KAYBUBUTONG F
SATURATED L


SECTION B - B'
Elevation (masl)
520
500
480
460
440
420
400
380
360
340
320
300
280
260
240
220
200
180
160
140
120
100
VES 6
VES 9
VES 8
VES 7
177
88
26
38
19
83
139
39
47
29
89
68
77
124
55
22
436
36
170
SATURATED LAYER OF KATIBUTONG FORMATION
SATURATED LAYER OF TALISAY FORMATION
Legend:
Vertical Electrical Soundings (VES) Point and Number
VES7
127
95
Resistivity (Ohm-m)
600
6000
Electrostratigraphic Layer
VES - CONDUCTED BY LWUA IN MARCH 2004
EL - CONDUCTED BY NJS/JICA IN 1995
Figure 28
ELECTROSTRATIGRAPHIC SECTION
AMADEO WATER DISTRICT
CAVITE
0
500M
1000M
Horizontal Scale

11. Well Testing

11.1. Should it be proven by the Engineer that completing the 72-hour continuous constant discharge pumping tests are no longer necessary and/or not possible anymore, Engineer shall only pay the actual number of testing hours used but payment should not be less than equivalent to 12 hours of testing.

12. Cement Grouting

12.1. As specified in the approved plan.

13. Well Disinfection and Cleaning

13.1. As needed.

Technical Specifications

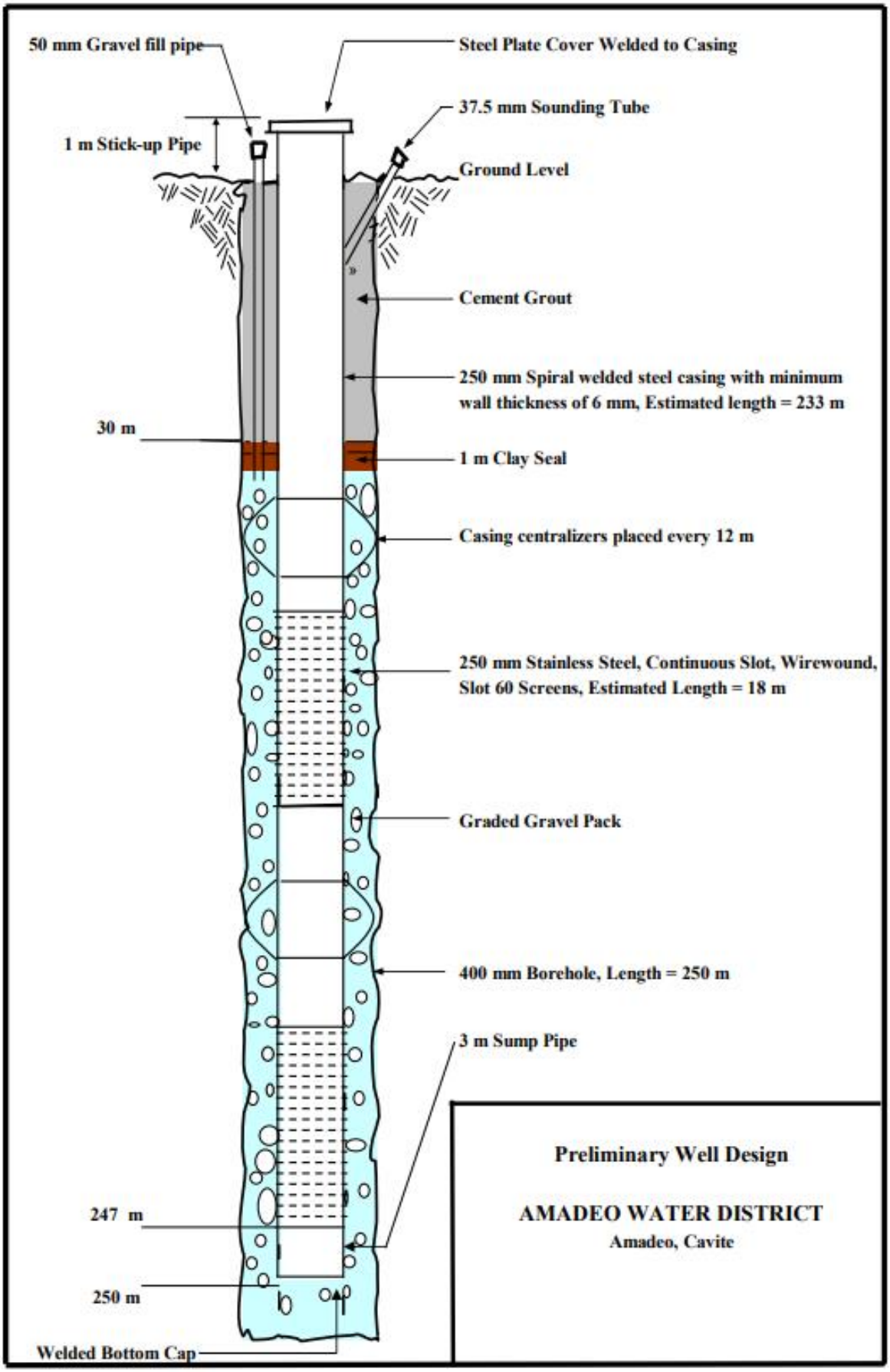
1	**Resource Movement**	1 Lot
2	**Site Preparation**	1 lot
3	**Drilling of Pilot Hole**	250 m
4	**Logging of Pilot Hole**	1 Lot
5	**Reaming to 400 mm Hole**	250 m
6	**Furnishing of 250 mm Blank Casing**	191 m
7	**Furnishing of 250 mm Stainless Screen**	60 m
8	**Installation of Casings**	251 m
9	**Furnishing and Installation of Centralizers**	1 Lot
10	**Furnishing and Installation of Gravel Pack Materials and** **Gravel Fill Pipe**	220 m 32 m
11	**Treatment with Polyphosphate Solution**	1 Lot
12	**Development by Water Jetting**	12 hrs
13	**Development by Surging/Bailing**	12 hrs
14	**Development by Airlifting**	12 hrs
15	**Step Drawdown Pumping Test, Max Q = 14L/s**	1 Lot
16	**Constant Discharge Pumping Test, Q = 14 L/s**	72 hrs
17	**Cement Grouting**	30 m
18	**Well Completion**	1 Lot
19	**Resource Movement**	1 Lot

Schedule of Requirements

The delivery schedule expressed as weeks/months stipulates hereafter a delivery date which is the date of delivery to the project site.

Item Number	Description	Quantity	Total	Delivered, Weeks/Months
DRILLING OF ONE (1) EXPLORATORY/PRODUCTION WELL BY ROTARY DRILLING METHOD FOR AMADEO WATER DISTRICT AT BRGY. PANGIL				
1	Mobilization	1 lot		2 days
2	Site Preparation	1 lot		3 days
3	Pilot Hole Drilling	250 m		42 days
4	Electric logging, interpretation of results and preparation of final well design	1 lot		5 days
5	Reaming to 400mm hole	250 m		42 days
6	Furnishing of 250 mm Casing	191 m		1 day
7	Furnishing of 250 mm Stainless Screen	60 m		1 day
8	Installation of casings and screens	251 m		3 days
9	Furnishing and Installation of Centralizers	1 lot		2 days
10	Furnishing and Installation of Gravel Pack Materials and Gravel Fill Pipe	220 m 32 m		3 days
11	Treatment with Polyphosphate Solution	1 lot		2 days
12	Development by Water Jetting	12 hrs		1 day
13	Development by Surging/Bailing	12 hrs		1 day
14	Development by Airlifting	12 hrs		1 day
15	Step Drawdown Pumping Test, Max Q = 14L/s	1 lot		1 day
16	Constant Discharge Pumping Test, Q = 14 L/s	72 hrs		3 days
17	Cement Grouting	30 m		2 days
18	Well Completion	1 lot		2 days
19	Resource Movement (Demobilization and site clean-up)	1 lot		2 days
20	Rainy/Unworkable days			22 days
	nothing follows			

Section VII. Drawings


50 mm Gravel fill pipe
Steel Plate Cover Welded to Casing
37.5 mm Sounding Tube
1 m Stick-up Pipe
Ground Level
Cement Grout
250 mm Spiral welded steel casing with minimum wall thickness of 6 mm, Estimated length = 233 m
30 m
1 m Clay Seal
Casing centralizers placed every 12 m
250 mm Stainless Steel, Continuous Slot, Wirewound, Slot 60 Screens, Estimated Length = 18 m
Graded Gravel Pack
400 mm Borehole, Length = 250 m
3 m Sump Pipe
Preliminary Well Design
AMADEO WATER DISTRICT
Amadeo, Cavite
247 m
250 m
Welded Bottom Cap

Section VIII. Bill of Quantities

BILL OF QUANTITIES

Project Identification Number: AWD PB 2023-004
Name of Project: DRILLING OF ONE (1) EXPLORATORY/PRODUCTION WELL BY ROTARY DRILLING METHOD AT BRGY. PANGIL, AMADEO, CAVITE

ABC: PhP 4,671,619.97 **Bill of Quantities**

Item No.	Description	Unit	Quantity	Unit Price (Pesos)	Amount (Pesos)
I	**RESOURCE MOVEMENT** (Pesos_____ _____ and_____centavos)	No.	1		
II	**SITE PREPARATION** (Pesos_____ _____ and_____centavos)	No.	1		
III	**PILOT HOLE DRILLING** (Pesos_____ _____ and_____centavos)	m	250		
IV	**ELECTRIC LOGGING** (Pesos_____ _____ and_____centavos)	No.	1		
V	**REAMING TO 400mm HOLE** (Pesos_____ _____ and _____centavos)	m	250		
VI	**FURNISHING OF 250mm CASING (Pesos_____ _____ and _____centavos)**	m	191		
VII	**FURNISHING OF 250mm STAINLESS SCREEN (Pesos_____ _____ and _____centavos)**	m	60		
VIII	**INSTALLATION OF CASING/SCREEN (Pesos_____ _____ and _____centavos)**	m	251		
IX	**FURNISHING/INSTALLATION OF CENTRALIZERS (Pesos_____ _____**	Lot	1		

	and _____centavos)				
X	**FURNISHING/INSTALLATION OF GRAVEL PACK MATERIALS AND GRAVEL FILL PIPE (Pesos_____ _____ and _____centavos)**	m m	220 32		
XI	**TREATMENT WITH POLYPHOSPHATE SOLUTION (Pesos_____ _____ and _____centavos)**	No.	1		
XII	**DEVELOPMENT BY WATER JETTING (Pesos_____ _____ and _____centavos)**	hrs	12		
XIII	**DEVELOPMENT BY SURGING/BAILING (Pesos_____ _____ and _____centavos)**	hrs	12		
XIV	**DEVELOPMENT BY AIRLIFTING (Pesos_____ _____ and _____centavos)**	hrs	12		
XV	**STEP DRAWDOWN PUMPING TEST (Pesos_____ _____ and _____centavos)**	No.	1		
XVI	**CONSTANT DISCHARGE PUMPING TEST (Pesos_____ _____ and _____centavos)**	hrs	72		
XVII	**CEMENT GROUTING (Pesos_____ _____ and _____centavos)**	m	30		
XVIII	**WELL COMPLETION (Pesos_____ _____ and _____centavos)**	No.	1		
IX	**RESOURCE MOVEMENT (Pesos_____ _____ and _____centavos)**	No.	1		
	GRAND TOTAL				_____
	Write grand total in words _____ _____				

Submitted by: _____ Date: _____

Name of Bidder/Bidder's Representative: _____

Position: _____

Construction Company/Contractor: _____

Section IX.
Checklist of Technical and Financial Documents

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 shee indicating the unit prices of construction materials, labor rates, and equipmen rentals used in coming up with the Bid; **and**

☐ (r) Cash Flow by Quarter.

Bid Form for the Procurement of Infrastructure Projects

[shall be submitted with the Bid]

BID FORM

Date : _____
Project Identification No. : _____

To: [name and address of Procuring Entity]

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

a. We have no reservation to the PBDs, including the Supplemental or Bid Bulletins, for the Procurement Project: *[insert name of contract];*

b. We offer to execute the Works for this Contract in accordance with the PBDs;

c. The total price of our Bid in words and figures, excluding any discounts offered below is: *[insert information]*;

d. The discounts offered and the methodology for their application are: *[insert information]*;

e. The total bid price includes the cost of all taxes, such as, but not limited to: *[specify the applicable taxes, e.g. (i) value added tax (VAT), (ii) income tax, (iii) local taxes, and (iv) other fiscal levies and duties],* which are itemized herein and reflected in the detailed estimates,

f. Our Bid shall be valid within the a period stated in the PBDs, and it shall remain binding upon us at any time before the expiration of that period;

g. If our Bid is accepted, we commit to obtain a Performance Security in the amount of *[insert percentage amount]* percent of the Contract Price for the due performance of the Contract, or a Performance Securing Declaration in lieu of the the allowable forms of Performance Security, subject to the terms and conditions of issued GPPB guidelines[2] for this purpose;

h. We are not participating, as Bidders, in more than one Bid in this bidding process, other than alternative offers in accordance with the Bidding Documents;

i. We understand that this Bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal Contract is prepared and executed; and

j. We understand that you are not bound to accept the Lowest Calculated Bid or any other Bid that you may receive.

---

[2] currently based on GPPB Resolution No. 09-2020

k. We likewise certify/confirm that the undersigned, is the duly authorized representative of the bidder, and granted full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for the [Name of Project] of the [Name of the Procuring Entity*].*

l. We acknowledge that failure to sign each and every page of this Bid Form, including the Bill of Quantities, shall be a ground for the rejection of our bid.

Name: _____

Legal Capacity: _____

Signature: _____

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

Date: _____

Bid Securing Declaration Form

[shall be submitted with the Bid if bidder opts to provide this form of bid security]

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

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

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

I/We, the undersigned, declare that:

1. I/We understand that, according to your conditions, bids must be supported by a Bid Security, which may be in the form of a Bid Securing Declaration.

2. I/We accept that: (a) I/we will be automatically disqualified from bidding for any procurement contract with any procuring entity for a period of two (2) years upon receipt of your Blacklisting Order; and, (b) I/we will pay the applicable fine provided under Section 6 of the Guidelines on the Use of Bid Securing Declaration, within fifteen (15) days from receipt of the written demand by the procuring entity for the commission of acts resulting to the enforcement of the bid securing declaration under Sections 23.1(b), 34.2, 40.1 and 69.1, except 69.1(f),of the IRR of RA No. 9184; without prejudice to other legal action the government may undertake.

3. I/We understand that this Bid Securing Declaration shall cease to be valid on the following circumstances:

    a. Upon expiration of the bid validity period, or any extension thereof pursuant to your request;
    b. I am/we are declared ineligible or post-disqualified upon receipt of your notice to such effect, and (i) I/we failed to timely file a request for reconsideration or (ii) I/we filed a waiver to avail of said right; and
    c. I am/we are declared the bidder with the Lowest Calculated Responsive Bid, and I/we have furnished the performance security and signed the Contract.

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

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

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

Performance Securing Declaration (Revised)

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

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

PERFORMANCE SECURING DECLARATION

Invitation to Bid: [Insert Reference Number indicated in the Bidding Documents]
To: [Insert name and address of the Procuring Entity]

I/We, the undersigned, declare that:

1. I/We understand that, according to your conditions, to guarantee the faithful performance by the supplier/distributor/manufacturer/contractor/consultant of its obligations under the Contract, I/we shall submit a Performance Securing Declaration within a maximum period of ten (10) calendar days from the receipt of the Notice of Award prior to the signing of the Contract.

2. I/We accept that: I/we will be automatically disqualified from bidding for any procurement contract with any procuring entity for a period of one (1) year for the first offense, or two (2) years **for the second offense**, upon receipt of your Blacklisting Order if I/We have violated my/our obligations under the Contract;

3. I/We understand that this Performance Securing Declaration shall cease to be valid upon:

    a. issuance by the Procuring Entity of the Certificate of Final Acceptance, subject to the following conditions:
        i. Procuring Entity has no claims filed against the contract awardee;
        ii. It has no claims for labor and materials filed against the contractor; and
        iii. Other terms of the contract; or

    b. replacement by the winning bidder of the submitted PSD with a performance security in any of the prescribed forms under Section 39.2 of the 2016 revised IRR of RA No. 9184 as required by the end-user.

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

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

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

Omnibus Sworn Statement (Revised)

[shall be submitted with the Bid]

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

AFFIDAVIT

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

1. *[Select one, delete the other:]*

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

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

2. *[Select one, delete the other:]*

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

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

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

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

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

6. *[Select one, delete the rest:]*

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

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

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

7. *[Name of Bidder]* complies with existing labor laws and standards; and

8. *[Name of Bidder]* is aware of and has undertaken the responsibilities as a Bidder in compliance with the Philippine Bidding Documents, which includes:

    a. Carefully examining all of the Bidding Documents;
    b. Acknowledging all conditions, local or otherwise, affecting the implementation of the Contract;
    c. Making an estimate of the facilities available and needed for the contract to be bid, if any; and
    d. Inquiring or securing Supplemental/Bid Bulletin(s) issued for the *[Name of the Project]*.

9. *[Name of Bidder]* did not give or pay directly or indirectly, any commission, amount, fee, or any form of consideration, pecuniary or otherwise, to any person or official, personnel or representative of the government in relation to any procurement project or activity.

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

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

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

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

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

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

CONTRACT AGREEMENT

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

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

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement, words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.

2. The following documents as required by the 2016 revised Implementing Rules and Regulations of Republic Act No. 9184 shall be deemed to form and be read and construed as part of this Agreement, *viz*.:

   a. Philippine Bidding Documents (PBDs);
   - i. Drawings/Plans;
   - ii. Specifications;
   - iii. Bill of Quantities;
   - iv. General and Special Conditions of Contract;
   - v. Supplemental or Bid Bulletins, if any;

   b. Winning bidder's bid, including the Eligibility requirements, Technical and Financial Proposals, and all other documents or statements submitted;

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

   c. Performance Security;

   d. Notice of Award of Contract and the Bidder's conforme thereto; and

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

3. In consideration for the sum of *[total contract price in words and figures]* or such other sums as may be ascertained, *[Named of the bidder]* agrees to *[state the object of the contract]* in accordance with his/her/its Bid.

4. The *[Name of the procuring entity]* agrees to pay the above-mentioned sum in accordance with the terms of the Bidding.

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

[Insert Name and Signature]	*[Insert Name and Signature]*
[Insert Signatory's Legal Capacity]	*[Insert Signatory's Legal Capacity]*
for:	*for:*
[Insert Procuring Entity]	*[Insert Name of Supplier]*

Acknowledgment

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


Republic of the Philippines
gppb
Government Procurement Policy Board