National Development Company

PROCUREMENT OF DESIGN AND BUILD OF THE NDC GREEN INDUSTRIAL SUSTAINABLE ECOZONE (NGIE) PROJECT IN BRGY. LANGKAAN 2, DASMARIÑAS CITY, CAVITE

PROJECT REFERENCE NO.:

MR24-10-128

APPROVED BUDGET FOR THE CONTRACT:

Php 230,107,918.80

NDC Bldg., 116 Tordesillas Street,
Salcedo Village, Makati City

ISO 9001 Certified

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Glossary of Terms, Abbreviations, and Acronyms

ABC – Approved Budget for the Contract.

ARCC – Allowable Range of Contract Cost.

BAC – Bids and Awards Committee.

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

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

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

BIR – Bureau of Internal Revenue.

BSP – Bangko Sentral ng Pilipinas.

CDA – Cooperative Development Authority.

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

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

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

CPI – Consumer Price Index.

DOLE – Department of Labor and Employment.

DTI – Department of Trade and Industry.

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

GFI – Government Financial Institution.

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

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

GOP – Government of the Philippines.

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

LGUs – Local Government Units.

NFCC – Net Financial Contracting Capacity.

NGA – National Government Agency.

PCAB – Philippine Contractors Accreditation Board.

PhilGEPS - Philippine Government Electronic Procurement System.

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

PSA – Philippine Statistics Authority.

SEC – Securities and Exchange Commission.

SLCC – Single Largest Completed Contract.

UN – United Nations.

Section I. Invitation to Bid

Invitation to Bid for the Procurement of Design and Build for the NDC Green Industrial Sustainable Ecozone (NGIE) Project in Brgy. Langkaan 2, Dasmariñas City, Cavite

1. The National Development Company (NDC), through the DBM-Approved Corporate Operating Budget (COB) for the Year 2024 intends to apply the sum of P230,107,918.80 being the Approved Budget for the Contract (ABC) to payments under the contract for Procurement of Design and Build for the NDC Green Industrial Sustainable Ecozone (NGIE) Project in Brgy. Langkaan 2, Dasmariñas City, Cavite with BAC Reference No. MR24-10-128. Bids received in excess of the ABC shall be automatically rejected at bid opening.

2. The National Development Company (NDC) now invites bids for the above Procurement Project. Completion of the Works is required within 78 Weeks (18 Months). Bidders should have completed a contract similar to the execution of Detailed Engineering Design and Construction of Land Development Works with Sewerage Treatment and Water Supply Facilities. Bidder or JV partner must have had a minimum of 10 years of experience in the field and has at least 50 completed Sewerage Treatment Plant (STP) projects regardless of capacity, location, and type of procuring entity that has passed the General Effluent Standards (GES) by the Department of Environment and Natural Resources' Administrative order 2016-08 and/or 2021-19. 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 NDC and inspect the Bidding Documents at the address given below from 8:00 am to 5:00 pm.

5. A complete set of Bidding Documents may be acquired by interested bidders on November 14,2024 to December 2, 2024 (9:00am-4:00pm) and on December 3, 2024 (8:00am-9:00am) 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 P50,000.00 to the NDC Cashier located at the 7th Floor, NDC Building, 116 Tordesillas Street, Salcedo Village, Makati City. The method of payment will be cash or cashier's check/manager's check.

6. The National Development Company (NDC) will hold a Pre-Bid Conference[1] on November 21, 2024 at 2:00pm at the ABB Hall, NDC Building, 116 Tordesillas Street,

[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.

Salcedo Village, Makati City and/or through videoconferencing/webcasting via Zoom, which shall be open to prospective bidders.

7. Bids must be duly received by the BAC Secretariat through (i) manual submission at the office address as indicated below, (ii) online or electronic submission as indicated below, or (iii) both on or before December 3, 2024 at 10:00am. Late bids shall not be accepted.

8. All bids must be accompanied by a bid security in any of the acceptable forms and in the amount stated in **ITB** Clause 16.

9. Bid opening shall be on December3, 2024 at 11:00am at the ABB Hall, NDC Building, 116 Tordesillas Street, Salcedo Village, Makati City and/or through Zoom. Bids will be opened in the presence of the bidders' representatives who choose to attend the activity.

10. All prospective bidders shall also submit scanned copy (in USB), in pdf format and password protected all the copies of their submitted documents (Eligibility, Technical and Financial) for file sharing to BAC members online. Submitted scanned copies of the documents must be identical to the submitted hard copies. Discrepancy to the submitted pdf copies and hard copies might lead to disqualification. Password will be disclosed by the bidder during the eligibility check and opening of bids.

11. The National Development Company (NDC) 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.

12. For further information, please refer to:

    Johnierey A. Cueto
    National Development Company
    7th Floor NDC Building, 116 Tordesillas Street, Salcedo Village, Makati City
    Tel Nos.: (02) 8840-4838 to 47 loc 232
    Email Address: **jacueto@ndc.gov.ph** or **ndcbacsecretariat@gmail.com**
    Fax No.: (02) 8840-4862
    NDC website: www.ndc.gov.ph

13. You may visit the following websites:

    For downloading of Bidding Documents: **https://www.ndc.gov.ph**

November 14, 2024

(Originally Signed)
AGM LEOPOLDO JOHN F. ACOT
BAC Vice Chairperson

Section II. Instructions to Bidders

1. Scope of Bid

The National Development Company (NDC) invites Bids for the Procurement of Design and Build for the NDC Green Industrial Sustainable Ecozone (NGIE) Project, with BAC Reference No. MR24-10-128

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

2. Funding Information

2.1. The GOP through the DBM-Approved NDC Corporate Operating Budget for 2024 in the amount of P230,107,918.80.

3. Bidding Requirements

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

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

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

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

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

5. Eligible Bidders

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

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

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

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

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

6. Origin of Associated Goods

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

7. Subcontracts

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

The Procuring Entity has prescribed that:

a. Subcontracting is allowed. The portions of Project and the maximum percentage allowed to be subcontracted are indicated in the **BDS,** which shall not exceed fifty percent (50%) of the contracted Works.

7.1. *[If Procuring Entity has determined that subcontracting is allowed during the bidding , state:]* The Bidder must submit together with its Bid the documentary requirements of the subcontractor(s) complying with the eligibility criterial stated in **ITB** Clause 5 in accordance with Section 23.4 of the 2016 revised IRR of RA No. 9184 pursuant to Section 23.1 thereof.

7.2. *[If subcontracting is allowed during the contract implementation stage, state:]* The Supplier may identify its subcontractor during the contract implementation stage. Subcontractors identified during the bidding may be changed during the implementation of this Contract. Subcontractors must submit the documentary requirements under Section 23.1 of the 2016 revised IRR of RA No. 9184 and

comply with the eligibility criteria specified in **ITB** Clause 5 to the implementing or end-user unit.

7.3. Subcontracting of any portion of the Project does not relieve the Contractor of any liability or obligation under the Contract. The Supplier will be responsible for the acts, defaults, and negligence of any subcontractor, its agents, servants, or workmen as fully as if these were the Contractor's own acts, defaults, or negligence, or those of its agents, servants, or workmen.

8. Pre-Bid Conference

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

9. Clarification and Amendment of Bidding Documents

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

10. Documents Comprising the Bid: Eligibility and Technical Components

10.1. The first envelope shall contain the eligibility and technical documents of the Bid as specified in **Section IX. Checklist of Technical and Financial Documents**.

10.2. If the eligibility requirements or statements, the bids, and all other documents for submission to the BAC are in foreign language other than English, it must be accompanied by a translation in English, which shall be authenticated by the appropriate Philippine foreign service establishment, post, or the equivalent office having jurisdiction over the foreign bidder's affairs in the Philippines. For Contracting Parties to the Apostille Convention, only the translated documents shall be authenticated through an apostille pursuant to GPPB Resolution No. 13-2019 dated 23 May 2019. The English translation shall govern, for purposes of interpretation of the bid.

10.3. A valid special PCAB License in case of Joint Ventures, and registration for the type and cost of the contract for this Project. Any additional type of Contractor license or permit shall be indicated in the **BDS**.

10.4. A List of Contractor's key personnel (e.g., Project Manager, Project Engineers, Materials Engineers, and Foremen) assigned to the contract to be bid, with their complete qualification and experience data shall be provided. These key personnel must meet the required minimum years of experience set in the **BDS**.

10.5. A List of Contractor's major equipment units, which are owned, leased, and/or under purchase agreements, supported by proof of ownership, certification of availability of equipment from the equipment lessor/vendor for the duration of the project, as the case may be, must meet the minimum requirements for the contract set in the **BDS**.

11. Documents Comprising the Bid: Financial Component

11.1. The second bid envelope shall contain the financial documents for the Bid as specified in **Section IX. Checklist of Technical and Financial Documents**.

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

11.3. For Foreign-funded procurement, a ceiling may be applied to bid prices provided the conditions are met under Section 31.2 of the 2016 revised IRR of RA No. 9184.

12. Alternative Bids

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

13. Bid Prices

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

14. Bid and Payment Currencies

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

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

a. Philippine Pesos.

15. Bid Security

15.1. The Bidder shall submit a Bid Securing Declaration or any form of Bid Security in the amount indicated in the **BDS**, which shall be not less than the percentage of the ABC in accordance with the schedule in the **BDS**.

15.2. The Bid and bid security shall be valid until April 2, 2025. Any bid not accompanied by an acceptable bid security shall be rejected by the Procuring Entity as non-responsive.

16. Sealing and Marking of Bids

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

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

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

17. Deadline for Submission of Bids

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

18. Opening and Preliminary Examination of Bids

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

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

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

19. Detailed Evaluation and Comparison of Bids

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

19.2. If the Project allows partial bids, all Bids and combinations of Bids as indicated in the **BDS** shall be received by the same deadline and opened and evaluated

simultaneously so as to determine the Bid or combination of Bids offering the lowest calculated cost to the Procuring Entity. Bid Security as required by **ITB** Clause 15 shall be submitted for each contract (lot) separately.

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

20. Post Qualification

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

21. Signing of the Contract

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

Section III. Bid Data Sheet

Bid Data Sheet

<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 Detailed Engineering Design and Construction of Land Development Works with Sewerage Treatment and Water Supply Facilities.

Bidder or JV partner must have had a minimum of 10 years of experience in the field and has at least 50 completed Sewerage Treatment Plant (STP) projects regardless of capacity, location, and type of procuring entity that has passed the General Effluent Standards (GES) by the Department of Environment and Natural Resources' Administrative order 2016-08 and/or 2021-19.</td></tr>
<tr><td>7.1a</td><td>Portion of Works allowed to be subcontracted are as follows:

a. Detailed Engineering Design and construction of Deep Well Drilling works may be subcontracted up to 100%
b. Architectural Design and Construction of Landscaping and Greening works may be subcontracted up to 100%</td></tr>
<tr><td>10.3</td><td>Contractor license or permit required are as follows:

a. Philippine Contractors Accreditation Board (PCAB) License with the following authority to engage in construction contracting business:

Principal Classification: General Building
Category: At least AA
Registered Kinds of Projects must include the ff:
GB-1 (Building or Industrial Plant)
GB-2 (Sewerage or Sewage System)
GB-3 (Water Treatment Plant & System)

b. STP/WTP Contractor Accreditation recognized by the DENR, DOH and other concerned offices or agencies.</td></tr>
<tr><td>10.4</td><td>The key personnel must meet the required minimum years of experience set below:

A. FOR DESIGN PERSONNEL
<table>
<tr><th>Key Personnel</th><th>General Experience</th></tr>
<tr><td>a. Design Architect</td><td>The Design Architect must be duly-licensed with at least ten (10) years of experience in the design of landscaping works, residential, academic or institutional facilities, and shall preferably be knowledgeable in the application of Green Design Technology in construction.</td></tr>
</table></td></tr>
</table>

b. Structural Engineer	The Structural Engineer must be a duly-licensed Civil Engineer with at least ten (10) year(s) of experience in structural design and shall preferably be knowledgeable in the application of Green Design Technology in construction.
c. Electrical Engineer	The Electrical Engineer must be a registered Professional Electrical Engineer with at least ten (10) years of experience in the design of power supply, lighting, power distribution and preferably knowledgeable in developments in emergent efficient lighting technologies and energy management.
e. Mechanical Engineer	The Mechanical Engineer must be a Professional Mechanical Engineer with at least ten (10) years of experience in STP/WTP, water supply, fire protection systems and preferably knowledgeable in emergent, alternative energy-efficient HVAC technologies.
f. Sanitary Engineer	The Sanitary Engineer must be duly-licensed with at least ten (10) years of experience in the design of STP/WTP, water supply and distribution, plumbing, and preferably knowledgeable in operation of waste water management/treatment, and emergent, alternative effluent collection and treatment systems, and DENR AO 36 s. 2004 (DAO 92-29 "Hazardous Waste Management)

The key professionals listed are required. The Winning Bidder may, as needed and at its own expense, add additional professionals and/or support personnel for the optimal performance of all Architectural and Engineering Design Services, as stipulated in the Terms of Reference for the project. Prospective bidders shall attach each individual's resume and PRC license of the (professional) staff.

B. FOR CONSTRUCTION PERSONNEL

Key Personnel	General Experience
a. Project Manager	The Project Manager shall be a licensed architect or engineer with at least Ten (10) years relevant experience as a Project Manager on similar and comparable projects in different locations. The Project Manager should have a proven record of managerial capability through the directing/managing of major civil engineering works, including projects of a similar magnitude.

b. Project Engineer / Architect	The Project Engineer/Architect shall be a licensed architect or engineer with at least Ten (10) years of experience in the construction of similar and comparable projects and shall preferably be knowledgeable in the application of rapid construction technologies.
c. Materials Engineer	The Materials Engineer must be duly accredited with at least Ten (10) years of experience in the construction of similar and comparable projects and shall preferably be knowledgeable in the application of rapid construction technologies
d. Electrical Engineer	The Electrical Engineer must be a registered Professional Electrical Engineer with at least Ten (10) years of experience in the construction of power supply, lighting, power distribution and preferably knowledgeable in developments in emergent efficient lighting technologies and energy management.
f. Mechanical Engineer	The Mechanical Engineer must be duly-licensed with at least Ten (10) years of experience in the construction of similar and comparable projects with STP/WTP, water supply and fire protection systems.
g. Sanitary Engineer	The Sanitary Engineer must be duly-licensed with at least Ten (10) years of experience in the construction of similar and comparable projects with STP/WTP and water supply and distribution.
h. Foreman	The Foreman must have at least Ten (10) years of experience in the construction of similar and comparable projects and shall preferably be knowledgeable in the application of Green Building technologies.
i. Safety Officer	The safety officer must be an accredited safety practitioner by the Department of Labor and Employment (DOLE) and has undergone the prescribed 40-hour Construction Safety and Health Training (COSH).

The above key personnel listed are required. The Winning Bidder may, as needed and at its own expense, add additional professionals and/or support personnel for the optimal performance of all Construction Services, as stipulated in the Terms of Reference, for the project. Prospective bidders shall attach each individual's resume and PRC license of the (professional) staff, proof of qualifications, and related documents as necessary.

<table>
<tr><td>10.5</td><td>The minimum major equipment requirements are the following:

<table>
<tr><th>Equipment</th><th>Capacity (min.)</th><th><u>No. of Units</u></th></tr>
<tr><td>1. Bulldozer</td><td>138 kW/185HP</td><td>2</td></tr>
<tr><td>2. Motor Grader</td><td>93 kW/125 Hp</td><td>1</td></tr>
<tr><td>3. Wheel Loader</td><td>3 cu.m</td><td>1</td></tr>
<tr><td>4. Dump Truck</td><td>10 cu.m</td><td>3</td></tr>
<tr><td>5. Vibratory Roller</td><td>10 ton</td><td>1</td></tr>
<tr><td>6. Backhoe</td><td>0.80 cu.m</td><td>1</td></tr>
<tr><td>7. Truck Mounted Crane</td><td>15 ton</td><td>1</td></tr>
<tr><td>8. Concrete Bagger Mixer</td><td>1 Bagger</td><td>2</td></tr>
<tr><td>9. Water Truck with Sprinkler</td><td>15 Cu. M.</td><td>1</td></tr>
<tr><td>10. Water Well Drilling Machine</td><td>200m Deep</td><td>1</td></tr>
<tr><td>11. Welding Machine</td><td>500 Amp.</td><td>1</td></tr>
<tr><td>12. Plate Compactor</td><td>5 Hp</td><td>2</td></tr>
<tr><td>13. Concrete Vibrator</td><td>45-60 mm dia.</td><td>2</td></tr>
</table>

Laboratory Equipment

All materials testing shall be done by a third-party laboratory accredited by DPWH.</td></tr>
<tr><td>12</td><td>Bidders may introduce construction concepts that are equally effective but less expensive and without compromising performance or functionality.</td></tr>
<tr><td>15.1</td><td>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 P4,602,158.38 [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 P11,505,395.94 [five percent (5%) of ABC] if bid security is in Surety Bond.</td></tr>
<tr><td>16</td><td>Each Bidder shall submit one (1) Original or Certified True Copy and two (2) copies of the first and second components of its bid.

The original copy of the documents which cannot be submitted should be stamped and signed as “Certified True Copy of the Original” by the duly authorized representative of the bidder.</td></tr>
<tr><td>19.2</td><td>Partial Bid is Not Allowed</td></tr>
</table>

20	A. 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 LCB, the Bidder shall submit the following documentary requirements: 1. Documents listed in "Annex A" of the Certificate of PhilGEPs registration; 2. Latest Income and business tax returns filed and taxes paid through the BIR Electronic Filing and Payments System (eFPS) - within the last six (6) months preceding the date of bid submission; and B. Certified True Copy signed by the BIR with documentary stamps of Item A.2. above to be submitted within seven (7) calendar days from receipt by the bidder of the notice from the BAC that it submitted the LCB. Provided, that the aforementioned period may be extended upon the request of the bidder and only for causes beyond the bidder's control. A proof of application with the BIR must be attached to the said request for an extension. C. The work under this Contract is to be designed and constructed according to the latest applicable codes, ordinances and requirements of the following, as applicable, but not limited to: a. National Building Code b. Fire Code of the Philippines c. DPWH Standard Specification d. National Water Resources Board e. Laguna Lake Development Authority f. Housing and Land Use Regulatory Board g. Local Government Unit h. Philippine Economic Zone Authority i. Department of Labor and Employment j. National Plumbing Code of the Philippines k. Sanitation Code of the Philippines l. Department of Health m. Department of Agriculture n. Effluent Regulations of 1990 – Environmental Management Bureau (EMB) formerly National Pollution Control Commission (NPCC) o. Rules and Regulations of the EMB for Domestic and Industrial Wastewater Disposal (Section 6g of Presidential Decree No. 984, otherwise known as the National Pollution Control Decree of 1976) p. DENR Administrative Order (DAO) 2016-08 q. DENR Administrative Order (DAO) 2021-19 The Contractor's bid shall be deemed to include all costs to comply with the various code, inspections, permits and fees Nothing contained in the Specification shall be construed as to conflict with National and Local Ordinances or Laws governing the installation of Sewage

	Treatment Plant Work and all such laws and ordinances are hereby made part of this Specification. The Contractor is required to meet the requirements hereof. All construction permits, licenses and fees required for this work shall be obtained by and at the expense of the Contractor. The Contractor shall furnish the Architect, the Engineer and the Owner final certificates of inspection and approval from the proper government authorities after the completion of the work. Failure to submit any of the post-qualification requirements on time, or a finding against the veracity thereof, shall disqualify the bidder for award. Provided in the event that a finding against the veracity of any of the documents submitted is made, it shall cause the forfeiture of the bid security in accordance with Section 69 of the IRR of RA 9184
21	Additional contract documents relevant to the Project that may be required by existing laws and/or the Procuring Entity, such as construction schedule and S-curve, manpower schedule, construction methods, equipment utilization schedule, construction safety and health program approved by the DOLE, and other acceptable tools of project scheduling.

Section IV. General Conditions of Contract

1. Scope of Contract

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

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

2. Sectional Completion of Works

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

3. Possession of Site

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

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

4. The Contractor's Obligations

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

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

5. Performance Security

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

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

6. Site Investigation Reports

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

7. Warranty

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

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

8. Liability of the Contractor

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

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

9. Termination for Other Causes

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

10. Dayworks

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

11. Program of Work

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

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

12. Instructions, Inspections and Audits

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

13. Advance Payment

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

14. Progress Payments

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

15. Operating and Maintenance Manuals

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

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

Section V. Special Conditions of Contract

GCC Clause	
2	Sectional Completion is Not Applicable
3.1	Schedule of delivery of the possession of the site to the Contractor shall be within five (5) working days from issuance of Notice to Proceed.
6	The Contractor shall conduct all site investigations that are necessary for the preparation of detailed engineering design.
7.2	As stated *[In case of permanent structures, such as buildings of types 4 and 5 as classified under the National Building Code of the Philippines and other structures made of steel, iron, or concrete which comply with relevant structural codes (e.g., DPWH Standard Specifications), such as, but not limited to, steel/concrete bridges, flyovers, aircraft movement areas, ports, dams, tunnels, filtration and treatment plants, sewerage systems, power plants, transmission and communication towers, railway system, and other similar permanent structures:]* Fifteen (15) years. *[In case of semi-permanent structures, such as buildings of types 1, 2, and 3 as classified under the National Building Code of the Philippines, concrete/asphalt roads, concrete river control, drainage, irrigation lined canals, river landing, deep wells, rock causeway, pedestrian overpass, and other similar semi-permanent structures:]* Five (5) years. *[In case of other structures, such as bailey and wooden bridges, shallow wells, spring developments, and other similar structures:]* Two (2) years.
10	No dayworks are applicable to the contract.
11.1	The Contractor shall submit a detailed program of work within seven (7) calendar days after the issuance of the Notice to Proceed for approval by the NDC that shall include, among others: i. The order in which it intends to carry out the work including anticipated timing for each stage of design/detailed engineering and construction; ii. Periods for review of specific outputs and any other submissions and approvals; iii. Sequence of timing for inspections and tests as specified in the contract documents; iv. General description of the design and construction methods to be adopted; v. Number and names of personnel to be assigned for each stage of the work; vi. List of equipment required on site for each major stage of the work; and

	vii. Description of the quality control system to be utilized for the project. The Contractor shall submit to the Procuring Entity's Representative for approval an updated Program of Work at intervals of thirty (30) calendar days. The updated Program of Work shall be submitted within five (5) days after the end of each month until completion of Work.
11.2	The amount to be withheld for late submission of an updated Program of Work is 5% 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.
13	The amount of the advance payment is 15% of the contract price payable upon submission of a written request and upon acceptance by NDC of an irrevocable standby letter of credit of equivalent value from a commercial bank, a bank guaranty or a surety bond callable upon demand. Commensurate amount will be deducted at 15% from subsequent billings until fully liquidated.
14	Materials and equipment delivered on the site but not completely put in place may be included for payment, on a case to case basis.
15.1	The date by which operating and maintenance manuals are required is within thirty (30) calendar days after acceptance by NDC. The date by which "as built" drawings are required is within thirty (30) calendar days after acceptance by NDC
15.2	The amount to be withheld for failing to produce "as built" drawings and/or operating and maintenance manuals by the date required is 50% of the Final Progress Billing (in Philippine Peso).

Section VI. Specifications

I. SCOPE OF THE PROJECT

The National Development Company (NDC) has prepared and identified the following components for the primary scope of work. However, this does not limit the winning bidder's ability to propose modifications, including the introduction, removal, or alteration of these components. Bidders are encouraged to demonstrate flexibility in their design and plans for the ecozone for so long as these modifications are approved by the NDC and adhere to the constraints of the approved budget cost (ABC):

Project is comprised of the following components:

a. Upgrading of Main Gate (Entrance)
b. Street Lighting
c. STP Facility
d. WTP Facility
e. Rehabilitation of Deep Well 5 & 7 and Pump Houses
f. Water Line from Deep Wells to NGIE Site
g. Slope Protection/Flood Control for Creek Area
h. Development of Creek Area, STP and WTP Area
i. Landscape and Greening
j. Detailed Engineering Design

The viability of the proposed scope of works is contingent upon several key factors. Firstly, all modifications introduced by the winning bidder must remain within the constraints of the approved budget cost (ABC) to ensure financial feasibility.

Additionally, adherence to local government regulations and environmental standards is essential for compliance and to mitigate any legal risks. Incorporating sustainable practices and materials in line with established green building standards to enhance the project's environmental responsibility. Finally, engaging with stakeholders to gather feedback throughout the design and construction phases will promote project acceptance and contribute to its overall viability.

Project Breakdown

Table 1.1 Table View of General Requirements

A.	**GENERAL REQUIREMENTS**			
ITEM NO.	**DESCRIPTION**	**QTY**	**UNIT COST**	**COST**
1.0	General Design and Construction Requirements	1 Lot		
2.0	Other General Requirements	1 Lot		

Table 1.2 Table View of Land Development

B.	UPGRADING OF MAIN ENTRANCE			
ITEM NO.	**DESCRIPTION**	**QTY**	**UNIT COST**	**COST**
1.0	Additional Pavement	1 Lot		
2.0	Landscaping and Design	1 Lot		
3.0	Elevated Guard House	1 Lot		
4.0	Automatic Guard Rail Barrier	1 Lot		
C.	**STREET LIGHTING**			
1.0	Single Arm Post. With Pedestal and Solar Street Light	1 Lot		

Table 1.3 Table View of Water System

D.	SUNKEN AREA, WTP AND STP AREA			
ITEM NO.	**DESCRIPTION**	**QTY**	**UNIT COST**	**COST**
1.0	Impounding Facility	1 Lot		
2.0	Water Treatment Plant	1 Lot		
3.0	Sewerage Treatment Plant	1 Lot		
4.0	Deep Well	1 Lot		
E.	**WATER & ELECTRO-MECAHNICAL SYSTEM**			
1.0	Site Works for Domestic Water Supply	1 Lot		
2.0	Civil Works for Domestic Water Supply	1 Lot		
3.0	Mechanical/Sanitary Works for Domestic	1 Lot		
4.0	Mechanical/Sanitary Works for FirePro	1 Lot		
5.0	Mechanical/Sanitary Works for Well	1 Lot		
6.0	Electrical Works for Domestic Water Supply	1 Lot		
7.0	Electrical Works for FirePro Supply	1 Lot		
8.0	Electrical Works for Well Supply	1 Lot		
F.	**STRUCTURE**			
1.0	Slope Protection with Weep Holes	1 Lot		

Table 1.4 Table View of Admin Development Expenditure

G.	DETAILED ENGINEERING DESIGN			
ITEM NO.	**DESCRIPTION**	**QTY**	**UNIT COST**	**COST**
1.0	Architectural	1 Lot		
2.0	Civil/Geotechnical Design	1 Lot		
3.0	Structural Design	1 Lot		
4.0	Mechanical Design	1 Lot		
5.0	Electrical Design	1 Lot		
6.0	Environmental and Sanitary Design	1 Lot		
7.0	Geodetic/Survey Design	1 Lot		

8.0	CAD Operator	1 Lot		
9.0	Admin and Reproduction	1 Lot		

II. PROJECT DESCRIPTION AND LOCATION

The NDC Green Industrial Sustainable Ecozone (NGIE) covers an area of 19.2 hectares in Barangay Langkaan, Dasmariñas City, Cavite, strategically located adjacent to the existing First Cavite Industrial Estate (FCIE). This prime location is designed to facilitate the attraction of businesses focused on innovation, sustainability, and emerging technologies.

During the design stage, the winning bidder will be responsible for preparing and submitting design plans that comply with the design parameters and performance specifications outlined in this Terms of Reference (ToR). The construction stage will commence only after the winning bidder has secured the approval of the design from the NDC and all necessary permits and clearances from the Philippine Economic Zone Authority (PEZA).

The development of the ecozone will focus on creating a sustainable, eco-friendly environment that includes advanced water recycling systems, energy-efficient infrastructure, and extensive green landscaping. This design will align with the project's objectives to minimize environmental impact while promoting operational efficiency.

Prospective bidders are required to submit a comprehensive construction schedule that reflects this phased approach. Furthermore, all designs must adhere to applicable laws, codes, and standards relevant to industrial estate development, including:

- **National Building Code of the Philippines** (relevant provisions applicable to site development).
- **Comprehensive Fire Code of the Philippines** (regulations regarding fire safety and emergency access).
- **Occupational Safety and Health Standards** (requirements for workplace safety).
- **Environmental Impact Assessment (EIA) Requirements** (for assessing potential environmental impacts).
- **Solid Waste Management Act** (for waste management practices within the estate).

In cases where conflicts arise among the provisions of these laws, codes, and standards, the most stringent requirements shall prevail, ensuring the project's alignment with best practices in safety, sustainability, and compliance.

Detailed technical documentation, including a topographic map of the site, will be provided in the Annex section to assist bidders in their planning and design efforts.

III. CONCEPTUAL DESIGN PRINCIPLES

The National Development Company (NDC) has prepared a conceptual design and plans for the NDC Green Industrial Sustainable Ecozone (NGIE). However, these designs shall serve as reference only and NDC shall not guarantee that the data is fully correct, updated, and applicable to the project at hand. The winning bidder shall be responsible for ascertaining the accuracy and applicability of all data especially as regards its final design and details of materials.

The conceptual design and plans are hereto attached as Annexes "A" and "B", respectively.

Open Space and Landscaping

Open space and landscaping often serve to improve the aesthetics of a location. However, these also provide other practical purposes such communal areas for recreation or, in cases of disaster risks, provide an evacuation or staging area.

Slope Protection & Flood Control (Creek Area)

Soil stability is one of the most important components of any industrial estate whose location should, ideally, be free of hazards. The proposed design must consider areas of the NGIE to adapt to changing weather patterns that may cause massive rainfalls during the rainy season – which the estate may capitalize alongside capturing precious water resources during times of plenty and provide alternative water source during water supply shortages. Engineering mitigation works may include, but are not limited to, designing with the natural slope of the area or the use of slope protections together with weep holes to ensure soil stability and protect the integrity of the property in preparation for the built-up areas.

While there are other options available, this method will prove to be the most practical and most cost-effective especially when it comes to the immediate implementation.

Water Resources and Water Recycling

In light of dwindling ground water supply in Cavite due to over-extraction, NGIE will have its own water impounding facility to harvest rainwater and store recycled liquid effluent for reuse. Waste water will go through the sewerage treatment plant so the treated resource can be utilized for other commercial purposes as may be determined. Having the water reservoir including the sewerage treatment plant reduces the NGIE's reliance on ground water supply and ensure the optimal use of water within the premises. The Water Treatment Plant may consider employing reverse osmosis technology and includes skids, high-pressure feed pumps, polishing filters, long vessels, RO membranes, control valves, fittings, chemical dosing mechanisms, mixer, chemical tanks, flow meter, control panel, PLC controls, UV sterilizer and cost of installation. On the other hand, the NGIE is expected to have an operating sewerage treatment plant to treat water effluents. The winning bidder shall recommend the appropriate treatment design and facility to ensure that all wastewater can be treated and pass effluent standards as mandated by law.

Forecasted water consumption in the NGIE is shown below and may be used as basis for calculating the capacities of the water reservoir, water treatment plant, and sewerage treatment plant.

Revision of Design of Water Supply System for NGIE:

Area					Total Water Consumption					
Block No. Lot No.		Area		Water Demand (60 M^3/ha.)	Potable Water Supply		Sewer (85%)		Water Total (M^3/Day)	Sewer Total (M^3/Day)
		(M^2)	(Ha.)		(L/Day)	(M^3/Day)	(L/Day)	(M^3/Day)		
1										
	1	12,000	1.2	72.00	72,000	72.00	61,200	61.20	72.00	61.20
	2	10,100	1.01	60.60	60,600	60.60	51,510	51.51	60.60	51.51
	3	10,100	1.01	60.60	60,600	60.60	51,510	51.51	60.60	51.51
	4	10,346	1.0316	61.90	61,896	61.90	52,612	52.61	61.90	52.61
2										
	1	6,831	0.6831	40.99	40,986	40.99	34,838	34.84	40.99	38.84
	2	6,533	0.6533	39.20	39,198	39.20	33,318	33.32	39.20	33.32
	3	6,857	0.6857	41.14	41,142	41.14	34,971	34.97	41.14	34.97
	4	6,918	0.6918	41.51	41,508	41.51	35,282	35.28	41.51	35.28
	5	6,864	0.6864	41.18	41,184	41.18	35,006	35.01	41.18	35.01
	6	6,805	0.6805	40.83	40,830	40.83	34,706	34.71	40.83	34.71
	7	6,831	0.6831	40.99	40,986	40.99	34,838	34.84	40.99	36.18
	8	7,095	0.7095	42.57	42,570	42.57	36,185	36.18	42.57	36.18
3										
	1	13,978	1.3978	83.87	83,868	83.87	71,288	71.29	83.87	71.29
	2	13,952	1.3952	83.71	83,712	83.71	71,155	71.16	83.71	71.16
	3	13,448	1.3448	80.69	80,688	80.69	68.585	68.58	80.69	68.58
4										
	1	7,222	0.7222	43.33	43,332	43.33	36,832	36.83	43.33	36.83
	2	7,000	0.7	42.00	42,000	42.00	35,700	35.70	42.00	35.70
	3	7,000	0.7	42.00	42,000	42.00	35,700	35.70	42.00	35.70
5	Admin	1,080	0.108	6.48	6,480	6.48	5,508	5.51	6.48	5.51
6	STP	400	0.04	2.40	2,400	2.40	2,040	2.04	2.40	2.04
Total		**161330**	**16.133**						**967.98**	**822.78**

Table 1. Estimated Global Water Consumption

Streetlights

The NGIE will require illumination at night for safety and security purposes. The most economical way to do so is the installation of LED solar streetlights that provide higher lumens but consume 60 percent less power than traditional mercury bulbs.

Green/Sustainability Accreditation

To effectively demonstrate NGIE's environmental responsibility and its comprehensive commitment to sustainable development, NGIE should be subjected to a rating system or accreditation process through various measures aimed at certifying NGIE as an ecozone that is operating exceptionally better than the average or standard ecozones in the country particularly in environmental laws and guidelines compliance. NGIE's development strategy involves energy efficiency, water conservation, and waste

reduction, the estate actively works towards reducing its carbon footprint and preserving natural resources. By mitigating energy and water consumption, as well as operational expenses, the estate can achieve both financial prudence and ecological stewardship.

Additionally, accreditation enhances the estate's marketability, appealing to investors, tenants, and consumers who prioritize sustainability as a fundamental criterion. Compliance with green building standards not only ensures regulatory alignment but also fortifies the estate against the ever-evolving landscape of environmental legislation. Furthermore, sustainable practices foster the health and well-being of the estate's occupants by cultivating a conducive and healthy working environment.

Deep Well Rehabilitation and Construction

To ensure reliable water supply and operational continuity for the proponents and lessors in the industrial estate, NGIE will push through with the rehabilitation and the construction of the deep wells 5 & 7. Having two wells and the additional water impounding facility should be sufficient to provide the water requirements of the ecozone and allow a system of redundancy to ensure uninterrupted water supply at all times. This redundancy also allows for better management for varying water demands typical in industrial settings, ensuring consistent supply during peak usage periods.

Soil Testing

Conducting soil testing before construction is essential to comprehensively analyze soil composition, stability, and potential risks such as unstable clay and groundwater. Data gathered informs more precise planning and reduces the risks during and after construction. It enables assessment of load-bearing capacity and aids in designing stable foundations, ensuring buildings and infrastructure are on suitable ground, thus minimizing the settlement and structural issues over time.

In any industrial estate development, soil testing is crucial for upholding environmental quality, enhancing infrastructure durability, and guiding effective waste management decisions. Also, it helps in determining land suitability in its different areas and in assessing factors like permeability and potential groundwater contamination. Lastly, by adhering to regulatory standards and mitigating environmental impacts, industries can sustain operational integrity and foster sustainable development practices.

Prospective bidders may introduce an entirely new concept, subject to the design parameters, performance standards, and design principles as provided for in this document.

IV. DESIGN PARAMETERS

The design parameters and performance standards are essential to ensure that all facets of the design and construction phases minimize environmental impact while enabling the NDC to achieve its objective of creating a green industrial ecozone.

ITEM NO.	DESCRIPTION	QTY	DESIGN PARAMETERS AND PERFOMANCE STANDARDS

A.	**GENERAL REQUIREMENTS**		
1.0	General Design and Construction Requirements		• The works shall be done in accordance with the latest applicable codes, ordinances and requirements of the following, as applicable, but not limited to: a. National Building Code b. Fire Code of the Philippines c. DPWH Standard Specification d. National Water Resources Board e. Laguna Lake Development Authority f. Housing and Land Use Regulatory Board g. Local Government Unit h. Philippine Economic Zone Authority i. Department of Labor and Employment j. National Plumbing Code of the Philippines k. Sanitation Code of the Philippines l. Department of Health m. Department of Agriculture n. Effluent Regulations of 1990 – Environmental Management Bureau (EMB) formerly National Pollution Control Commission (NPCC) o. Rules and Regulations of the EMB for Domestic and Industrial Wastewater Disposal (Section 6g of Presidential Decree No. 984, otherwise known as the National Pollution Control Decree of 1976) p. DENR Administrative Order (DAO) 2016-08 q. DENR Administrative Order (DAO) 2021-19 • Nothing contained in the Specification shall be construed as to conflict with National and Local Ordinances or Laws governing the installation of STP/WTP and all such laws and ordinances are hereby made part of this Specification. The Contractor is required to meet the requirements hereof. • All construction permits, licenses and fees required for this work shall be obtained by and at the expense of the Contractor. The Contractor shall furnish the Architect, the Engineer and the Owner final certificates of inspection and approval from the proper government authorities after the completion of the work. • Winning bidder shall be responsible for preparing and submitting design plans that

			comply with the design parameters and performance specifications outlined in the Terms of Reference (ToR). The construction stage will commence only after the winning bidder has secured the approval of the design from the NDC and all necessary permits and clearances from the Philippine Economic Zone Authority (PEZA) and other concerned offices and agencies.
2.0	Other General Requirements	1 Lot	Winning bidder shall provide the ff: • Mobilization/Demobilization • Temporary office and or/ quarters for the contractor's project team personnel with water, light, and toilet facilities. • Temporary bunk house/ quarters for the contractor's workforce complete with toilet and bath facilities. • The Contractor shall be responsible for securing permits for electrical and water connection and the payment of electric bill and water bill used during the execution of the works. • Project Sign Board with specification based on COA Circular 2013-004 dated Jan. 30, 2013 • Construction health and safety requirements • Plans and Drawings required by PEZA and other concerned agencies (signed and sealed by design engineers/architects), including the signing of documents relative to the application of permits, as necessary. • Electrical Plans and Drawings required by Meralco relative to the power connection that includes, among others, Plans and Drawings that show the development plan indicating the location of Entrance Post, Meralco Poles, Sub-station (if required), estimated load requirement of the entire NGIE and its future locators, details of main panel board, etc. (signed and sealed by design engineers).
B.	**UPGRADING OF MAIN ENTRANCE**		

1.0	Additional Pavement	1 Lot	Portland Cement Concrete Pavement (PCCP) in accordance with latest DPWH Standard Design for Highways, Bridges and Ports; concrete curbs and sidewalk; drainage pipes
2.0	Landscaping and Design	1 Lot	• Modern and aesthetically pleasing design comparable to the famous ecozone parks in the Philippines with a sizable silver or brass metal signage displaying the name "NDC Green Industrial Sustainable Ecozone" • Provision of perimeter lighting posts with solar and LED lights • Aesthetic improvement shall also cover wall fence at the entrance area, wall fence along the north sides of the Admin Building and at the water impounding facility
3.0	Guard House	1 Lot	Minimum of 10.0 sq.m area with 2.7m ceiling height; pre-painted Ga#26 rib type roofing and Gutter; 150mm CHB plain finished wall on Elastomeric Paint; glass windows on sliding frames; concrete flooring with ceramic tile finish; aesthetically pleasing, superior structure quality that can withstand 250 kph wind velocity
4.0	Automatic Guard Rail Barrier	1 Lot	Automatically controlled boom barrier; reflectorized color finish; complete with mechanical and electrical controls
C.	**STREET LIGHTING**		
1.0	Single Arm Post with Solar Street Light with Pedestal	1 Lot	• Single-Arm Post • Mast Arm – 1.5 meters • Mounting Height - 8.0m pole • Distance between poles – 15 to 20 meters • Lamp Wattage – LED 125w • Concrete pedestal shall be painted finish • Poles shall be anchor-based types designed to withstand a wind velocity of 250 Kph • Compliant with DPWH Design Standard Specification for Roadway Lighting
D.	**SUNKEN AREA, WTP AND STP AREA**		
1.0	Impounding Facility	1 Lot	• At least 900 cu.m. capacity water storage concrete dam

			• Superior walls and flooring structures capable of handling maximum water and soil pressures and other potential external loads; • Provision of spillway and sluice gate/valve, drainage water outfall structures, drainage pipes connected from the nearest drainage manholes • Provision of by-pass box culvert from the existing drainage outfall, as necessary; • Provision of aesthetically pleasing perimeter walls with guard rails and perimeter posts with solar and LED lights • site development and other works to make the system fully functional and meets its goals and objectives. • compliant with applicable DPWH Design Standard Specification
2.0	Water Treatment Plant	1 Lot	• WTP design may consider reverse osmosis technology and includes skids, high pressure feed pumps, polishing filters, long vessels, RO membranes, control valves, fittings, chemical dosing mechanisms, mixer, chemical tanks, flow meter, control panel, PLC controls and UV sterilizer, as well as site development and other works to make the system fully functional and meets its goals and objectives. • Capacity shall be based on the forecasted water consumption as presented on Table 1 Item III of the Terms of Reference. • compliant with applicable DPWH Design Standard Specification
3.0	Sewerage Treatment Plant	1 Lot	• Any technology that is appropriate for the NGIE to meet its objectives and ensure compliance with effluent standards. Capacity shall be based on the forecasted water consumption as presented on Item III of the Terms of Reference. • STP Design must be in compliance with DENR's DAO 2016-08 and 021-19. STP Design shall be approved by the Department of Public Works and Highways and/or other relevant agencies/offices. • Provide inter-connection from the intake pipes and outlet facilities, supply and installation of in-line booster pumps, supply and installation of electrical, instrumentation and controls for

			automatic and manual operations, site development and other works to make the system fully functional and meets its goals and objectives. • Supply of equipment, materials and labor for the installation of standby diesel engine generator and generator house with a capacity that can power up the STP and WTP operations in case of power outage. Design and location shall be determined and recommended by the winning bidder. • compliant with applicable DPWH Design Standard Specification
4.0	Deep Well	1 Lot	• Rehabilitation of DW Nos. 5 & 7 and their corresponding pump houses located at the First Cavite Industrial Estate (FCIE) with the following required Discharge Rates: a. DW No. 5 - at least 10 LPS but not more than 11.10 LPS b. DW No. 7 - at least 22.5 LPS but not more than 25.0 LPS • Well pumps shall have the right capacity and proper placement in order to avoid sand pumping
E. WATER & ELECTRO-MECHANICAL SYSTEM			
1.0	Site and Civil/ Electrical/ Mechanical/ Sanitary Works for Wells and Domestic Water Supply	1 Lot	• Site clearing, backfilling and drainage works to address flooding at DW No.7 area. • Rehabilitation of DW No. 5 and DW No. 7 and Pumphouses shall include supply and installation of all electrical, mechanical, sanitary equipment such as pipelines, fittings, valves, pressure gauge/switch assembly, flowmeter switch assembly, pumps and accessories, chlorinating equipment, motor control panel, lightning panel, manual transfer switch, lighting fixtures with LED lamps, wires & cables, grounding system, service entrance, billing meters, and other works to make the system fully functional and meets its goals and objectives. • Provision of elevated water tank and ground water reservoir at the NGIE area. Capacities shall be based on the forecasted water consumption as presented on Table 1 Item III of the Terms of Reference.

			• Inter-connection to the reservoir facilities and main distribution line, supply and installation of in-line booster pumps, supply and installation of electrical, instrumentation and controls for automatic and manual operations, site development and other works to make the system fully functional and meets its goals and objectives. • Provision of all necessary structures for the power connections required for the facilities. • **Note:** Bidders shall be responsible in conducting a thorough evaluation and assessment on the conditions of the site (e.g., NGIE area and relevant structure/facilities, FCIE area and relevant structures/facilities, DW Nos. 5 and 7, Pump Houses), and shall include in the bid all works and costs that are necessary to make the system fully functional and meets its goals and objectives.
2.0	Electrical/Mechanical/ Sanitary Works for FirePro Supply		Fire protection system shall be designed and installed to comply with the requirements of the NGIE in accordance with the latest provisions of the Fire Code of the Philippines and requirements of concerned offices or agencies
F. STRUCTURE			
1.0	Slope Protection with Weep Holes	1 Lot	Provision of slope protection with weep holes at the outfall area in accordance with latest DPWH Standard Design and actual condition of the site.
G. DETAILED ENGINEERING DESIGN			
1.0	Architectural	1 Lot	• The detailed design shall conform with the latest standard design applicable in the Philippines. • All design assumptions shall be based on the results of the required technical studies, detailed analysis and design computations. • The technical drawings and specifications shall clearly indicate all the details required to ascertain the care and thoroughness devoted in the preparation of the drawings.
2.0	Civil/Geotechnical Design	1 Lot	
3.0	Structural Design	1 Lot	
4.0	Mechanical Design	1 Lot	

5.0	Electrical Design	1 Lot	
6.0	Environmental and Sanitary Design	1 Lot	
7.0	Geodetic/ Survey Design	1 Lot	
8.0	CAD Operator	1 Lot	
9.0	Admin and Reproduction	1 Lot	

General Design Parameters

Site Analysis

A comprehensive site analysis must be conducted to gather, assess, and document information regarding the site and its environment. This analysis should encompass soil type and condition, topography, existing vegetation and natural features, neighboring land uses and structures, key sightlines, and locally available resources. Such assessments are crucial for informed decision-making and effective planning.

A copy of the Engineering Geological and Geohazard Assessment Report dated February 7, 2014 that may be used as reference for establishing the bid will be provided by NDC. However, it is the obligation of the bidder to ascertain the accuracy and applicability of the data.

Site Planning

Site planning parameters will guide the design of the green ecozone, addressing both natural and constructed elements. This includes the arrangement of buildings, streets, drainage systems, utility poles, and circulation paths within and around the site, ensuring efficient movement and accessibility.

Engineering and Architectural Parameters

The design of the green industrial estate should be responsive to economic, environmental, and cultural contexts. Key considerations will include space utilization, functional and operational planning, adaptability for future needs, enhancement of productivity, and technical connectivity among various facilities.

General Performance Standards

The design and construction of the green industrial ecozone must meet the following performance standards:

- Energy Efficiency: Implement energy-efficient solutions for industrial operations to reduce overall energy consumption.
- Water Efficiency: Integrate systems that promote water conservation and optimize water use.
- Material Sustainability: Utilize sustainable materials in construction to minimize environmental impact and enhance resource efficiency.
- Solid Waste Management: Establish effective solid waste management practices to promote recycling and minimize landfill contributions.
- Site Sustainability: Ensure the site design supports ecological health and resilience, maintaining biodiversity and minimizing habitat disruption.
- Indoor Environmental Quality: Promote healthy indoor environments through natural ventilation, daylighting, and the use of non-toxic materials

Project Design, Terms and Conditions

ENGINEERING DRAWINGS AND DESIGNS

A. GENERAL

i. The detailed design shall conform to the general standards adopted from the National Building Code and other pertinent laws on building construction.
ii. All design assumptions shall be based on the results of the required technical studies, detailed analysis and design computations.
iii. The technical drawings and specifications shall clearly indicate all the details required to ascertain the care and thoroughness devoted in the preparation of the drawings.

STRUCTURAL DESIGN

1. The bidder shall prepare and provide the necessary structural analysis/calculation, structural notes, splicing details and design of structural members (foundation, pavements, columns, beams and retaining/slope protection walls) in accordance with the National Building Code of the Philippines with its referral codes such as the National Structural Code of the Philippines, etc. the design for the structure shall take into account, among others, seismic and wind requirements of the area to determine the optimum safety of the whole structure and to minimize possible earthquake damage.

2. On the basis of the data obtained from the detailed site investigation, topographical/ engineering, foundation investigation, material testing, survey of existing site conditions, the seismic requirement of the area and other investigations required to obtain the data necessary to ensure the safety of the structure.

SUBMITTAL/S: Structural Plans and details drawn at a paper size of 20"x30" with a suitable scale and details, in two (2) copies, one (1) copy white/blue print copy, and one (1) reproducible, and two (2) copies of the structural analysis/calculations and design, all documents shall be duly signed and sealed by a licensed Structural Engineer.

PLUMBING AND SANITARY

The bidder shall prepare a design for water and sanitary line layout, other lines that should be prepared for the rough-ins are reflected on the plans (preparation for the commercial stalls on the ground and second floor.

A. Drainage and Sewerage

i. Drainage and sewerage shall be concealed type with appropriate catch basins and manholes.
ii. The drainage layout shall show all the required information such as direction of flow, manhole to manhole distance and sizes of lines, invert elevation of manholes/canals, location of outfall, etc.
iii. Design shall be supported with design calculations.
iv. STP Design must be in compliance with DENR's DAO 2016-08 and 2021-19.
v. STP Design must be approved by the Department of Public Works and Highway.

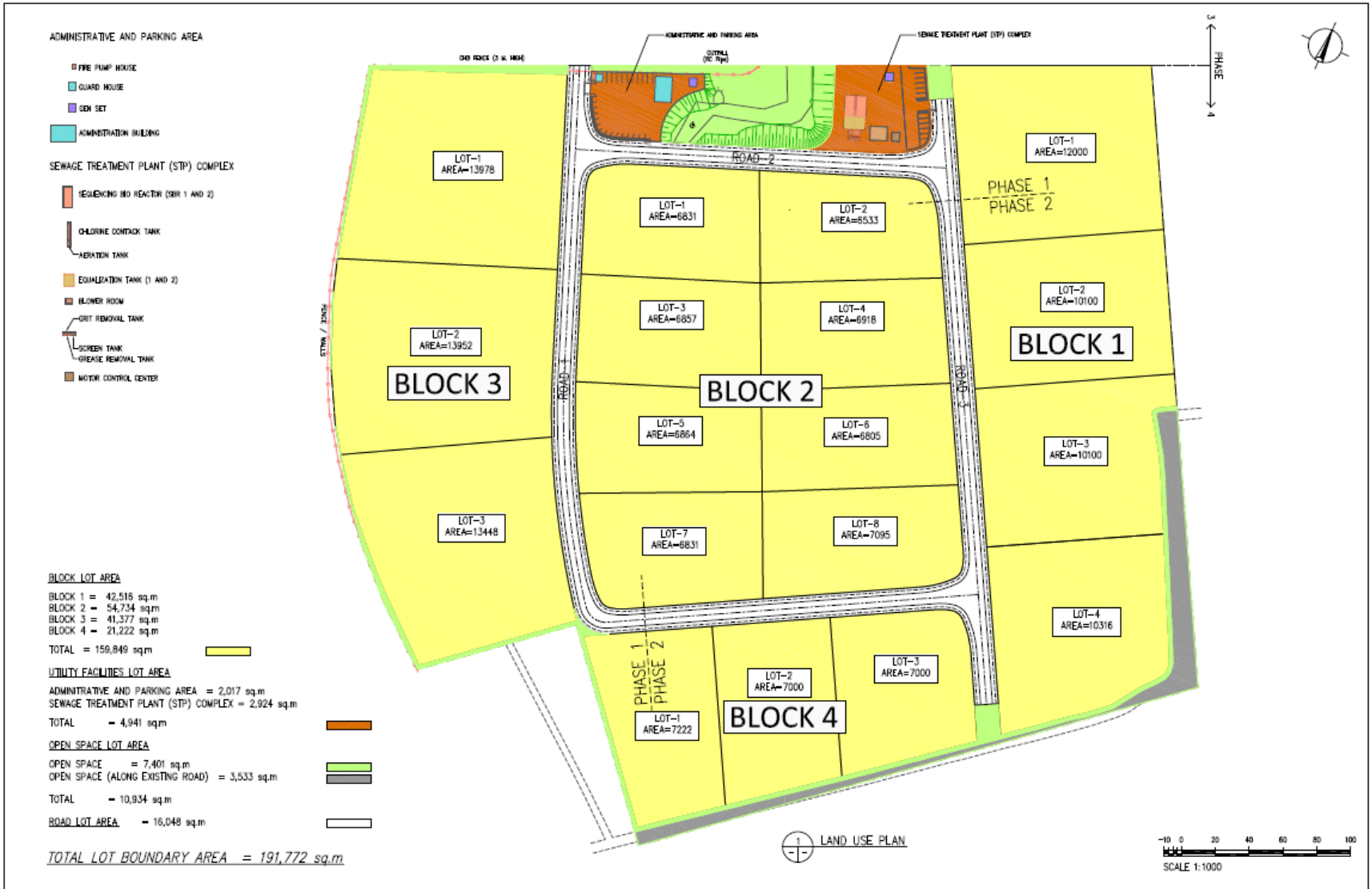
SUBMITTALS/S: Sanitary/Drainage Layout Plan drawn at a paper size of 20"x30" with a suitable scale and details, in two (2) copies, one (1) copy white/blue print copy, and one (1) reproducible, and two (2) copies of design computations, all documents shall be duly signed and sealed by a licensed Sanitary Engineer.

ELECTRICAL

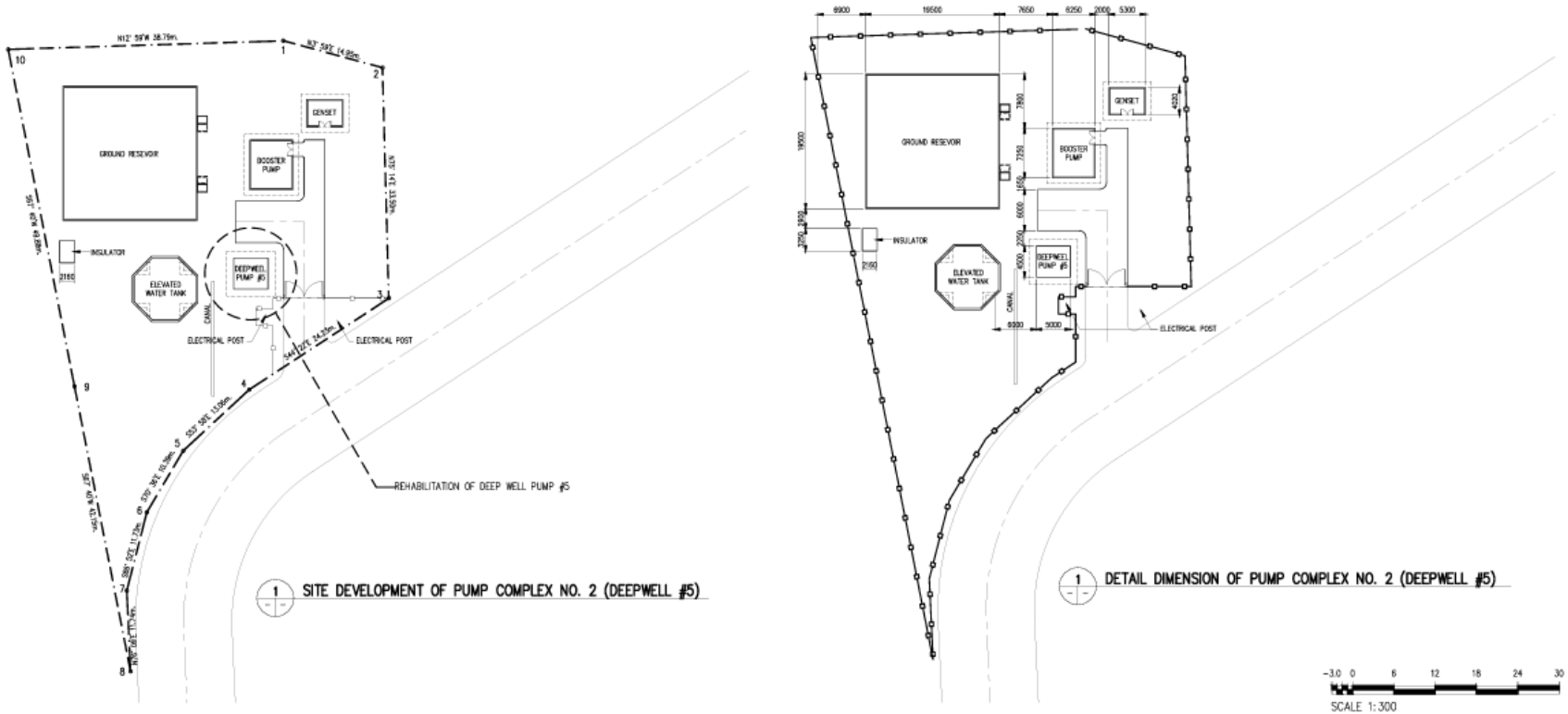
i. The bidder shall prepare a design for the electrical and power supply system of the building and facilities in accordance with the Electrical Code of the Philippines and the Building Code of the Philippines.
ii. The bidder shall prepare a design for the electrical and power supply system considering case of maintenance and prevention of electrical connection.
iii. Electrical power supply will be sourced from any electric supplier or through a generating set as may be necessary.

SUBMITTAL/S: Electrical Layout Plan showing system of wiring, source distribution, riser diagram, panel boxes and switches, and all other pertinent material required. Two (2) copies of plans drawn at a paper size of 20"x30" with a suitable scale and details, one (1) copy white/blue print copy, and one (1) reproducible, and two (2) copies of design computations, all documents shall be duly signed and sealed by a licensed Professional Electrical Engineer.

Section VII. Drawings


ADMINISTRATIVE AND PARKING AREA
FIRE PUMP HOUSE
GUARD HOUSE
GEN SET
ADMINISTRATION BUILDING
SEWAGE TREATMENT PLANT (STP) COMPLEX
SEQUENCING BIO REACTOR (SBR 1 AND 2)
CHLORINE CONTACT TANK
AERATION TANK
EQUALIZATION TANK (1 AND 2)
BLOWER ROOM
GRIT REMOVAL TANK
SCREEN TANK
GREASE REMOVAL TANK
MOTOR CONTROL CENTER
ADMINISTRATIVE AND PARKING AREA
SEWAGE TREATMENT PLANT (STP) COMPLEX
OUTFALL (RC Pipe)
CHB FENCE (3 M. HIGH)
PHASE 4
ROAD 2
ROAD 1
ROAD 3
PHASE 1
PHASE 2
BLOCK 1
BLOCK 2
BLOCK 3
BLOCK 4
LOT-1 AREA=13978
LOT-2 AREA=13952
LOT-3 AREA=13448
LOT-1 AREA=6831
LOT-2 AREA=6533
LOT-3 AREA=6857
LOT-4 AREA=6918
LOT-5 AREA=6864
LOT-6 AREA=6805
LOT-7 AREA=6831
LOT-8 AREA=7095
LOT-1 AREA=12000
LOT-2 AREA=10100
LOT-3 AREA=10100
LOT-4 AREA=10316
LOT-1 AREA=7222
LOT-2 AREA=7000
LOT-3 AREA=7000
BLOCK LOT AREA
BLOCK 1 = 42,516 sq.m
BLOCK 2 = 54,734 sq.m
BLOCK 3 = 41,377 sq.m
BLOCK 4 = 21,222 sq.m
TOTAL = 159,849 sq.m
UTILITY FACILITIES LOT AREA
ADMINITRATIVE AND PARKING AREA = 2,017 sq.m
SEWAGE TREATMENT PLANT (STP) COMPLEX = 2,924 sq.m
TOTAL = 4,941 sq.m
OPEN SPACE LOT AREA
OPEN SPACE = 7,401 sq.m
OPEN SPACE (ALONG EXISTING ROAD) = 3,533 sq.m
TOTAL = 10,934 sq.m
ROAD LOT AREA = 16,048 sq.m
TOTAL LOT BOUNDARY AREA = 191,772 sq.m
1 LAND USE PLAN
-10 0 20 40 60 80 100
SCALE 1:1000
CONSULTANT:
INFRA CONSULTANTS IN THE PHILS.(ICP) INC.
Innovative Engineering Solutions
CHECKED BY:
JACINTO M. PAGUIGAN
TEAM LEADER
OWNER:
National Development Company
RECOMMENDING APPROVAL:
FRUMENCIO T. TAGUIANO
TECHNICAL CONSULTANT
APPROVED BY:
SATURNINO H. MEJIA
ASST. GENERAL MANAGER
PROJECT TITLE:
PROCUREMENT OF CONSULTING SERVICES FOR THE REVISION OF DESIGN OF WATER SUPPLY SYSTEM FOR THE NDC INDUSTRIAL ESTATE PROJECT
BRGY. HAMAYAO, DASMARIÑAS, CAVITE
REVISIONS:
NO. DATE NATURE OF REVISIONS APPROVED
DESIGNER:
ROMEO P. DUMALOAN
SR. ROAD ENGINEER
PRC No.: 0000000 PTR No.: 0821029
DATE ISSUED: DEC. 23, 1968 DATE ISSUED: NOV 24, 2015
VALID UNTIL: NOV. 26, 2017 TIN: 191-583-543
SHEET CONTENT:
LAND USE PLAN
SHEET NUMBER:
P-1
4 OF 70

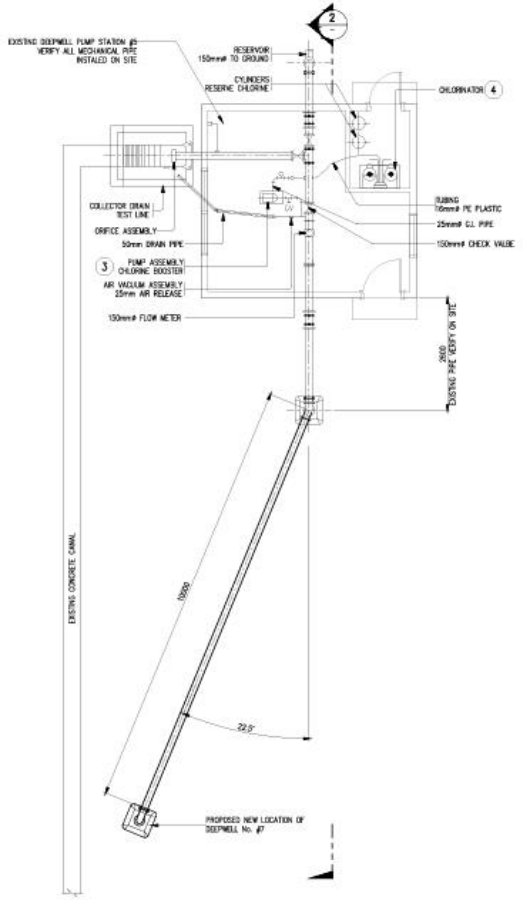
c:\users\user-pc\desktop\national development company_august 06, 2019\X-Ref\Pump Complex 2 (deepwell 5).jpg



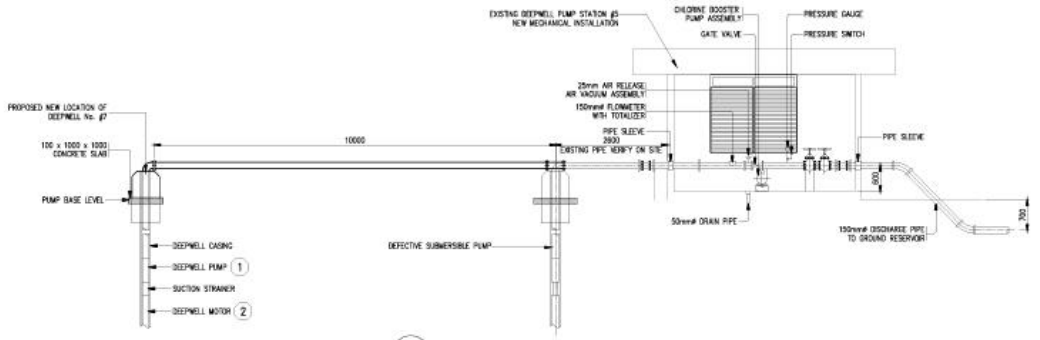
1 SITE DEVELOPMENT OF PUMP COMPLEX NO. 2 (DEEPWELL #5)

1 DETAIL DIMENSION OF PUMP COMPLEX NO. 2 (DEEPWELL #5)

CONSULTANT:	OWNER:	PROJECT TITLE:	REVISIONS:	DESIGNER:	SHEET CONTENT:	SHEET NUMBER:
INFRA CONSULTANTS IN THE PHILS.(ICP) INC. *Innovative Engineering Solutions* CHECKED BY: JACINTO M. DAMUDAN TEAM LEADER	National Development Company RECOMMENDING APPROVAL: FRUMENCIO C. ROQUINAO TECHNICAL CONSULTANT APPROVED BY: SATURNINO C. DEJA ASST. GENERAL MANAGER	**PROCUREMENT OF CONSULTING SERVICES FOR THE REVISION OF DETAILED ENGINEERING DESIGN OF THE NDC INDUSTRIAL ESTATE PROJECT IN BRGY. LANGKAAN 2, DASMARIÑAS, CAVITE**	NO. / DATE / NATURE OF REVISIONS / APPROVED	TEDDY SIE SAN JUAN SR. MECHANICAL ENGINEER REG No.: 0009966 PTR No.: 1463291 DATE ISSUED: JUL. 16, 1975 DATE ISSUED: MAY. 22, 2015 VALID UNTIL: NOV. 05, 2018 TIN: 128-332-427	PUMP COMPLEX NO. 2 (DEEPWELL #5) SITE DEVELOPMENT AND DETAIL DIMENSION	I-3 139/172



1 REHABILITATION OF PUMP STATION (DEEPWELL #5)



2 SECTION

ITEM NO.	DISCRIPTION	CAPACITY	TDH (m)	ELECTRICAL CHARACTERISTICS				QTY.	REMARKS
				POWER	VOLTS	PHASE	HZ		
1	SUBMERSIBLE PUMP	15 LPS	100	30 HP	230	3	60	1	–
2	CHLORINE BOOSTER PUMP	0.40 LPS	33	1 HP	230	–	60	1	–
3	CHLORINATOR	25Lbs/DAY	–	–	–	–	–	–	FEED RANGE 20 TO 1
1	EXHAUST FAN	40 CMM	–	200W	230	1	60	1	–

NOTES :

1. ALL ABOVE GROUND PIPES SHALL BE BACK STEEL PIPE, ASTM, A120, SCH. 40, SEAMLESS, UNLESS INDICATED OTHERWISE.
2. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL, INSTALLATION (SHOP) DRAWING PRIOR TO ACTUAL CONSTRUCTION IMPLEMENTATION.

3 SITE PHOTO OF DEEPWELL PUMP STATION #5

-0.5 0 1 2 3 4 5
SCALE 1:50

CONSULTANT:
INFRA CONSULTANTS IN THE PHILS.(ICP) INC.
Innovative Engineering Solutions
CHECKED BY:
JACINTO U. PADUDAN
P.E.R. 0000

OWNER:
National Development Company
RECOMMENDING APPROVAL:
FRUMENCIO C. ROSQUINO
TECHNICAL CONSULTANT
APPROVED BY:
SATURNINO C. MEJIA
ASST. GENERAL MANAGER

PROJECT TITLE:
PROCUREMENT OF CONSULTING SERVICES FOR THE REVISION OF DETAILED ENGINEERING DESIGN OF THE NDC INDUSTRIAL ESTATE PROJECT IN
BRGY. LANGKAAN 2, DASMARIÑAS, CAVITE

REVISIONS:

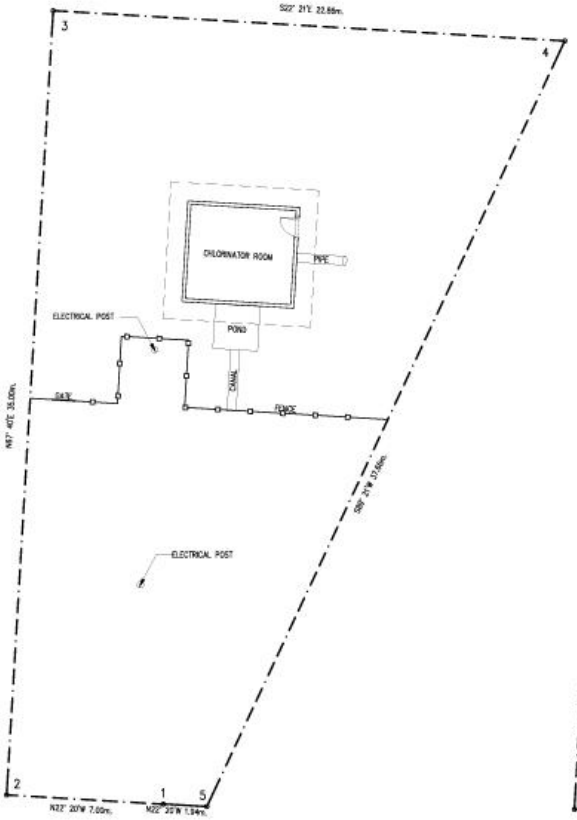
NO.	DATE	NATURE OF REVISIONS	APPROVED

DESIGNER:
TEDDY SIE SAN JUAN
SR. MECHANICAL ENGINEER
REG No.: 0006966 PTR No.: 1463291
DATE ISSUED: JUL. 16, 1979 DATE ISSUED: MAY. 22, 2015
VALID UNTIL: NOV. 05, 2016 TIN: 128-332-427

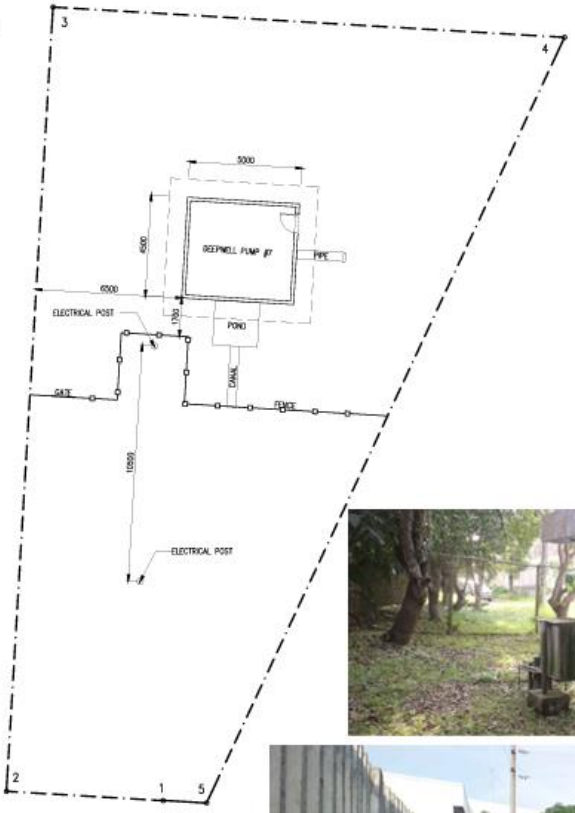
SHEET CONTENT:
PUMP COMPLEX NO. 2
REHABILITATION OF PUMP STATION AND
SITE PHOTO OF DEEPWELL PUMP STATION #5

SHEET NUMBER:
I-4
140172

C:\Users\ICP-PC\Desktop\National Development Company_August 08, 2016\06. Mechanical\I-4. Pump complex 2 Equipment.dgn 8/9/2016 3:24 PM

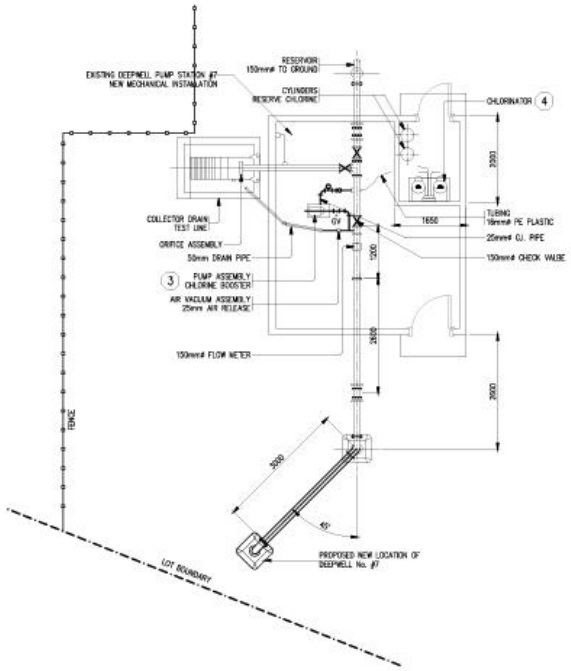


SITE DEVELOPMENT OF DEEPWELL No.7

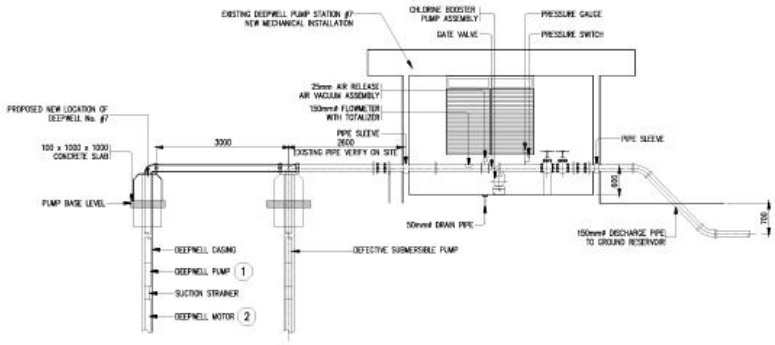


DETAILED DIMENSION OF DEEPWELL No.7

CONSULTANT:	OWNER:	PROJECT TITLE:	REVISIONS:	DESIGNER:	SHEET CONTENT:	SHEET NUMBER:
INFRA CONSULTANTS IN THE PHILS.(ICP) INC. *Innovative Engineering Solutions* CHECKED BY: JACINTO M. MALIDAN TEAM LEADER	National Development Company RECOMMENDING APPROVAL: FRUMENCIO P. MOLINAO TECHNICAL CONSULTANT APPROVED BY: SATURNINO C. VEGA ASST. GENERAL MANAGER	**PROCUREMENT OF CONSULTING SERVICES FOR THE REVISION OF DETAILED ENGINEERING DESIGN OF THE NDC INDUSTRIAL ESTATE PROJECT IN BRGY. LANGKAAN 2, DASMARIÑAS, CAVITE**	NO. / DATE / NATURE OF REVISIONS / APPROVED	TEDDY SE SAN JUAN SR. MECHANICAL ENGINEER REG No.: 0000666 PTR No.: 1463291 DATE ISSUED: JUL. 16, 1975 DATE ISSUED: MAY. 22, 2015 VALID UNTIL: NOV. 05, 2016 TIN: 128-332-427	REHABILITATION OF PUMP STATION (DEEPWELL #7) SITE DEVELOPMENT AND DETAIL DIMENSION	I-7 143/172



1 REHABILITATION OF PUMP STATION (DEEPWELL #7)



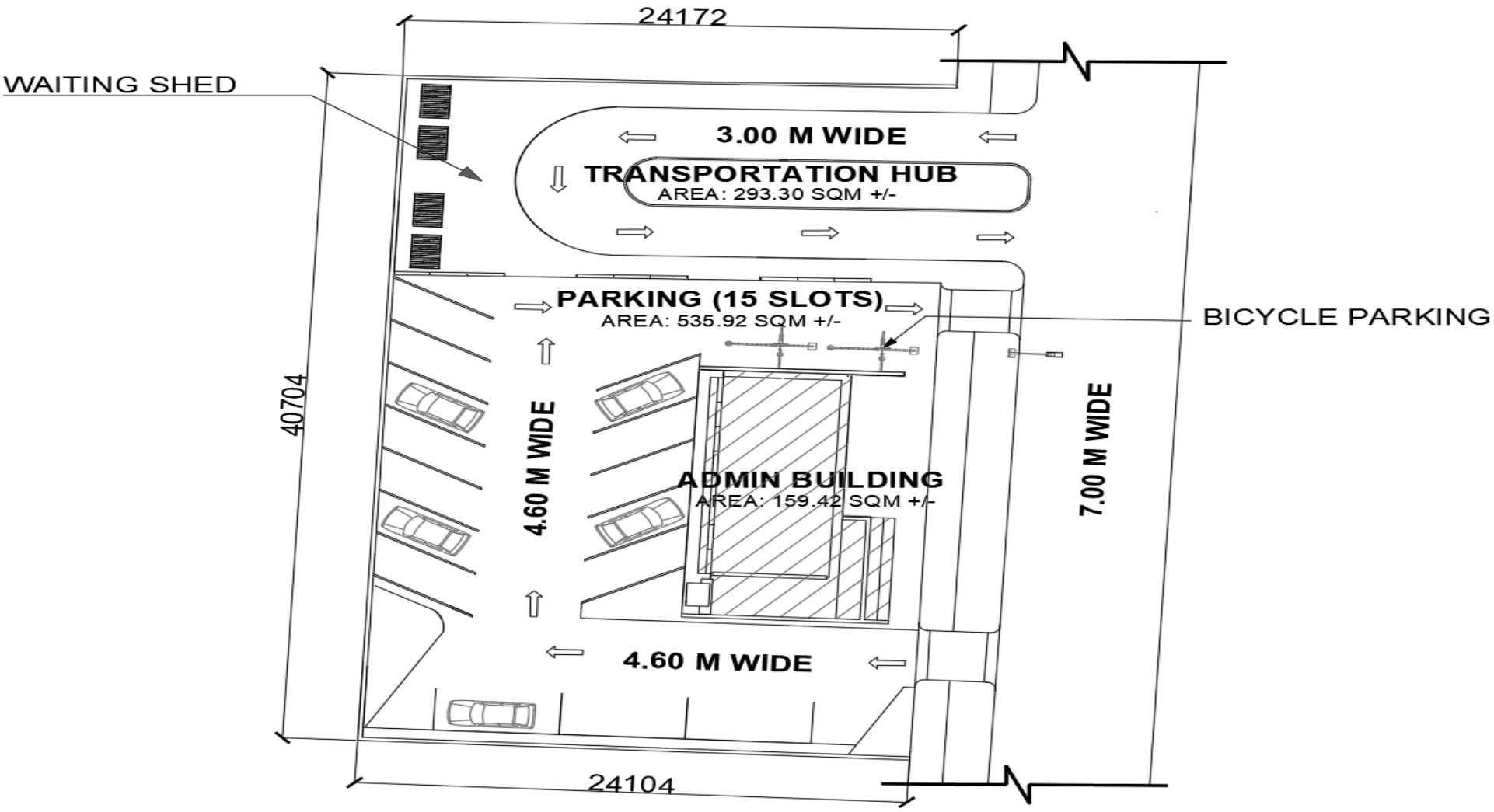
2 SECTION

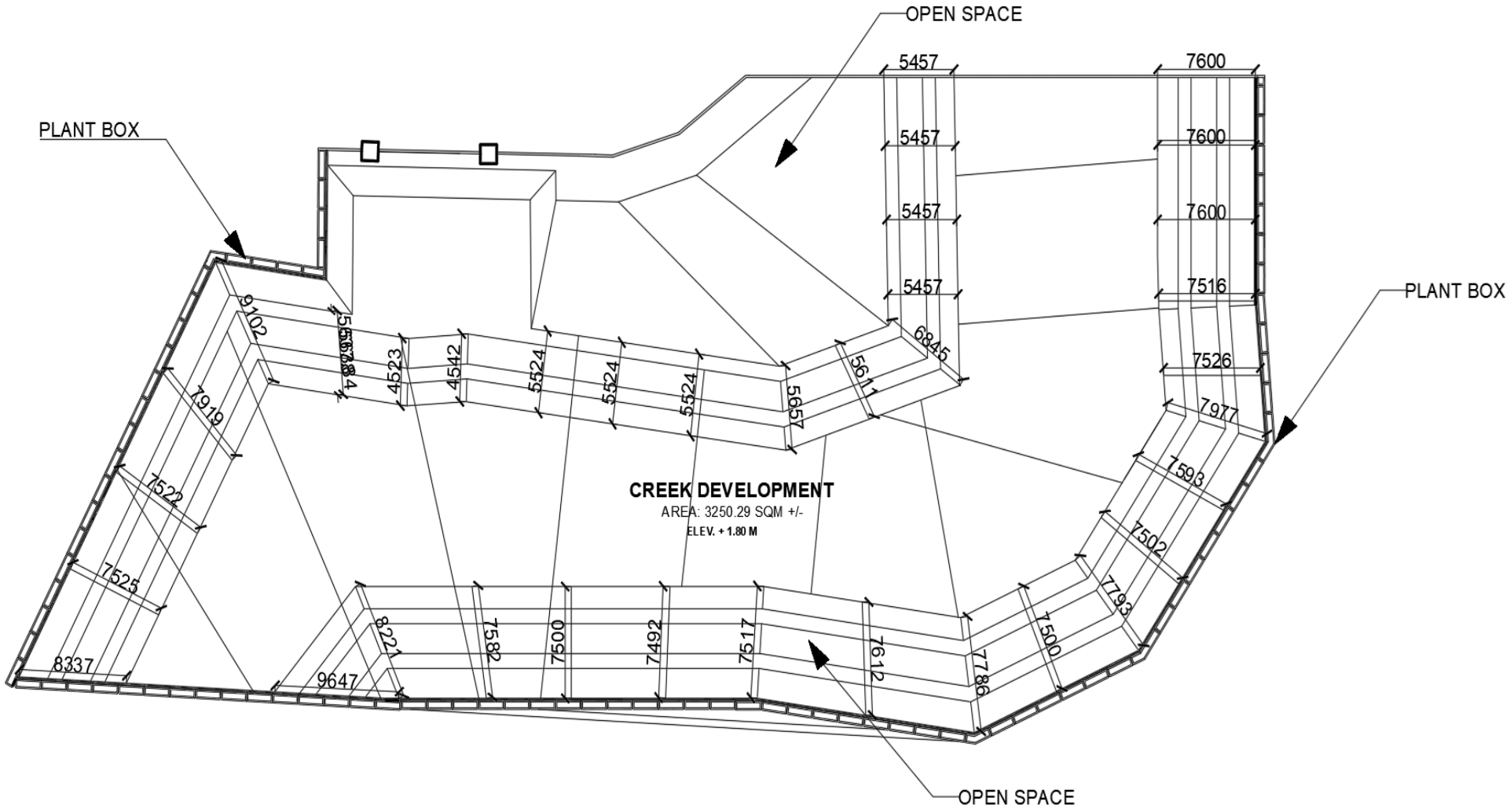
CONSULTANT:	OWNER:	PROJECT TITLE:	REVISIONS:	DESIGNER:	SHEET CONTENT:	SHEET NUMBER:
INFRA CONSULTANTS IN THE PHILS (ICP) INC. *Innovative Engineering Solutions* CHECKED BY: MONETO M. PANGILINAN TEAM LEADER	National Development Company RECOMMENDING APPROVAL: FRUMENCIO C. PASCUALINO TECHNICAL CONSULTANT APPROVED BY: SATURNINO C. MEJIA ASST. GENERAL MANAGER	**PROCUREMENT OF CONSULTING SERVICES FOR THE REVISION OF DETAILED ENGINEERING DESIGN OF THE NDC INDUSTRIAL ESTATE PROJECT IN BRGY. LANGKAAN 2, DASMARIÑAS, CAVITE**	NO. | DATE | NATURE OF REVISIONS | APPROVED	TEDDY SE SAN JUAN SR. MECHANICAL ENGINEER REG No.: 0009998 | PTR No.: 1463291 DATE ISSUED: JUL. 16, 1975 | DATE ISSUED: MAY. 22, 2015 VALID UNTIL: NOV. 05, 2016 | TIN: 128-332-427	REHABILITATION OF PUMP STATION (DEEPWELL #7) SITE PHOTO OF DEEPWELL PUMP #7	I-8 144/172

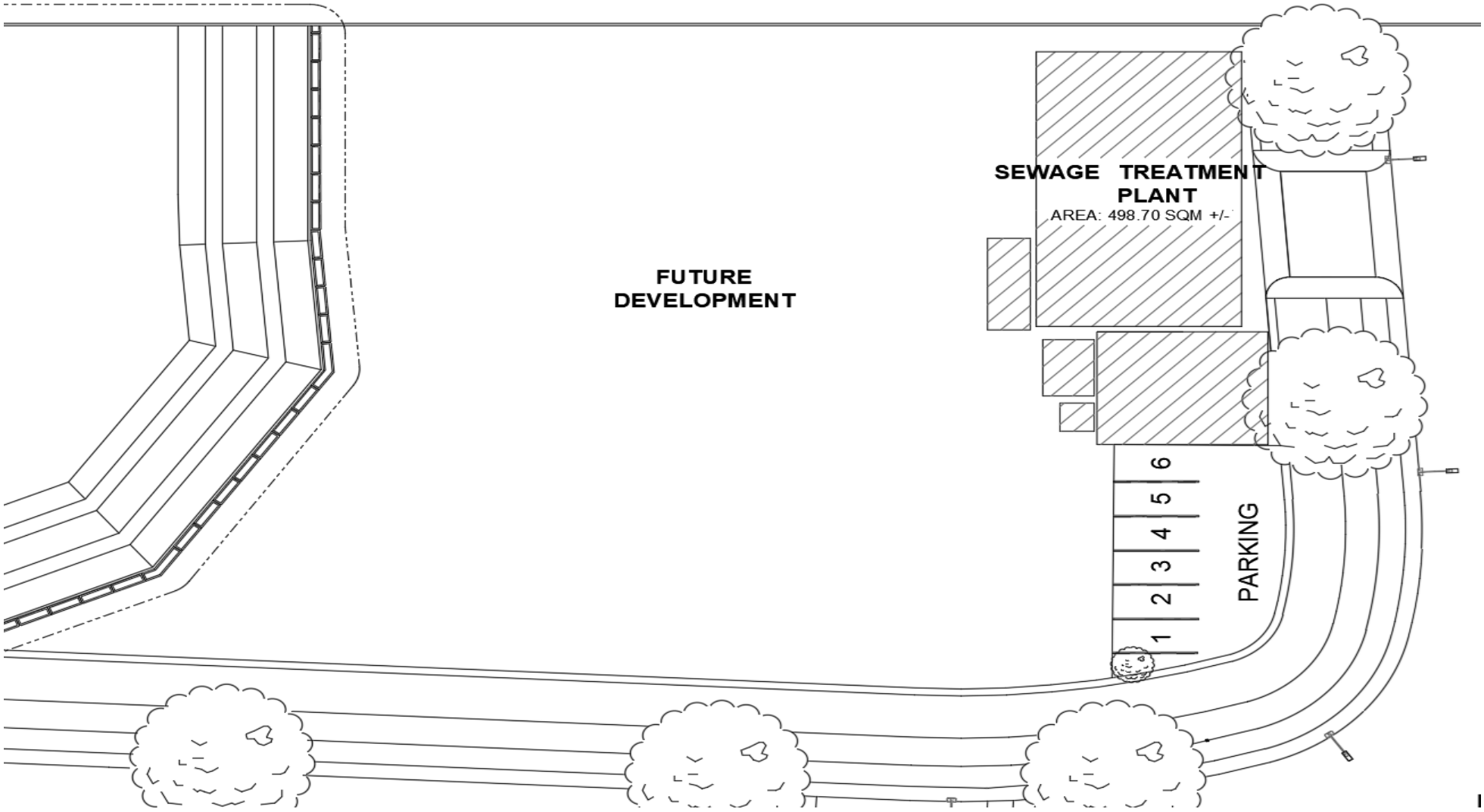

NDC
INDUSTRIAL ESTATE PROJECT

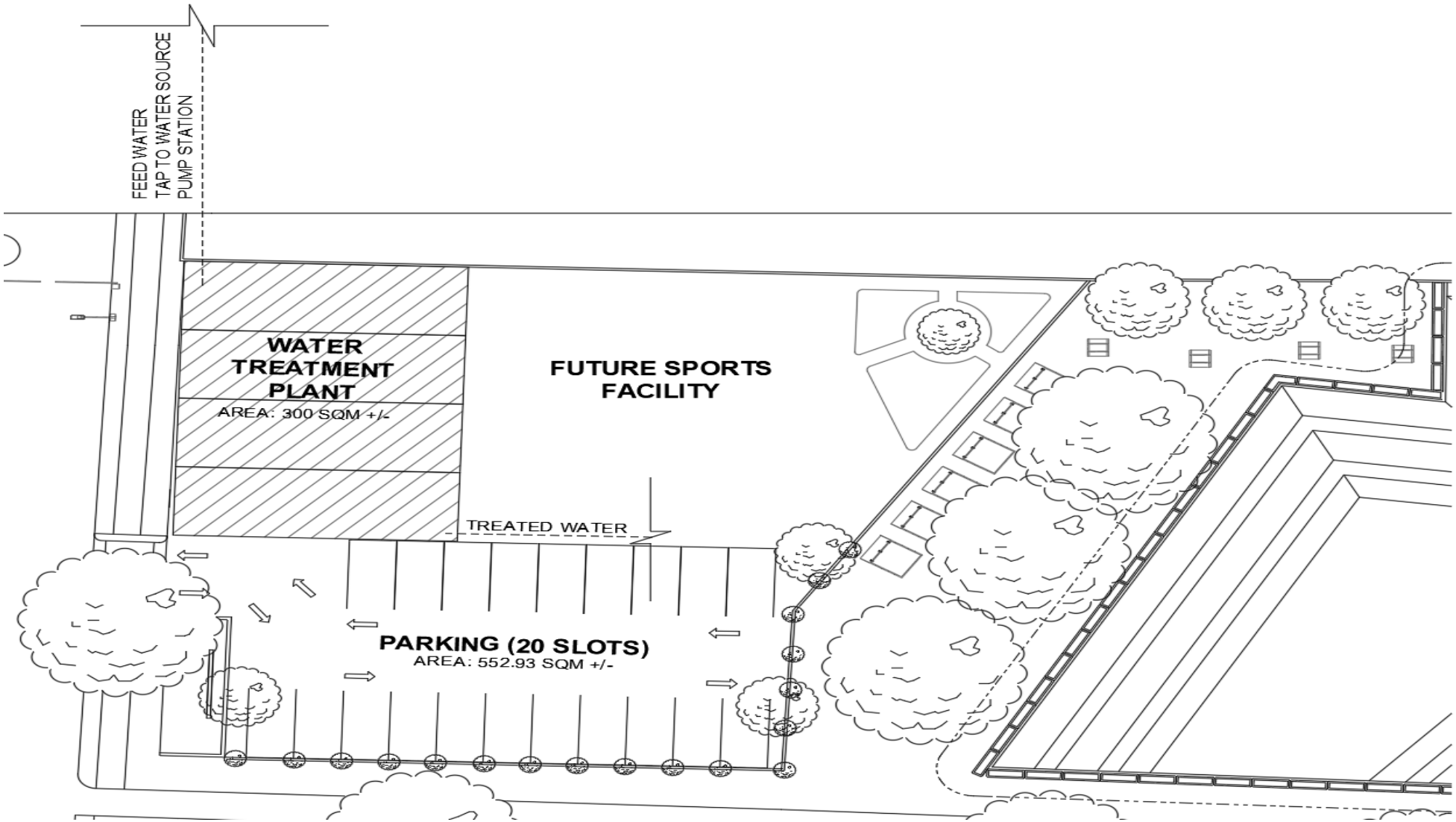
WATER STATION

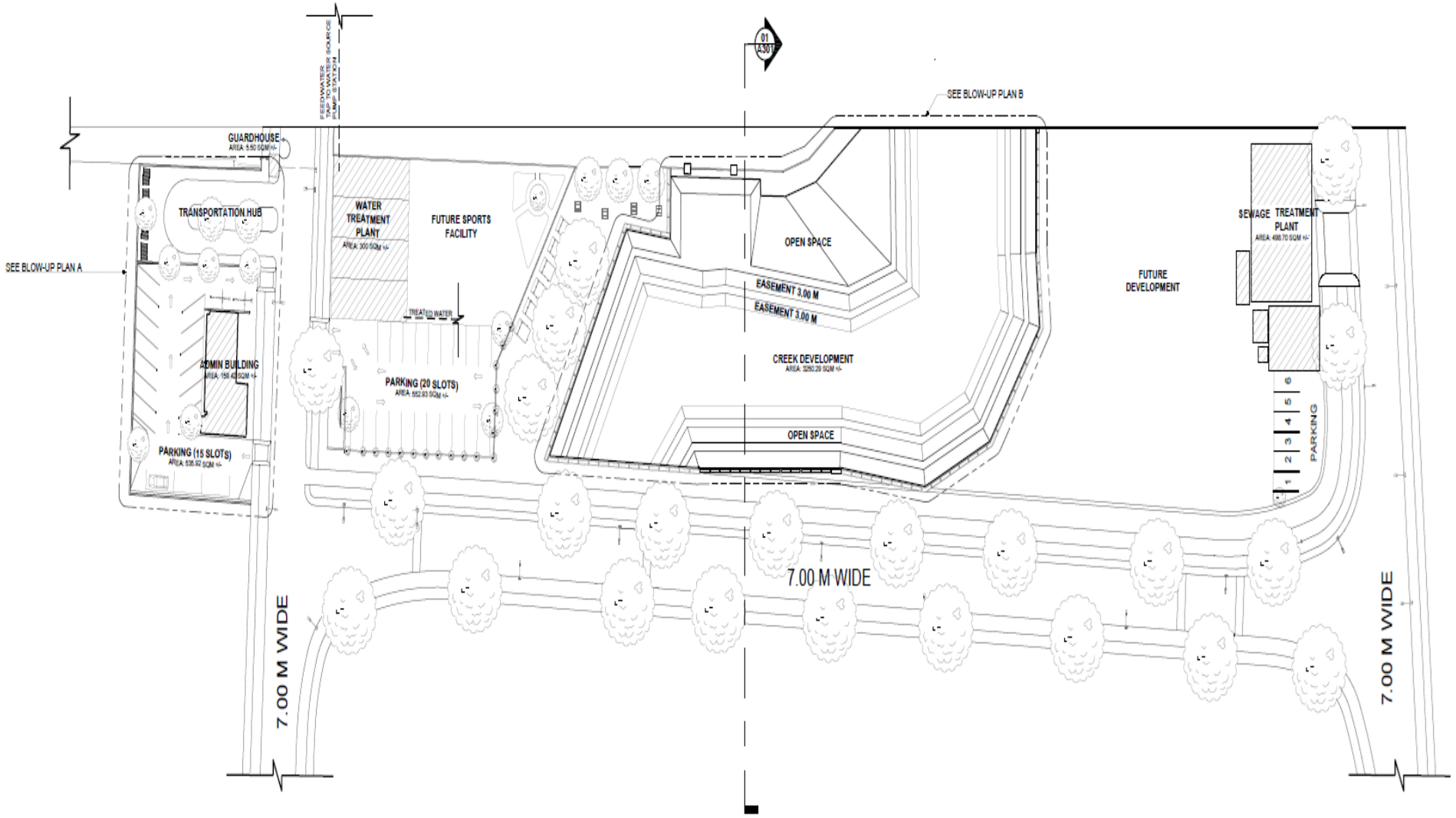
WA
STATION


24172
WAITING SHED
3.00 M WIDE
TRANSPORTATION HUB
AREA: 293.30 SQM +/-
PARKING (15 SLOTS)
AREA: 535.92 SQM +/-
BICYCLE PARKING
40704
4.60 M WIDE
ADMIN BUILDING
AREA: 159.42 SQM +/-
7.00 M WIDE
4.60 M WIDE
24104


OPEN SPACE
PLANT BOX
PLANT BOX
OPEN SPACE
5457
5457
5457
5457
7600
7600
7600
7516
7526
9102
4523
4542
5524
5524
5524
5657
5611
6845
7919
7522
7525
8337
9647
8221
7582
7500
7492
7517
7612
7786
7500
7793
7502
7593
7977
CREEK DEVELOPMENT
AREA: 3250.29 SQM +/-
ELEV. + 1.80 M


SEWAGE TREATMENT PLANT
AREA: 498.70 SQM +/-
FUTURE DEVELOPMENT
PARKING
1
2
3
4
5
6


FEED WATER
TAP TO WATER SOURCE
PUMP STATION
WATER TREATMENT PLANT
AREA: 300 SQM +/-
FUTURE SPORTS FACILITY
TREATED WATER
PARKING (20 SLOTS)
AREA: 552.93 SQM +/-


FEEDWATER TREATWATER SOURCE PUMP STATION
01
A301
SEE BLOW-UP PLAN B
GUARDHOUSE
AREA: 5.50 SQM +/-
TRANSPORTATION HUB
SEE BLOW-UP PLAN A
WATER TREATMENT PLANT
AREA: 300 SQM +/-
FUTURE SPORTS FACILITY
TREATED WATER
OPEN SPACE
EASEMENT 3.00 M
EASEMENT 3.00 M
FUTURE DEVELOPMENT
SEWAGE TREATMENT PLANT
AREA: 498.70 SQM +/-
ADMIN BUILDING
AREA: 150.42 SQM +/-
PARKING (20 SLOTS)
AREA: 552.93 SQM +/-
CREEK DEVELOPMENT
AREA: 3260.20 SQM +/-
OPEN SPACE
PARKING (15 SLOTS)
AREA: 535.92 SQM +/-
1 2 3 4 5 6
PARKING
7.00 M WIDE
7.00 M WIDE
7.00 M WIDE

Section VIII. Bill of Quantities

A.	GENERAL REQUIREMENTS			
ITEM NO.	**DESCRIPTION**	**QUANTITY**	**UNIT COST**	**COST**
1.0	General Design and Construction Requirements	1 Lot		
2.0	Other General Requirements	1 Lot		
B.	**UPGRADING OF MAIN ENTRANCE**			
1.0	Additional Pavement	1 Lot		
2.0	Landscaping and Design	1 Lot		
3.0	Elevated Guard House	1 Lot		
4.0	Automatic Guard Rail Barrier	1 Lot		
C.	**STREET LIGHTING**			
1.0	Single Arm Post. With Pedestal and Solar Street Light	1 Lot		
D.	**SUNKEN AREA, WTP AND STP AREA**			
1.0	Impounding Facility	1 Lot		
2.0	Water Treatment Plant	1 Lot		
3.0	Sewerage Treatment Plant	1 Lot		
4.0	Deep Well	1 Lot		
E.	**WATER & ELECTRO-MECAHNICAL SYSTEMS**			
1.0	Site Works for Domestic Water Supply	1 Lot		

2.0	Civil Works for Domestic Water Supply	1 Lot		
3.0	Mechanical/Sanitary Works for Domestic	1 Lot		
4.0	Mechanical/Sanitary Works for FirePro	1 Lot		
5.0	Mechanical/Sanitary Works for Well	1 Lot		
6.0	Electrical Works for Domestic Water Supply	1 Lot		
7.0	Electrical Works for FirePro Supply	1 Lot		
8.0	Electrical Works for Well Supply	1 Lot		
F.	**STRUCTURE**			
1.0	Slope Protection with Weep Holes	1 Lot		
G.	**DETAILED ENGINEERING DESIGN**			
1.0	Architectural	1 Lot		
2.0	Civil/Geotechnical Design	1 Lot		
3.0	Structural Design	1 Lot		
4.0	Mechanical Design	1 Lot		
5.0	Electrical Design	1 Lot		
6.0	Environmental and Sanitary Design	1 Lot		
7.0	Geodetic/Survey Design	1 Lot		
8.0	CAD Operator	1 Lot		
9.0	Admin and Reproduction	1 Lot		

Section IX. Checklist of Technical and Financial Documents

Each Bidder shall submit **one (1) Original or Certified True Copy and two (2) copies** of the first and second components of its bid.

The original copy of the documents which cannot be submitted should be stamped and signed as "Certified True Copy of the Original" by the duly authorized representative of the bidder.

I. TECHNICAL COMPONENT ENVELOPE

Class "A" Documents

Legal Documents

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

(b) "Annex A" of the Certificate of PhilGEPS Registration (Platinum Membership) in lieu of the Class "A" Documents uploaded and maintained current and updated in the PhilGEPS

Technical Documents

☐ (b) Statement of the prospective bidder of all its ongoing government and private contracts, including contracts awarded but not yet started, if any, whether similar or not similar in nature and complexity to the contract to be bid **(Using the prescribed format in Section IX. Bidding Forms of Bidding Documents)**; **and**

☐ (c) Statement of the bidder's Single Largest Completed Contract (SLCC) similar to the contract to be bid, except under conditions provided under the rules **(Using the prescribed format in Section IX. Bidding Forms of Bidding Documents)**; **and**

☐ (d) Valid PCAB License **and** registration for the type and cost of the contract to be bid; **and**

☐ (e) Original copy of Bid Security. If in the form of a Surety Bond, submit also a certification issued by the Insurance Commission **or** original copy of Notarized Bid Securing Declaration; **and**

(f) Project Requirements, which shall include the following:

☐ a. Organizational chart for the contract to be bid;

☐ b. List of contractor's key personnel (*e.g.*, Project Manager, Project Engineers, Materials Engineers, and Foremen), to be assigned to the contract to be bid, with their complete qualification and experience data;

☐ c. List of contractor's major equipment units, which are owned, leased,

and/or under purchase agreements, supported by proof of ownership or certification of availability of equipment from the equipment lessor/vendor for the duration of the project, as the case may be; **and**

☐ (g) Original duly signed Omnibus Sworn Statement (OSS) **and** if applicable, Original Notarized Secretary's Certificate in case of a corporation, partnership, or cooperative; or Original Special Power of Attorney of all members of the joint venture giving full power and authority to its officer to sign the OSS and do acts to represent the Bidder.

Financial Documents

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

Class "B" Documents

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

II. FINANCIAL COMPONENT ENVELOPE

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

Other documentary requirements under RA No. 9184

☐ (k) Original of duly signed Bid Prices in the Bill of Quantities (use Detailed Financial Bid Form); **and**

☐ (l) Duly accomplished Detailed Estimates Form/Detailed Unit Price Analysis (DUPA), including a summary sheet indicating the unit prices of construction materials, labor rates, and equipment rentals used in coming up with the Bid **and**

(m) Cash Flow by Quarter.

☐

Section X. Bidding Forms

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.

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

---

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

[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: _____

Detailed Financial Bid Form

Project: Design and Build of the NDC Green Industrial Sustainable Ecozone (NGIE) Project
Location: Brgy. Langkaan 2, Dasmariñas City, Cavite
Project Reference No.: MR24-10-128

ITEM NO.	DESCRIPTION	QUANTITY	UNIT COST	COST

A.	**GENERAL REQUIREMENTS**			
1.0	General Design and Construction Requirements			
	Work 1			
	Work 2			
	Work 3 and so on			
	Sub-Total			
2.0	Other General Requirements			
	Work 1			
	Work 2			
	Work 3 and so on			
	Sub-Total			
	Total (Item A)			
B.	**UPGRADING OF MAIN ENTRANCE**			
1.0	Additional Pavement			
	Work 1			
	Work 2			
	Work 3 and so on			
	Sub-Total			
2.0	Landscaping and Design			
	Work 1			
	Work 2			
	Work 3 and so on			
	Sub-Total			
3.0	Guard House			
	Work 1			
	Work 2			
	Work 3 and so on			
	Sub-Total			
4.0	Automatic Guard Rail Barrier			
	Work 1			
	Work 2			
	Work 3 and so on			
	Sub-Total			
	Total (Item B)			
C.	**STREET LIGHTING**			
1.0	Single Arm Post. With Pedestal and Solar Street Light			
	Work 1			
	Work 2			
	Work 3 and so on			
Total (Item C)				
D.	**SUNKEN AREA, WTP AND STP AREA**			
1.0	Impounding Facility			
	Work 1			

	Work 2			
	Work 3 and so on			
	Sub-Total			
2.0	Water Treatment Plant			
	Work 1			
	Work 2			
	Work 3 and so on			
	Sub-Total			
3.0	Sewerage Treatment Plant			
	Work 1			
	Work 2			
	Work 3 and so on			
	Sub-Total			
4.0	Deep Well			
	Work 1			
	Work 2			
	Work 3 and so on			
	Sub-Total			
	Total (Item D)			
E.	**WATER & ELECTRICAL SYSTEM**			
1.0	Site Works for Domestic Water Supply			
	Work 1			
	Work 2			
	Work 3 and so on			
	Sub-Total			
2.0	Civil Works for Domestic Water Supply			
	Work 1			
	Work 2			
	Work 3 and so on			
	Sub-Total			
3.0	Mechanical/Sanitary Works for Domestic			
	Work 1			
	Work 2			
	Work 3 and so on			
	Sub-Total			
4.0	Mechanical/Sanitary Works for FirePro			
	Work 1			
	Work 2			
	Work 3 and so on			
	Sub-Total			
5.0	Mechanical/Sanitary Works for Well			
	Work 1			

	Work 2			
	Work 3 and so on			
	Sub-Total			
6.0	Electrical Works for Domestic Water Supply			
	Work 1			
	Work 2			
	Work 3 and so on			
	Sub-Total			
7.0	Electrical Works for FirePro Supply			
	Work 1			
	Work 2			
	Work 3 and so on			
	Sub-Total			
8.0	Electrical Works for Well Supply			
	Work 1			
	Work 2			
	Work 3 and so on			
	Sub-Total			
	Total (Item E)			
F.	**STRUCTURE**			
1.0	Slope Protection with Weep Holes			
	Work 1			
	Work 2			
	Work 3 and so on			
	Total (Item E)			
G.	**DETAILED ENGINEERING DESIGN**			
1.0	Architectural			
2.0	Civil/Geotechnical Design			
3.0	Structural Design			
4.0	Mechanical Design			
5.0	Electrical Design			
6.0	Environmental and Sanitary Design			
7.0	Geodetic/Survey Design			
8.0	CAD Operator			
9.0	Admin and Reproduction			
	Total (Item E)			
TOTAL BID AMOUNT (PhP)				

Total Bid Amount in Words: _____

*Note: All amounts shall be VAT inclusive.

Submitted by : _____ Date: _____

(Printed Name & Signature)

Designation : _____

UNIT PRICE ANALYSIS

Item No.	Unit:
Description of Work:	Quantity:

A. MATERIALS						
No.	Description	Qty	Unit	Unit Price		Amount (PhP)
SUB TOTAL - A						
B. LABOR						
No.	Description	Qty	Unit	No. of Days	Unit Price	Amount
SUB TOTAL - B						
C. EQUIPMENT						
No.	Description	Qty	Unit	No. of Hours	Unit Price	Amount
SUB TOTAL - C						
D. TOTAL DIRECT COST (A+B+C)						
E. OVERHEAD, CONTINGENCIES AND MISCELLANEOUS (OCM)						
F. CONTRACTOR'S PROFIT (CP)						
G. VALUE ADDED TAX (VAT)						
TOTAL UNIT COST						

Submitted by:

(Printed Name & Signature) _____ (Date) _____

Project :
Location :

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]

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]

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]

Statement of All Ongoing Government and Private Contracts Including Contracts Awarded But Not Yet Started, If Any, Whether Similar or Not in Nature and Complexity to the Contract to be Bid

Business Name : _____

Business Address : _____

Name of the Contract and Project Location	a. Owner's Name b. Address c. Telephone Nos.	Nature of Work	Amount of Contract and Value of Outstanding Contract	a. Date of Contract b. Duration of the Contract c. Estimated Date of Completion	Bidder's Role		% of Accomplishment (based on latest % accomplishment report with a cut-off date of not earlier than November 2024)	
					Description	%	Planned	Actual
Ongoing								
Contracts Awarded But Not Yet Started								

Note: Bidder shall attach any of the following latest accomplishment report with a cut-off date of not earlier than November 2024, showing the percentages of planned and actual accomplishments:
a. Statement of Work Accomplished showing the percentages of planned and actual accomplishments, or
b. Updated Schedule Bar Chart with S-Curve, or
c. Any similar report showing the percentages of planned and actual accomplishments of the project.

Said reports must be duly signed by the project owner or its representative. The absence of such document is a ground for disqualification of the Bidder.

Submitted by : _____
(Printed Name & Signature)

Designation : _____

Date : _____

Statement of Single Largest Completed Contract (SLCC)

(Similar to the contract to be bid, within the last Ten (10) years from the date of submission and receipt of bids, the value of which must be at least fifty percent (50%) of the ABC)

Business Name : _____

Business Address : _____

Name of the Contract	a. Owner's Name b. Address c. Telephone Nos.	Nature of Work	Amount of Contract	a. Date of Contract b. Duration of the Contract c. Date Completed	Bidder's Role		Total Contract Value at Completion
					Description	%	

Note: Attach a certified true copy of the: 1) Notice of Award and/or Notice to Proceed; and 2) Certificate of Final Acceptance/Certificate of Satisfactory Completion. All the SLCC required documents should be issued by the client for the specified SLCC. In case of contracts with the private sector, an equivalent document shall be submitted.

Submitted by : _____

(Printed Name & Signature)

Designation : _____

Date : _____

List of Contractor's Equipment Pledged to the Contract, Supported by Certifications of Availability

Business Name : _____

Business Address : _____

Description	No. of Units	Model/Year Manufactured	Capacity/ Performance/ Size	Plate No.	Motor No./ Body No.	Specific Location	Condition	Proof of Ownership / Lessor or Vendor
A. Owned[1]								
B. Leased[2]								
C. Under Purchase Agreements[3]								

[1]Attached are copies of sales invoices, or Registration Certificates from LTO (as applicable).
[2]Attached are the certificates from the lessors that the equipment units under B (Lease) shall be available for this contract.
[3]Attached are the certifications from the vendor that the equipment units under C (Purchase Agreements) shall be available for this contract.

NATIONAL DEVELOPMENT COMPANY

NDC Green Industrial Sustainable Ecozone (NGIE) Development

Terms of Reference

Term Sheet

PROJECT TITLE	NDC Green Industrial Sustainable Ecozone Development
LOCATION	Barangay Langkaan, Dasmarinas, Cavite City
LAND AREA	19.2 Hectares
APPROVED BUDGET FOR THE CONTRACT	Philippine Pesos 230,107,918.80 (Two Hundred Thirty Million One Hundred Seven Thousand Nine Hundred Eighteen and 80/100)
FUNDING SOURCE	Internally Generated Funds (IGF)
PROJECT DURATION	78 Weeks (18 Months)
PROJECT DESCRIPTION	The National Development Company (NDC) is the state's investment arm – a government owned and controlled corporation that was established in 1919. Over the years, it has invested in more than 117 companies that are crucial in the development and industrialization of the country. In recent years, it has seen the need to catalyze and improve the country's ESG (environment and social governance) ranking which is considered to be one of the lowest in the Asia-Pacific region. To support this initiative, the NDC aims to develop one of the first, if not the first, government-owned Green Industrial Ecozone in the Philippines which promotes resource self-reliance, sustainability of operations, and reduction in carbon emissions. The ecozone is envisioned to house businesses specializing in emerging technologies, climate tech, and disaster resilience, among others.
MAJOR COMPONENTS OF THE PROJECT	Soil Testing Design and Build (Detailed Engineering Design) Landscaping and Open Space Street Lighting with LED Water Reservoir, Water Treatment Plant, Sewerage Treatment Plant Rehabilitation of Deep Wells and Pump Houses

	Green/Sustainability Certification
MODE OF PROCUREMENT AND AWARDING	In accordance to Republic Act 9184 and its IRR

Chapter 1: Project Description

I. BACKGROUND

The National Development Company (NDC) owns a 19.2-hectare land adjacent to the existing First Cavite Industrial Estate (FCIE) located in Barangay Langkaan, Dasmariñas City, Cavite, originally named the NDC Industrial Estate (NDCIE). In order to set the ecozone apart from others and align with the country's Philippine Development Plan of an inclusive-innovation-industrial strategy, the NDCIE is being redesigned and envisioned to be the NDC Green Industrial Sustainable Ecozone (NGIE). To achieve this vision, NDC must employ several strategies that provide sustainable alternatives to valuable resources such as water and power, as well as reduce waste through recycling, reusing, and resource use efficiency.

II. OBJECTIVE

To develop a Green Industrial Ecozone that promotes self-sustaining operations, reduced carbon footprint, and resource self-reliance.

To become one of the pioneering, if not the only, government-owned and led environmentally friendly and sustainable ecozone in the nation, attracting businesses specializing in emerging technologies, climate technology, disaster resilience, and other similar fields.

III. CONCEPTUAL DESIGN PRINCIPLES

The National Development Company (NDC) has prepared a conceptual design and plans for the NDC Green Industrial Sustainable Ecozone (NGIE). However, these designs shall serve as reference only and NDC shall not guarantee that the data is fully correct, updated, and applicable to the project at hand. The winning bidder shall be responsible for ascertaining the accuracy and applicability of all data especially as regards its final design and details of materials.

The conceptual design and plans are hereto attached as Annexes "A" and "B", respectively.

Open Space and Landscaping

Open space and landscaping often serve to improve the aesthetics of a location. However, these also provide other practical purposes such communal areas for recreation or, in cases of disaster risks, provide an evacuation or staging area.if all

Slope Protection & Flood Control (Creek Area)

Soil stability is one of the most important components of any industrial estate whose location should, ideally, be free of hazards. The proposed design must consider areas of the NGIE to adapt to changing weather patterns that may cause massive rainfalls during the rainy season – which the estate may capitalize alongside capturing precious water resources during times of plenty and provide alternative water source during water supply shortages. Engineering mitigation works may include, but are not limited to, designing with the natural slope of the area or the use of slope protections together with weep holes to ensure soil stability and protect the integrity of the property in preparation for the built-up areas.

While there are other options available, this method will prove to be the most practical and most cost-effective especially when it comes to the immediate implementation.

Water Resources and Water Recycling

In light of dwindling ground water supply in Cavite due to over-extraction, NGIE will have its own water impounding facility to harvest rainwater and store recycled liquid effluent for reuse. Waste water will go through the sewerage treatment plant so the treated resource can be utilized for other commercial purposes as may be determined. Having the water reservoir including the sewerage treatment plant reduces the NGIE's reliance on ground water supply and ensure the optimal use of water within the premises. The Water Treatment Plant may consider employing reverse osmosis technology and includes skids, high-pressure feed pumps, polishing filters, long vessels, RO membranes, control valves, fittings, chemical dosing mechanisms, mixer, chemical tanks, flow meter, control panel, PLC controls, UV sterilizer and cost of installation. On the other hand, the NGIE is expected to have an operating sewerage treatment plant to treat water effluents. The winning bidder shall recommend the appropriate treatment design and facility to ensure that all wastewater can be treated and pass effluent standards as mandated by law.

Forecasted water consumption in the NGIE is shown below and may be used as basis for calculating the capacities of the water reservoir, water treatment plant, and sewerage treatment plant.

Revision of Design of Water Supply System for NGIE:

Area					**Total Water Consumption**					
Block No. Lot No.		**Area**		**Water Demand (60 M^3/ha.)**	**Potable Water Supply**		**Sewer (85%)**		**Water Total (M^3/Day)**	**Sewer Total (M^3/Day)**
		(M^2)	**(Hectare)**		**(L/Day)**	**(M^3/Day)**	**(L/Day)**	**(M^3/Day)**		
1										
	1	12,000	1.2	72.00	72,000	72.00	61,200	61.20	72.00	61.20
	2	10,100	1.01	60.60	60,600	60.60	51,510	51.51	60.60	51.51
	3	10,100	1.01	60.60	60,600	60.60	51,510	51.51	60.60	51.51
	4	10,346	1.0316	61.90	61,896	61.90	52,612	52.61	61.90	52.61
2										
	1	6,831	0.6831	40.99	40,986	40.99	34,838	34.84	40.99	38.84
	2	6,533	0.6533	39.20	39,198	39.20	33,318	33.32	39.20	33.32
	3	6,857	0.6857	41.14	41,142	41.14	34,971	34.97	41.14	34.97

	4	6,918	0.6918	41.51	41,508	41.51	35,282	35.28	41.51	35.28
	5	6,864	0.6864	41.18	41,184	41.18	35,006	35.01	41.18	35.01
	6	6,805	0.6805	40.83	40,830	40.83	34,706	34.71	40.83	34.71
	7	6,831	0.6831	40.99	40,986	40.99	34,838	34.84	40.99	36.18
	8	7,095	0.7095	42.57	42,570	42.57	36,185	36.18	42.57	36.18
3										
	1	13,978	1.3978	83.87	83,868	83.87	71,288	71.29	83.87	71.29
	2	13,952	1.3952	83.71	83,712	83.71	71,155	71.16	83.71	71.16
	3	13,448	1.3448	80.69	80,688	80.69	68.585	68.58	80.69	68.58
4										
	1	7,222	0.7222	43.33	43,332	43.33	36,832	36.83	43.33	36.83
	2	7,000	0.7	42.00	42,000	42.00	35,700	35.70	42.00	35.70
	3	7,000	0.7	42.00	42,000	42.00	35,700	35.70	42.00	35.70
5	Admin	1,080	0.108	6.48	6,480	6.48	5,508	5.51	6.48	5.51
6	STP	400	0.04	2.40	2,400	2.40	2,040	2.04	2.40	2.04
Total		**161330**	**16.133**						**967.98**	**822.78**

Table 1. Estimated Global Water Consumption

Streetlights

The NGIE will require illumination at night for safety and security purposes. The most economical way to do so is the installation of LED solar streetlights that provide higher lumens but consume 60 percent less power than traditional mercury bulbs.

Green/Sustainability Accreditation

To effectively demonstrate NGIE's environmental responsibility and its comprehensive commitment to sustainable development, NGIE should be subjected to a rating system or accreditation process through various measures aimed at certifying NGIE as an ecozone that is operating exceptionally better than the average or standard ecozones in the country particularly in environmental laws and guidelines compliance. NGIE's development strategy involves energy efficiency, water conservation, and waste reduction, the estate actively works towards reducing its carbon footprint and preserving natural resources. By mitigating energy and water consumption, as well as operational expenses, the estate can achieve both financial prudence and ecological stewardship.

Additionally, accreditation enhances the estate's marketability, appealing to investors, tenants, and consumers who prioritize sustainability as a fundamental criterion. Compliance with green building standards not only ensures regulatory alignment but also fortifies the estate against the ever-evolving landscape of environmental legislation. Furthermore, sustainable practices foster the health and well-being of the estate's occupants by cultivating a conducive and healthy working environment.

Deep Well Rehabilitation and Construction

To ensure reliable water supply and operational continuity for the proponents and lessors in the industrial estate, NGIE will push through with the rehabilitation and the construction of the deep wells 5 & 7. Having two wells and the additional water impounding facility should be sufficient to provide the water requirements of the ecozone and allow a system

of redundancy to ensure uninterrupted water supply at all times. This redundancy also allows for better management for varying water demands typical in industrial settings, ensuring consistent supply during peak usage periods.

Soil Testing

Conducting soil testing before construction is essential to comprehensively analyze soil composition, stability, and potential risks such as unstable clay and groundwater. Data gathered informs more precise planning and reduces the risks during and after construction. It enables assessment of load-bearing capacity and aids in designing stable foundations, ensuring buildings and infrastructure are on suitable ground, thus minimizing the settlement and structural issues over time.

In any industrial estate development, soil testing is crucial for upholding environmental quality, enhancing infrastructure durability, and guiding effective waste management decisions. Also, it helps in determining land suitability in its different areas and in assessing factors like permeability and potential groundwater contamination. Lastly, by adhering to regulatory standards and mitigating environmental impacts, industries can sustain operational integrity and foster sustainable development practices.

Prospective bidders may introduce an entirely new concept, subject to the design parameters, performance standards, and design principles as provided for in this document.

IV. SCOPE OF THE PROJECT

The National Development Company (NDC) has prepared and identified the following components for the primary scope of work. However, this does not limit the winning bidder's ability to propose modifications, including the introduction, removal, or alteration of these components. Bidders are encouraged to demonstrate flexibility in their design and plans for the ecozone for so long as these modifications are approved by the NDC and adhere to the constraints of the approved budget cost (ABC):

Project is comprised of the following components:

a. Upgrading of Main Gate
b. Street Lighting
c. STP Facility
d. WTP Facility
e. Rehabilitation of Deep Well 5 & 7 and Pump Houses
f. Water Line from Deep Wells to NGIE Site
g. Slope Protection/Flood Control for Creek Area
h. Development of Creek Area, STP and WTP Area
i. Landscape and Greening
j. Detailed Engineering Design

The viability of the proposed scope of works is contingent upon several key factors. Firstly, all modifications introduced by the winning bidder must remain within the constraints of the approved budget cost (ABC) to ensure financial feasibility.

Additionally, adherence to local government regulations and environmental standards is essential for compliance and to mitigate any legal risks. Incorporating sustainable practices and materials in line with established green building standards to enhance the project's environmental responsibility. Finally, engaging with stakeholders to gather feedback throughout the design and construction phases will promote project acceptance and contribute to its overall viability.

Project Breakdown

Table 1.1 Table View of General Requirements

A.	**GENERAL REQUIREMENTS**			
ITEM NO.	**DESCRIPTION**	**QUANTITY**	**UNIT COST**	**COST**
1.0	General Design and Construction Requirements	1 Lot		
2.0	Other General Requirements	1 Lot		

Table 1.2 Table View of Land Development

B.	**UPGRADING OF MAIN ENTRANCE**			
ITEM NO.	**DESCRIPTION**	**QUANTITY**	**UNIT COST**	**COST**
1.0	Additional Pavement	1 Lot		
2.0	Landscaping and Design	1 Lot		
3.0	Elevated Guard House	1 Lot		
4.0	Automatic Guard Rail Barrier	1 Lot		
C.	**STREET LIGHTING**			
1.0	Single Arm Post. With Pedestal and Solar Street Light	1 Lot		

Table 1.3 Table View of Water System

D.	**SUNKEN AREA, WTP AND STP AREA**			
ITEM NO.	**DESCRIPTION**	**QUANTITY**	**UNIT COST**	**COST**
1.0	Impounding Facility	1 Lot		
2.0	Water Treatment Plant	1 Lot		
3.0	Sewerage Treatment Plant	1 Lot		
4.0	Deep Well	1 Lot		
E.	**WATER & ELECTRO-MECAHNICAL SYSTEMS**			
1.0	Site Works for Domestic Water Supply	1 Lot		
2.0	Civil Works for Domestic Water Supply	1 Lot		
3.0	Mechanical/Sanitary Works for Domestic	1 Lot		
4.0	Mechanical/Sanitary Works for FirePro	1 Lot		
5.0	Mechanical/Sanitary Works for Well	1 Lot		
6.0	Electrical Works for Domestic Water Supply	1 Lot		

7.0	Electrical Works for FirePro Supply	1 Lot		
8.0	Electrical Works for Well Supply	1 Lot		
F.	**STRUCTURE**			
1.0	Slope Protection with Weep Holes	1 Lot		

Table 1.4 Table View of Admin Development Expenditure

G.	**DETAILED ENGINEERING DESIGN**			
ITEM NO.	**DESCRIPTION**	**QUANTITY**	**UNIT COST**	**COST**
1.0	Architectural	1 Lot		
2.0	Civil/Geotechnical Design	1 Lot		
3.0	Structural Design	1 Lot		
4.0	Mechanical Design	1 Lot		
5.0	Electrical Design	1 Lot		
6.0	Environmental and Sanitary Design	1 Lot		
7.0	Geodetic/Survey Design	1 Lot		
8.0	CAD Operator	1 Lot		
9.0	Admin and Reproduction	1 Lot		

V. PROJECT DESCRIPTION AND LOCATION

The NDC Green Industrial Sustainable Ecozone (NGIE) covers an area of 19.2 hectares in Barangay Langkaan, Dasmariñas City, Cavite, strategically located adjacent to the existing First Cavite Industrial Estate (FCIE). This prime location is designed to facilitate the attraction of businesses focused on innovation, sustainability, and emerging technologies.

During the design stage, the winning bidder will be responsible for preparing and submitting design plans that comply with the design parameters and performance specifications outlined in this Terms of Reference (ToR). The construction stage will commence only after the winning bidder has secured the approval of the design from the NDC and all necessary permits and clearances from the Philippine Economic Zone Authority (PEZA).

The development of the ecozone will focus on creating a sustainable, eco-friendly environment that includes advanced water recycling systems, energy-efficient infrastructure, and extensive green landscaping. This design will align with the project's objectives to minimize environmental impact while promoting operational efficiency.

Prospective bidders are required to submit a comprehensive construction schedule that reflects this phased approach. Furthermore, all designs must adhere to applicable laws, codes, and standards relevant to industrial estate development, including:

- **National Building Code of the Philippines** (relevant provisions applicable to site development).
- **Comprehensive Fire Code of the Philippines** (regulations regarding fire safety and emergency access).
- **Occupational Safety and Health Standards** (requirements for workplace safety).
- **Environmental Impact Assessment (EIA) Requirements** (for assessing potential environmental impacts).

- **Solid Waste Management Act** (for waste management practices within the estate).

In cases where conflicts arise among the provisions of these laws, codes, and standards, the most stringent requirements shall prevail, ensuring the project's alignment with best practices in safety, sustainability, and compliance.

Detailed technical documentation, including a topographic map of the site, will be provided in the Annex section to assist bidders in their planning and design efforts.

VI. DESIGN PARAMETERS

The design parameters and performance standards are essential to ensure that all facets of the design and construction phases minimize environmental impact while enabling the NDC to achieve its objective of creating a green industrial ecozone.

ITEM NO.	DESCRIPTION	QTY	DESIGN PARAMETERS AND PERFOMANCE STANDARDS
A.	**GENERAL REQUIREMENTS**		
1.0	General Design and Construction Requirements		The works shall be designed and constructed in accordance with the latest applicable codes, ordinances and requirements of the following, as applicable, but not limited to: a. National Building Code b. Fire Code of the Philippines c. DPWH Standard Specification d. National Water Resources Board e. Laguna Lake Development Authority f. Housing and Land Use Regulatory Board g. Local Government Unit h. Philippine Economic Zone Authority i. Department of Labor and Employment j. National Plumbing Code of the Philippines k. Sanitation Code of the Philippines l. Department of Health m. Department of Agriculture n. Effluent Regulations of 1990 – Environmental Management Bureau (EMB) formerly National Pollution Control Commission (NPCC) o. Rules and Regulations of the EMB for Domestic and Industrial Wastewater Disposal (Section 6g of Presidential Decree No. 984, otherwise known as the National Pollution Control Decree of 1976) p. DENR Administrative Order (DAO) 2016-08 q. DENR Administrative Order (DAO) 2021-19 • Nothing contained in the Specification shall be construed as to conflict with National and Local Ordinances or Laws governing the installation of STP/WTP and all such laws and ordinances are hereby made part of this Specification. The Contractor is required to meet the requirements hereof.

			• All construction permits, licenses and fees required for this work shall be obtained by and at the expense of the Contractor. The Contractor shall furnish the Architect, the Engineer and the Owner final certificates of inspection and approval from the proper government authorities after the completion of the work. • Winning bidder shall be responsible for preparing and submitting design plans that comply with the design parameters and performance specifications outlined in the Terms of Reference (ToR). The construction stage will commence only after the winning bidder has secured the approval of the design from the NDC and all necessary permits and clearances from the Philippine Economic Zone Authority (PEZA) and other concerned offices and agencies.
2.0	Other General Requirements	1 Lot	Winning bidder shall provide the ff: • Mobilization/Demobilization • Temporary office and or/ quarters for the contractor's project team personnel with water, light, and toilet facilities. • Temporary bunk house/ quarters for the contractor's workforce complete with toilet and bath facilities. • The Contractor shall be responsible for securing permits for electrical and water connection and the payment of electric bill and water bill used during the execution of the works. • Project Sign Board with specification based on COA Circular 2013-004 dated Jan. 30, 2013 • Construction health and safety requirements • Plans and Drawings required by PEZA and other concerned agencies (signed and sealed by design engineers/architects), including the signing of documents relative to the application of permits, as necessary. • Electrical Plans and Drawings required by Meralco relative to the power connection that includes, among others, Plans and Drawings that show the development plan indicating the location of Entrance Post, Meralco Poles, Sub-station (if required), estimated load requirement of the entire NGIE and its future locators, details of main panel board, etc. (signed and sealed by design engineers).
B.	**UPGRADING OF MAIN ENTRANCE**		
1.0	Additional Pavement	1 Lot	Portland Cement Concrete Pavement (PCCP) in accordance with latest DPWH Standard Design for Highways, Bridges and Ports; concrete curbs and sidewalk; drainage pipes

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2.0	Landscaping and Design	1 Lot	• Modern and aesthetically pleasing design comparable to the famous ecozone parks in the Philippines with a sizable silver or brass metal signage displaying the name "NDC Green Industrial Sustainable Ecozone" • Provision of perimeter lighting posts with solar and LED lights • Aesthetic improvement shall also cover wall fence at the entrance area, wall fence along the north sides of the Admin Building and at the water impounding facility
3.0	Guard House	1 Lot	Minimum of 10.0 sq.m area with 2.7m ceiling height; pre-painted Ga#26 rib type roofing and Gutter; 150mm CHB plain finished wall on Elastomeric Paint; glass windows on sliding frames; concrete flooring with ceramic tile finish; aesthetically pleasing, superior structure that can withstand 250 kph wind velocity
4.0	Automatic Guard Rail Barrier	1 Lot	Automatically controlled boom barrier; reflectorized color finish; complete with mechanical and electrical controls
C.	**STREET LIGHTING**		
1.0	Single Arm Post with Solar Street Light with Pedestal	1 Lot	• Single-Arm Post • Mast Arm – 1.5 meters • Mounting Height - 8.0m pole • Distance between poles – 15 to 20 meters • Lamp Wattage – LED 125w • Concrete pedestal shall be painted finish • Poles shall be anchor-based types designed to withstand a wind velocity of 250 Kph • Compliant with DPWH Design Standard Specification for Roadway Lighting

D.	**SUNKEN AREA, WTP AND STP AREA**		
1.0	Impounding Facility	1 Lot	• At least 900 cu.m. capacity water storage concrete dam; • Superior walls and flooring structures capable of handling maximum water and soil pressures and other potential external loads; • Provision of spillway and sluice gate/valve, drainage water outfall structures, drainage pipes connected from the nearest drainage manholes • Provision of by-pass box culvert from the existing drainage outfall, as necessary;

			• Provision of aesthetically pleasing perimeter walls with guard rails and perimeter posts with solar and LED lights • site development and other works to make the system fully functional and meets its goals and objectives. • compliant with applicable DPWH Design Standard Specification
2.0	Water Treatment Plant	1 Lot	• WTP design may consider reverse osmosis technology and includes skids, high pressure feed pumps, polishing filters, long vessels, RO membranes, control valves, fittings, chemical dosing mechanisms, mixer, chemical tanks, flow meter, control panel, PLC controls and UV sterilizer, as well as site development and other works to make the system fully functional and meets its goals and objectives. • Capacity shall be based on the forecasted water consumption as presented on Item III of the Terms of Reference. • compliant with applicable DPWH Design Standard Specification
3.0	Sewerage Treatment Plant	1 Lot	• Any technology that is appropriate for the NGIE to meet its objectives and ensure compliance with effluent standards. Capacity shall be based on the forecasted water consumption as presented on Item III of the Terms of Reference. • STP Design must be in compliance with DENR's DAO 2016-08 and 021-19. STP Design shall be approved by the Department of Public Works and Highways and/or other relevant agencies/offices. • Provide inter-connection from the intake pipes and outlet facilities, supply and installation of in-line booster pumps, supply and installation of electrical, instrumentation and controls for automatic and manual operations, site development and other works to make the system fully functional and meets its goals and objectives. • Supply of equipment, materials and labor for the installation of standby diesel engine generator and generator house with a capacity that can power up the STP and WTP operations in case of power outage. Design and location shall be determined and recommended by the winning bidder. • compliant with applicable DPWH Design Standard Specification
4.0	Deep Well	1 Lot	• Rehabilitation of DW Nos. 5 & 7 and their corresponding pump houses located at the First Cavite Industrial Estate (FCIE) with the following required Discharge Rates: a. DW No. 5 - at least 10 LPS but not more than 11.10 LPS b. DW No. 7 - at least 22.5 LPS but not more than 25.0 LPS

			• Well pumps shall have the right capacity and proper placement in order to avoid sand pumping
E. WATER & ELECTRO-MECHANICAL SYSTEMS			
1.0	Site and Civil/ Electrical/ Mechanical/ Sanitary Works for Wells and Domestic Water Supply	1 Lot	• Site clearing, backfilling and drainage works to address flooding at DW No.7 area. • Rehabilitation of DW No. 5 and DW No. 7 and Pumphouses shall include supply and installation of all electrical, mechanical, sanitary equipment such as pipelines, fittings, valves, pressure gauge/switch assembly, flowmeter switch assembly, pumps and accessories, chlorinating equipment, motor control panel, lightning panel, manual transfer switch, lighting fixtures with LED lamps, wires & cables, grounding system, service entrance, billing meters, and other works to make the system fully functional and meets its goals and objectives. • Provision of elevated water tank and ground water reservoir at the NGIE area. Capacities shall be based on the forecasted water consumption as presented on Item III of the Terms of Reference. • Inter-connection to the reservoir facilities and main distribution line, supply and installation of in-line booster pumps, supply and installation of electrical, instrumentation and controls for automatic and manual operations, site development and other works to make the system fully functional and meets its goals and objectives. • Provision of all necessary structures for the power connections required for the facilities. • **Note:** Bidders shall be responsible in conducting a thorough evaluation and assessment on the conditions of the site (e.g., NGIE area and relevant structure/facilities, FCIE area and relevant structures/facilities, DW Nos. 5 and 7, Pump Houses), and shall include in the bid all works and costs that are necessary to make the system fully functional and meets its goals and objectives.
2.0	Electrical/Mechanical / Sanitary Works for FirePro Supply		Fire protection system shall be designed and installed to comply with the requirements of the NGIE in accordance with the latest provisions of the Fire Code of the Philippines and requirements of concerned offices or agencies
F. STRUCTURE			

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1.0	Slope Protection with Weep Holes	1 Lot	Provision of slope protection with weep holes at the outfall area in accordance with latest DPWH Standard Design and actual condition of the site.
G. DETAILED ENGINEERING DESIGN			
1.0	Architectural	1 Lot	• The detailed design shall conform with the latest standard design applicable in the Philippines. • All design assumptions shall be based on the results of the required technical studies, detailed analysis and design computations. • The technical drawings and specifications shall clearly indicate all the details required to ascertain the care and thoroughness devoted in the preparation of the drawings.
2.0	Civil/Geotechnical Design	1 Lot	
3.0	Structural Design	1 Lot	
4.0	Mechanical Design	1 Lot	
5.0	Electrical Design	1 Lot	
6.0	Environmental and Sanitary Design	1 Lot	
7.0	Geodetic/Survey Design	1 Lot	
8.0	CAD Operator	1 Lot	
9.0	Admin and Reproduction	1 Lot	

General Design Parameters

Site Analysis

A comprehensive site analysis must be conducted to gather, assess, and document information regarding the site and its environment. This analysis should encompass soil type and condition, topography, existing vegetation and natural features, neighboring land uses and structures, key sightlines, and locally available resources. Such assessments are crucial for informed decision-making and effective planning.

A copy of the Engineering Geological and Geohazard Assessment Report dated February 7, 2014 that may be used as reference for establishing the bid will be provided by NDC. However, it is the obligation of the bidder to ascertain the accuracy and applicability of the data.

Site Planning

Site planning parameters will guide the design of the green ecozone, addressing both natural and constructed elements. This includes the arrangement of buildings, streets, drainage systems, utility poles, and circulation paths within and around the site, ensuring efficient movement and accessibility.

Engineering and Architectural Parameters

The design of the green industrial estate should be responsive to economic, environmental, and cultural contexts. Key considerations will include space utilization, functional and operational planning, adaptability for future needs, enhancement of productivity, and technical connectivity among various facilities.

Performance Standards

The design and construction of the green industrial ecozone must meet the following performance standards:

- Energy Efficiency: Implement energy-efficient solutions for industrial operations to reduce overall energy consumption.
- Water Efficiency: Integrate systems that promote water conservation and optimize water use.
- Material Sustainability: Utilize sustainable materials in construction to minimize environmental impact and enhance resource efficiency.
- Solid Waste Management: Establish effective solid waste management practices to promote recycling and minimize landfill contributions.
- Site Sustainability: Ensure the site design supports ecological health and resilience, maintaining biodiversity and minimizing habitat disruption.
- Indoor Environmental Quality: Promote healthy indoor environments through natural ventilation, daylighting, and the use of non-toxic materials

Chapter 2: Project Design, Terms and Conditions

ENGINEERING DRAWINGS AND DESIGNS

A. GENERAL

i. The detailed design shall conform to the general standards adopted from the National Building Code and other pertinent laws on building construction.
ii. All design assumptions shall be based on the results of the required technical studies, detailed analysis and design computations.

iii. The technical drawings and specifications shall clearly indicate all the details required to ascertain the care and thoroughness devoted in the preparation of the drawings.

STRUCTURAL DESIGN

1. The bidder shall prepare and provide the necessary structural analysis/calculation, structural notes, splicing details and design of structural members (foundation, pavements, columns, beams and retaining/slope protection walls) in accordance with the National Building Code of the Philippines with its referral codes such as the National Structural Code of the Philippines, etc. the design for the structure shall take into account, among others, seismic and wind requirements of the area to determine the optimum safety of the whole structure and to minimize possible earthquake damage.

2. On the basis of the data obtained from the detailed site investigation, topographical/ engineering, foundation investigation, material testing, survey of existing site conditions, the seismic requirement of the area and other investigations required to obtain the data necessary to ensure the safety of the structure.

SUBMITTAL/S: Structural Plans and details drawn at a paper size of 20"x30" with a suitable scale and details, in two (2) copies, one (1) copy white/blue print copy, and one (1) reproducible, and two (2) copies of the structural analysis/calculations and design, all documents shall be duly signed and sealed by a licensed Structural Engineer.

PLUMBING AND SANITARY

The bidder shall prepare a design for water and sanitary line layout, other lines that should be prepared for the rough-ins are reflected on the plans (preparation for the commercial stalls on the ground and second floor.

Drainage and Sewerage

i. Drainage and sewerage shall be concealed type with appropriate catch basins and manholes.
ii. The drainage layout shall show all the required information such as direction of flow, manhole to manhole distance and sizes of lines, invert elevation of manholes/canals, location of outfall, etc.
iii. Design shall be supported with design calculations.
iv. STP Design must be in compliance to DENR's DAO 2016-08 and 2021-19.
v. STP Design must be approved by the Department of Public Works and Highway.

SUBMITTALS/S: Sanitary/Drainage Layout Plan drawn at a paper size of 20"x30" with a suitable scale and details, in two (2) copies, one (1) copy white/blue

print copy, and one (1) reproducible, and two (2) copies of design computations, all documents shall be duly signed and sealed by a licensed Sanitary Engineer.

ELECTRICAL

I. The bidder shall prepare a design for the electrical and power supply system of the building and facilities in accordance with the Electrical Code of the Philippines and the Building Code of the Philippines.
II. The bidder shall prepare a design for the electrical and power supply system considering case of maintenance and prevention of electrical connection.
III. Electrical power supply will be sourced from any electric supplier or through a generating set as may be necessary.

SUBMITTAL/S: Electrical Layout Plan showing system of wiring, source distribution, riser diagram, panel boxes and switches, and all other pertinent material required. Two (2) copies of plans drawn at a paper size of 20"x30" with a suitable scale and details, one (1) copy white/blue print copy, and one (1) reproducible, and two (2) copies of design computations, all documents shall be duly signed and sealed by a licensed Professional Electrical Engineer.

C. PROJECT COST ESTIMATES INCLUDING THE QUANTITIES AND COST CALCULATIONS

The bidder shall maximize the use of the approved budget for the contract in his proposal.

The bidders shall submit the quantities and cost of the different types of works to be carried out. In particular, the quantities and cost of each work item shall be calculated and a bill of quantities shall be prepared.

The bidders shall submit a Detailed Unit Price Analysis (DUPA) for each of the pay work items. The unit price of each of the pay work items shall include:

C.1DIRECT COST

C.1.1 Cost of Materials to be used in doing the work item called for, which shall include the following:

a. Cost at source, including processing, crushing, stockpiling, loading, royalties, local taxes, construction and or maintenance of roads, etc.
b. Expenses relevant in timely handling of materials
c. Storage/ Temporary facilities and utilities
d. Allowance for waste and/or losses

C.1.2 Cost of Labor

a. Salaries and wages in accordance with the Department of Labor and Employment.
b. Fringe benefits, such as vacation and sick leaves, benefits under the Workmen's compensation Act, SSS contribution, allowance, 13th month pay, bonuses, etc.
c. All construction quantities shall be completed to a reasonable accuracy of unit prices and shall be based on reasonable approved current prices as projected over the proposed construction period.
d. Planning, analysis and design expenses.

C.1.3 Hiring of Consultants

Compensation commensurate to the technical expertise and experience necessary to provide the required advisory services to the following, but not limited to:

i. Design/Architectural Design
ii. Special Study
iii. Technical Services
iv. Green or sustainability accreditation
v. Others as may be required

C.1.4 Equipment Cost

a. Rental of Equipment shall be in accordance with the prevailing "Associated Corporation Equipment Lessor Inc." (ACEL) rates as accredited by the DPWH. Other equipment which is not indicated in the ACEL booklet shall be taken from the rental rates prepared by the Bureau of Equipment. For simplicity of computation, the use of operated rental rates mentioned in the ACEL booklet is preferred rather than the bare rental rates, because it already includes the operator's wages, fringe benefits, fuel, oil, lubricant and equipment maintenance.
b. Mobilization and demobilization of equipment shall be computed on a case to case basis, considering the equipment requirement on the project stipulated in the proposal and contract document.

C.2 INDIRECT COST

C.2.1 Overhead Expenses – Usually 6 to 7% of the direct cost, which includes:

a. Engineering and Administrative Supervision
b. Transportation allowances
c. Office expenses
d. Financing cost
    - Premium Bid of Security
    - Premium on Performance Security
    - Premium/charges/ fees on credit lines

- Cost of money necessary to finance project
- Premium warranties

C.2.2 Contingencies – usually 3-5% of the direct cost

C.2.3 Miscellaneous Expenses – usually 1% of the direct cost, these includes laboratory test

C.2.4 Contractor's Profit Margin – see tabulation below

ESTIMATED DIRECT COST (EDC)	PROJECT COST % FOR OCM AND PROFIT (% OF EDC)		% COST FOR MOB/DEMOB.	TOTAL MAXIMUM INDIRECT COST FOR OCM, PROFIT/AND MOB/DEMOB
	OCM	PROFIT		
P 20M TO P50M	9%	8%	1%	18%
Above 50M	7%	8%	1%	16%

TAXES = 12% VAT

D. CONTRACT DOCUMENTATION PHASE

The Contract Documentation phase shall be governed by the revised Implementing Rules and Regulations (IRR) of RA 9184, otherwise known as "Government Procurement Reform Act" revised 2016.

E. TERMS OF PAYMENT

1. The winning bidder, after issuance of the Notice to Proceed, and after submission of a written request, may avail of an advanced payment for mobilization equal to fifteen percent 15% of the contract price. The winning bidder in availing of the advance payment must also submit to the Procuring entity, an irrevocable letter of credit from a commercial bank, a bank guarantee or a surety bond callable upon demand, issued from a surety or insurance company duly licensed by the Insurance Commission. The letter of credit, bank guarantee or surety bond must be equal in value to the advance payment.

   The Procuring entity, shall recover from the winning bidder the advance payment by deducting a commensurate amount from the progress payments to the winning bidder/contractor until the advance is fully liquidated within the duration of the contract, and before full payment is made to the contractor.

   The contractor may reduce his standby letter of credit or guarantee/surety instruments by the amounts recovered to liquidate the advance payment.

Progress billing shall be billed based on the following breakdown:

Type of Activity		Conditions for Release
Advance Payment for Mobilization	15%	• Maximum amount • Commensurate amount will be deducted from subsequent billings until fully liquidated • To be covered with a guaranty or bond
Approved Detailed Engineering Design	10%	• NDC Management Committee approval • Designs, measurements, and materials to be used shall be based on and shall fit existing structures or fittings unless these are deemed impractical to use or capacity is insufficient • Signed blueprints
Progress Billing	10% to 75%	• Minimum of 10% completion per billing
Passed Water Quality Testing and Effluent Standards	10%	• Parameters will be based on DENR DAO 2016-08 and DAO 2021-19, as amended • Certificate of Compliance
Green/Sustainability Accreditation	5%	• Release of the accreditation documents

NOTE: 10% RETENTION RATE TO BE WITHELD PER PROGRESS ON PRO RATA BASIS* *RELEASE MAY BE POSSIBLE SUBJECT TO RA 9184*

The first progress payment shall be paid by the Procuring entity to the winning bidder/contractor after a minimum of ten percent (10%) of the work had been accomplished. Thereafter, succeeding payments will be based on the submission of the contractor of a Progress Billing or a request for payment for work accomplished. Such request for payment, including the Statement of Work Accomplished by the contractor must be verified and approved by the TWG, and/or his/her representative.

2. The Procuring entity, shall withheld/retain ten percent (10%) of the progress payment, before deductions are made, to cover uncorrected discovered defects and third party liabilities. Release of the retention money shall be subject to the rules and regulations of the Philippine Procurement Act.

   The Procuring entity, upon the request of the contractor, may accept irrevocable standby letters of credit from a commercial bank, bank guarantees or surety bonds

i

callable on demand as substitutes for the retention being withheld from the progress payments. These financial instruments must be of amounts equivalent to the retention amount being substitute and must be valid for a duration as determined by the Procuring entity.

3. The Contractor may request for final payment when ninety percent (90%) of the works has been completed. The final payment will be made upon 100 percent (100%) completion of the works contracted. A Guarantee Bond equal to ten percent (10%) of the contract price and valid for one (1) year shall be posted by the contract after final payment to cover defects during the one-year defects liability period.

4. The Procuring entity shall issue a Certificate of Substantial Completion upon ninety five percent completion (95%) of the works contracted and no liquidated damages for delay shall accrue after such, afterwards, the procuring entity may create an inspectorate team to make preliminary inspection and submit a punch list to the contractor in preparation for the final turnover of the project.

F. CONSTRUCTION PHASE

1. Permits and Clearances

The Contractor shall, upon award of this project and authorization of the Procuring entity, secure and shoulder the cost of all pertinent permits and licenses such as, but not limited to; Building Permit, Electro-Mechanical Permit, Plumbing Permit, Fire and Safety Permit, Occupancy Permit, and ECC/CNE (as applicable).

2. Temporary Structures and Facilities

The contractor shall provide and maintain the following:

- Temporary office and or/ quarters for the contractor's project team personnel with water, light, and toilet facilities.
- Temporary bunk house/ quarters for the contractor's workforce complete with toilet and bath facilities.

3. Mobilization

The Contractor shall mobilize all the required project team personnel, equipment, tools, and manpower with the required skills and sufficient number as may be necessary for the efficient undertaking of the project.

4. Construction Proper

The Contractor shall execute all the works under contract in strict compliance with the standard engineering methodology and procedures and shall be responsible for maintaining safety, cleanliness and orderliness in the project area throughout the duration of the contract.

5. Electrification and Water connection

The Contractor shall be responsible for securing permits for electrical and water connection and the payment of electric bill and water bill used during the execution of the works.

Chapter 3: Bidder's Qualification

- Bidder or JV partner must have had a minimum of 10 years of experience in the field and has at least 50 completed Sewerage Treatment Plant (STP) projects regardless of capacity, location, and type of procuring entity that has passed the General Effluent Standards (GES) by the Department of Environment and Natural Resources' Administrative order 2016-08 and 2021-19.

- Bidder or JV partner must also be accredited STP/WTP Contractor recognized by the DENR and DOH.

- PCAB License

- SLCC

  First paragraph of Section 23.4.2.4 of the 2016 revised Implementing Rules and Regulations (IRR) of Republic Act 9184 states that is mandatory for a prospective bidder to show the value of its Single Largest Completed Contract (SLCC), that is similar to the contract to be bid, that is at least 50% of the ABC.

- NFCC

  Relative to Sections 23.5.14 and 23.5.2.6 of the IRR of RA 9184, prospective bidders are mandated to comply with the Net Financial Contracting Capacity (NFCC) requirement, such that it is imperative the their NFCC, based on their net working capital, must be at least equal to the approved budget for the contract to be bid. Calculation of the NFCC shall be consistent with the formula prescribed under the GPBB resolution number 20-2013.

A. FOR DESIGN PERSONNEL

The key professionals and the respective qualifications of the DESIGN PERSONNEL shall be as follows:

a. Design Architect

The Design Architect must be duly-licensed with at least ten (10) years of experience in the design of landscaping works, residential, academic or institutional facilities, and shall preferably be knowledgeable in the application of Green Design Technology in construction.

b. Structural Engineer

The Structural Engineer must be a duly-licensed Civil Engineer with at least ten (10) year(s) of experience in structural design and shall preferably be knowledgeable in the application of Green Design Technology in construction.

c. Electrical Engineer

The Electrical Engineer must be a registered Professional Electrical Engineer with at least ten (10) years of experience in the design of power supply, lighting, power distribution and preferably knowledgeable in developments in emergent efficient lighting technologies and energy management.

e. Mechanical Engineer

The Mechanical Engineer must be a Professional Mechanical Engineer with at least ten (10) years of experience in STP/WTP, water supply, fire protection systems and preferably knowledgeable in emergent, alternative energy-efficient HVAC technologies.

f. Sanitary Engineer

The Sanitary Engineer must be duly-licensed with at least ten (10) years of experience in the design of STP/WTP, water supply and distribution, plumbing, and preferably knowledgeable in operation of waste water management/treatment, and emergent, alternative effluent collection and treatment systems, and DENR AO 36 s. 2004 (DAO 92-29 “Hazardous Waste Management).

The key professionals listed are required. The bidder may, as needed and at its own expense, add additional professionals and/or support personnel for the optimal performance of all Architectural and Engineering Design Services, as stipulated in these Terms of Reference for the project. Prospective bidders shall attach each individual’s resume and PRC license of the (professional) staff.

B. FOR CONSTRUCTION PERSONNEL

The key professionals and the respective qualifications of the CONSTRUCTION PERSONNEL shall be as follows:

a. Project Manager

The Project Manager shall be a licensed architect or engineer with at least Ten (10) years relevant experience as a Project Manager on similar and comparable projects in different locations. The Project Manager should have a proven record of managerial capability through the directing/managing of major civil engineering works, including projects of a similar magnitude.

b. Project Engineer / Architect

The Project Engineer/Architect shall be a licensed architect or engineer with at least Ten (10) years of experience in the construction of similar and comparable projects and shall preferably be knowledgeable in the application of rapid construction technologies.

c. Materials Engineer

The Materials Engineer must be duly accredited with at least Ten (10) years of experience in the construction of similar and comparable projects and shall preferably be knowledgeable in the application of rapid construction technologies.

d. Electrical Engineer

The Electrical Engineer must be a registered Professional Electrical Engineer with at least Ten (10) years of experience in the construction of power supply, lighting, power distribution and preferably knowledgeable in developments in emergent efficient lighting technologies and energy management.

f. Mechanical Engineer

The Mechanical Engineer must be duly-licensed with at least Ten (10) years of experience in the construction of similar and comparable projects with STP/WTP, water supply and fire protection systems.

g. Sanitary Engineer

The Sanitary Engineer must be duly-licensed with at least Ten (10) years of experience in the construction of similar and comparable projects with STP/WTP and water supply and distribution.

h. Foreman

The Foreman must have at least Ten (10) years of experience in the construction of similar and comparable projects and shall preferably be knowledgeable in the application of Green Building technologies.

i. Safety Officer

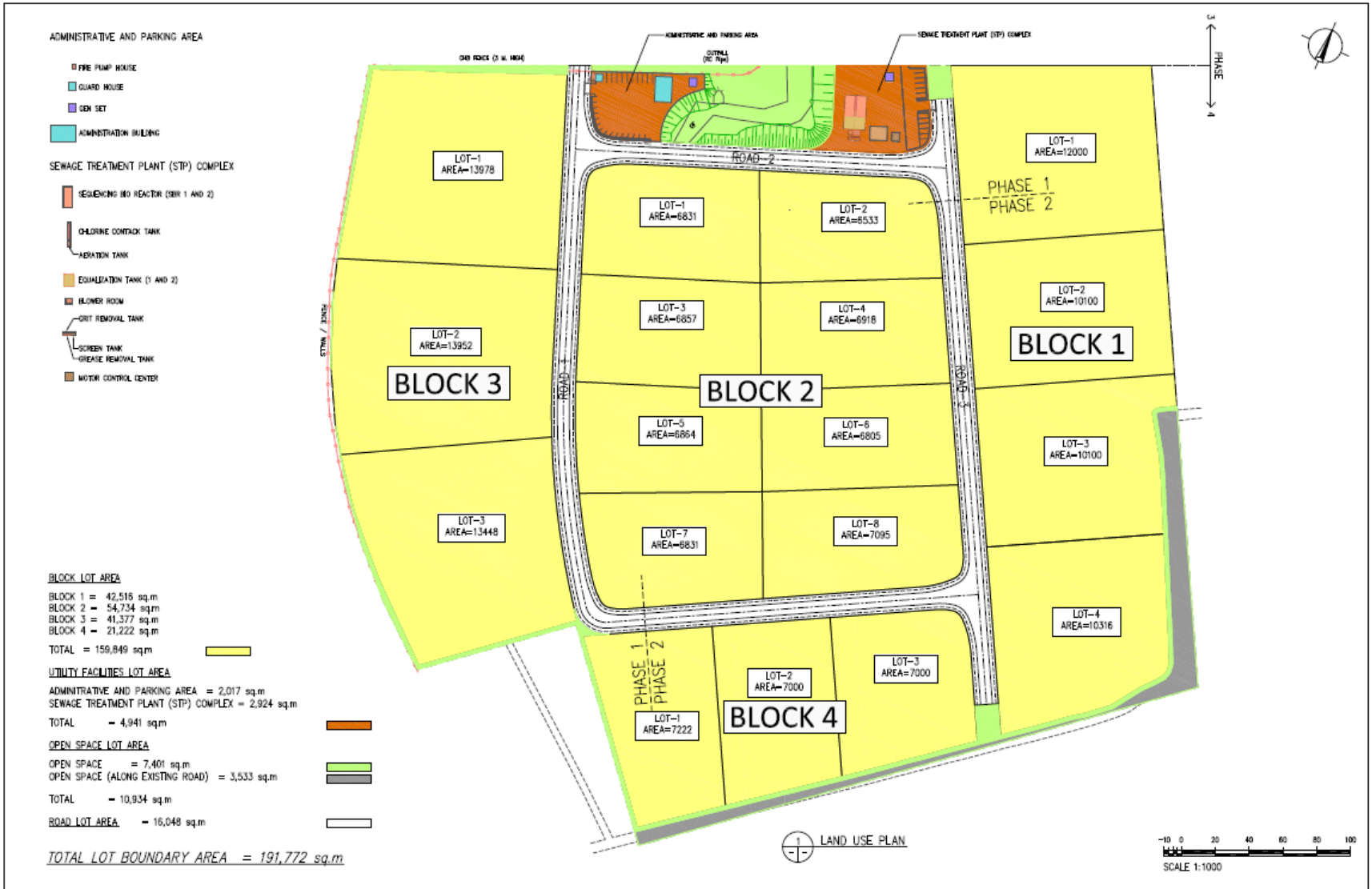
The safety officer must be an accredited safety practitioner by the Department of Labor and Employment (DOLE) and has undergone the prescribed 40-hour Construction Safety and Health Training (COSH).

The above key personnel listed are required. The CONTRACTOR may, as needed and at its own expense, add additional professionals and/or support personnel for the optimal

performance of all Construction Services, as stipulated in these Terms of Reference, for the project. Prospective bidders shall attach each individual's resume and PRC license of the (professional) staff, proof of qualifications, and related documents as necessary.

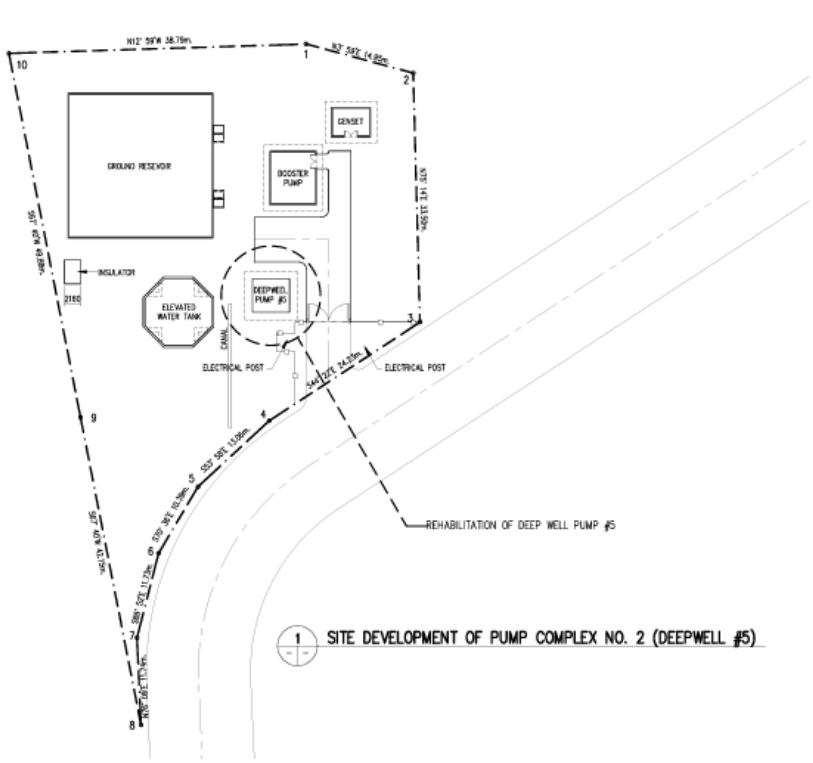
APPROVED BUDGET FOR THE CONTRACT

The Approved Budget for the Contract (ABC) is **Two Hundred Thirty Million One Hundred Seven Thousand Nine Hundred Eighteen Pesos & 80/100 (PHP 230,107,918.80)**, inclusive of all applicable taxes and fees. Bids received in excess of the ABC shall be automatically rejected during the opening of the financial proposal.

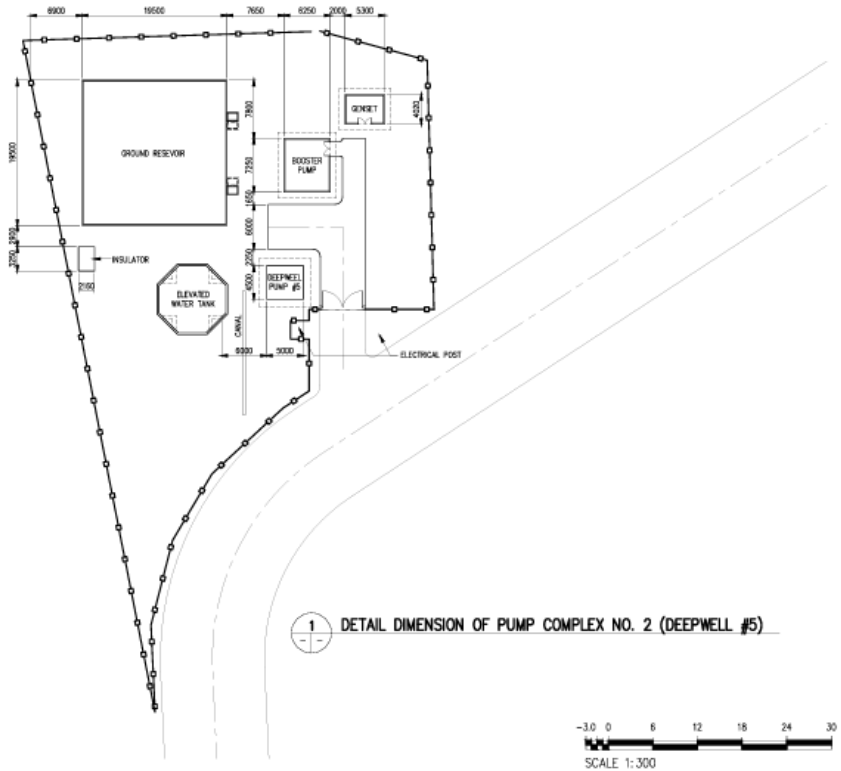


CONSULTANT:	OWNER:	PROJECT TITLE:	REVISIONS:	DESIGNER:	SHEET CONTENT:	SHEET NUMBER:
INFRA CONSULTANTS IN THE PHILS.(ICP) INC. *Innovative Engineering Solutions* CHECKED BY: JACINTO M. PAGUIGAN TEAM LEADER	National Development Company RECOMMENDING APPROVAL: FRUMENCIO T. TAGUIANO TECHNICAL CONSULTANT APPROVED BY: SATURNINO H. MEJIA ASST. GENERAL MANAGER	PROCUREMENT OF CONSULTING SERVICES FOR THE REVISION OF DESIGN OF WATER SUPPLY SYSTEM FOR THE NDC INDUSTRIAL ESTATE PROJECT BRGY. HAMAYAO, DASMARIÑAS, CAVITE	NO. / DATE / NATURE OF REVISIONS / APPROVED	ROMEO P. DUMALOAN SR. ROAD ENGINEER PRC No.: 0000000 PTR No.: 0821029 DATE ISSUED: DEC. 23, 1968 DATE ISSUED: NOV 24, 2015 VALID UNTIL: NOV. 26, 2017 TIN: 191-583-543	LAND USE PLAN	P-1 4 OF 10

c:\users\user-pc\desktop\national development company_august 06, 2019\X-Ref\Pump Complex 2 (deepwell 5).jpg



1 SITE DEVELOPMENT OF PUMP COMPLEX NO. 2 (DEEPWELL #5)



1 DETAIL DIMENSION OF PUMP COMPLEX NO. 2 (DEEPWELL #5)

-3.0 0 6 12 18 24 30
SCALE 1:300

CONSULTANT:	OWNER:	PROJECT TITLE:	REVISIONS:	DESIGNER:	SHEET CONTENT:	SHEET NUMBER:
INFRA CONSULTANTS IN THE PHILS.(ICP) INC. *Innovative Engineering Solutions* CHECKED BY: JACINTO M. DAMUDAN TEAM LEADER	National Development Company RECOMMENDING APPROVAL: FRUMENCIO C. PAGLINAWAN TECHNICAL CONSULTANT APPROVED BY: SATURNINO C. DEJA ASST. GENERAL MANAGER	PROCUREMENT OF CONSULTING SERVICES FOR THE REVISION OF DETAILED ENGINEERING DESIGN OF THE NDC INDUSTRIAL ESTATE PROJECT IN BRGY. LANGKAAN 2, DASMARIÑAS, CAVITE	NO. / DATE / NATURE OF REVISIONS / APPROVED	TEDDY SE SAN JUAN SR. MECHANICAL ENGINEER REG No.: 0009966 PTR No.: 1463291 DATE ISSUED: JUL. 16, 1975 DATE ISSUED: MAY. 22, 2015 VALID UNTIL: NOV. 05, 2018 TIN: 128-332-427	PUMP COMPLEX NO. 2 (DEEPWELL #5) SITE DEVELOPMENT AND DETAIL DIMENSION	I-3 139/172

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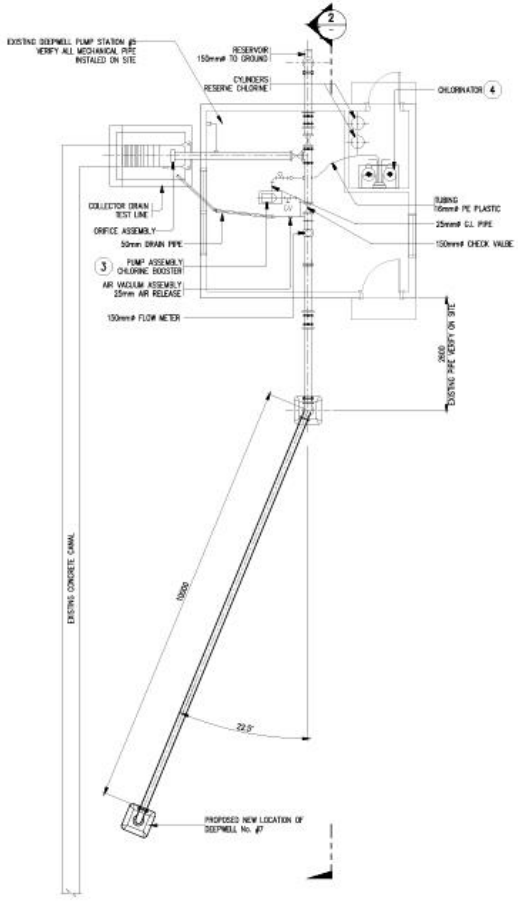
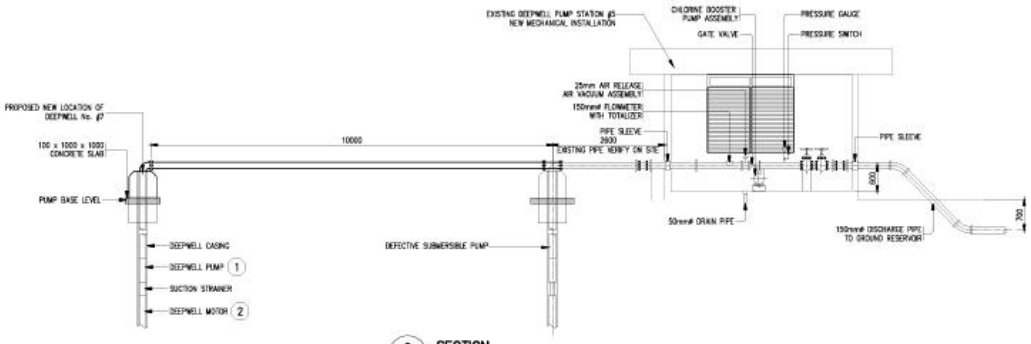


1 REHABILITATION OF PUMP STATION (DEEPWELL #5)



2 SECTION

ITEM NO.	DISCRIPTION	CAPACITY	TDH (m)	ELECTRICAL CHARACTERISTICS				QTY.	REMARKS
				POWER	VOLTS	PHASE	HZ		
1	SUBMERSIBLE PUMP	15 LPS	100	30 HP	230	3	60	1	–
2	CHLORINE BOOSTER PUMP	0.40 LPS	33	1 HP	230	–	60	1	–
3	CHLORINATOR	2Kilos/DAY	–	–	–	–	–	–	FEED RANGE 20 TO 1
1	EXHAUST FAN	40 CMM	–	200W	230	1	60	1	–

NOTES :

1. ALL ABOVE GROUND PIPES SHALL BE BACK STEEL PIPE, ASTM, A120, SCH. 40, SEAMLESS, UNLESS INDICATED OTHERWISE.
2. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL INSTALLATION (SHOP) DRAWING PRIOR TO ACTUAL CONSTRUCTION IMPLEMENTATION.

3 SITE PHOTO OF DEEPWELL PUMP STATION #5

−0.5 0 1 2 3 4 5
SCALE 1:50

CONSULTANT:
INFRA CONSULTANTS IN THE PHILS.(ICP) INC.
Innovative Engineering Solutions
CHECKED BY:
JACINTO U. JUAN
ICPA-010001

OWNER:
National Development Company
RECOMMENDED FOR APPROVAL:
FRUMENCIO C. AGUILINAO
TECHNICAL CONSULTANT
APPROVED BY:
SATURNINO C. OCAMPO
ASST. GENERAL MANAGER

PROJECT TITLE:
PROCUREMENT OF CONSULTING SERVICES FOR THE REVISION OF DETAILED ENGINEERING DESIGN OF THE NDC INDUSTRIAL ESTATE PROJECT IN
BRGY. LANGKAAN 2, DASMARIÑAS, CAVITE

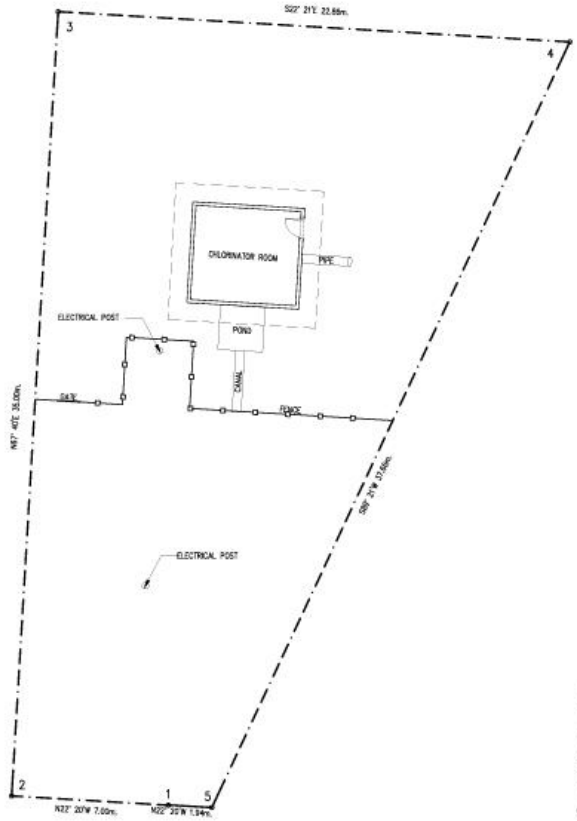
REVISIONS:

NO.	DATE	NATURE OF REVISIONS	APPROVED

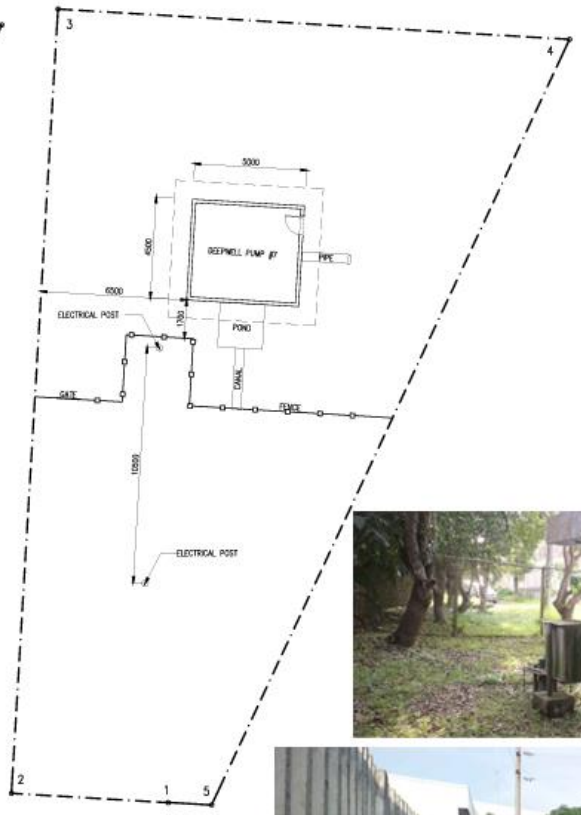
DESIGNER:
TEDDY SIL SAN JUAN
SR. MECHANICAL ENGINEER
REG No.: 0009966 PTR No.: 1463291
DATE ISSUED: JUL. 16, 1975 DATE ISSUED: MAY. 22, 2015
VALID UNTIL: NOV. 05, 2016 TIN: 128-332-427

SHEET CONTENT:
PUMP COMPLEX NO. 2
REHABILITATION OF PUMP STATION AND
SITE PHOTO OF DEEPWELL PUMP STATION #5

SHEET NUMBER:
I-4
140172

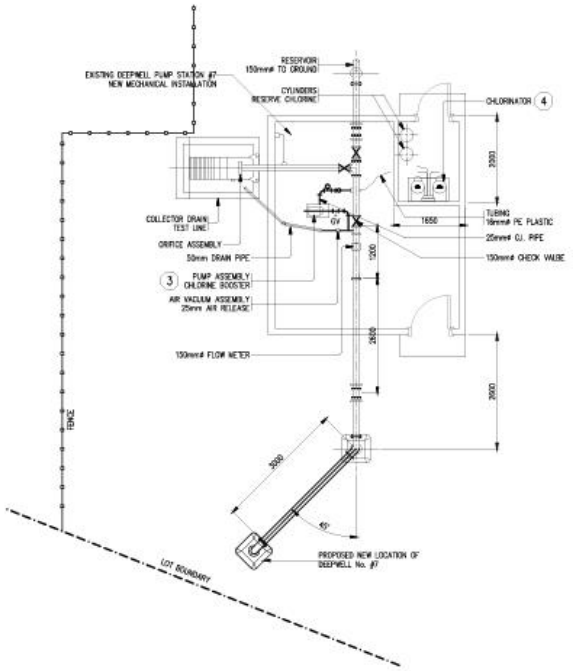


SITE DEVELOPMENT OF DEEPWELL No.7

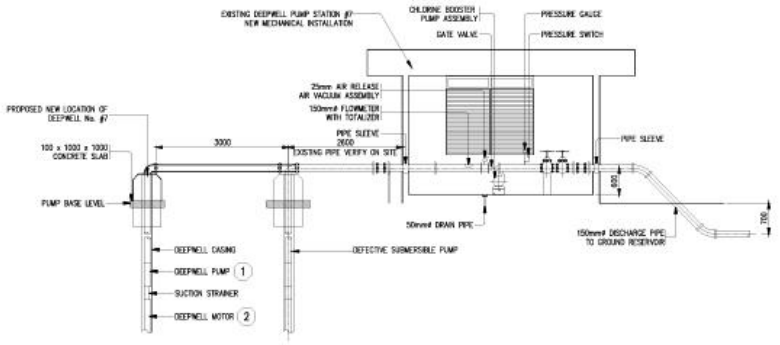


DETAILED DIMENSION OF DEEPWELL No.7

CONSULTANT: INFRA-CONSULTANTS IN THE PHILS.(ICP) INC. *Innovative Engineering Solutions* CHECKED BY: JACINTO U. JUNGUIAN TEAM LEADER	OWNER: National Development Company RECOMMENDING APPROVAL: FRUMENCIO C. PAGUINAO TECHNICAL CONSULTANT APPROVED BY: SATURNINO C. MEJIA ASST. GENERAL MANAGER	PROJECT TITLE: PROCUREMENT OF CONSULTING SERVICES FOR THE REVISION OF DETAILED ENGINEERING DESIGN OF THE NDC INDUSTRIAL ESTATE PROJECT IN BRGY. LANGKAAN 2, DASMARIÑAS, CAVITE	REVISIONS: NO. / DATE / NATURE OF REVISIONS / APPROVED
DESIGNER: TEDDY SO. SAN JUAN SR. MECHANICAL ENGINEER REG No.: 0006999 PTR No.: 1463291 DATE ISSUED: JUL. 16, 1975 DATE ISSUED: MAY. 22, 2015 VALID UNTIL: NOV. 05, 2016 TIN: 128-332-427	SHEET CONTENT: REHABILITATION OF PUMP STATION (DEEPWELL #7) SITE DEVELOPMENT AND DETAIL DIMENSION	SHEET NUMBER: I-7 143/172	



1 REHABILITATION OF PUMP STATION (DEEPWELL #7)



2 SECTION

CONSULTANT:	OWNER:	PROJECT TITLE:	REVISIONS:	DESIGNER:	SHEET CONTENT:	SHEET NUMBER:
INFRA-CONSULTANTS IN THE PHILS.(ICP) INC. *Innovative Engineering Solutions* CHECKED BY: JACINTO M. JAMILIAN TEAM LEADER	National Development Company RECOMMENDED FOR APPROVAL: FRUMENCIO B. ROSUNAD TECHNICAL CONSULTANT APPROVED BY: SATURNINO C. MEJIA ASST. GENERAL MANAGER	**PROCUREMENT OF CONSULTING SERVICES FOR THE REVISION OF DETAILED ENGINEERING DESIGN OF THE NDC INDUSTRIAL ESTATE PROJECT IN BRGY. LANGKAAN 2, DASMARIÑAS, CAVITE**	NO. / DATE / NATURE OF REVISIONS / APPROVED	TEDDY-SO SAN JUAN SR. MECHANICAL ENGINEER REG No.: 0009966 PTR No.: 1463291 DATE ISSUED: JUL. 16, 1975 DATE ISSUED: MAY. 22, 2015 VALID UNTIL: NOV. 05, 2016 TIN: 128-332-427	REHABILITATION OF PUMP STATION (DEEPWELL #7) SITE PHOTO OF DEEPWELL PUMP #7	I-8 144/172

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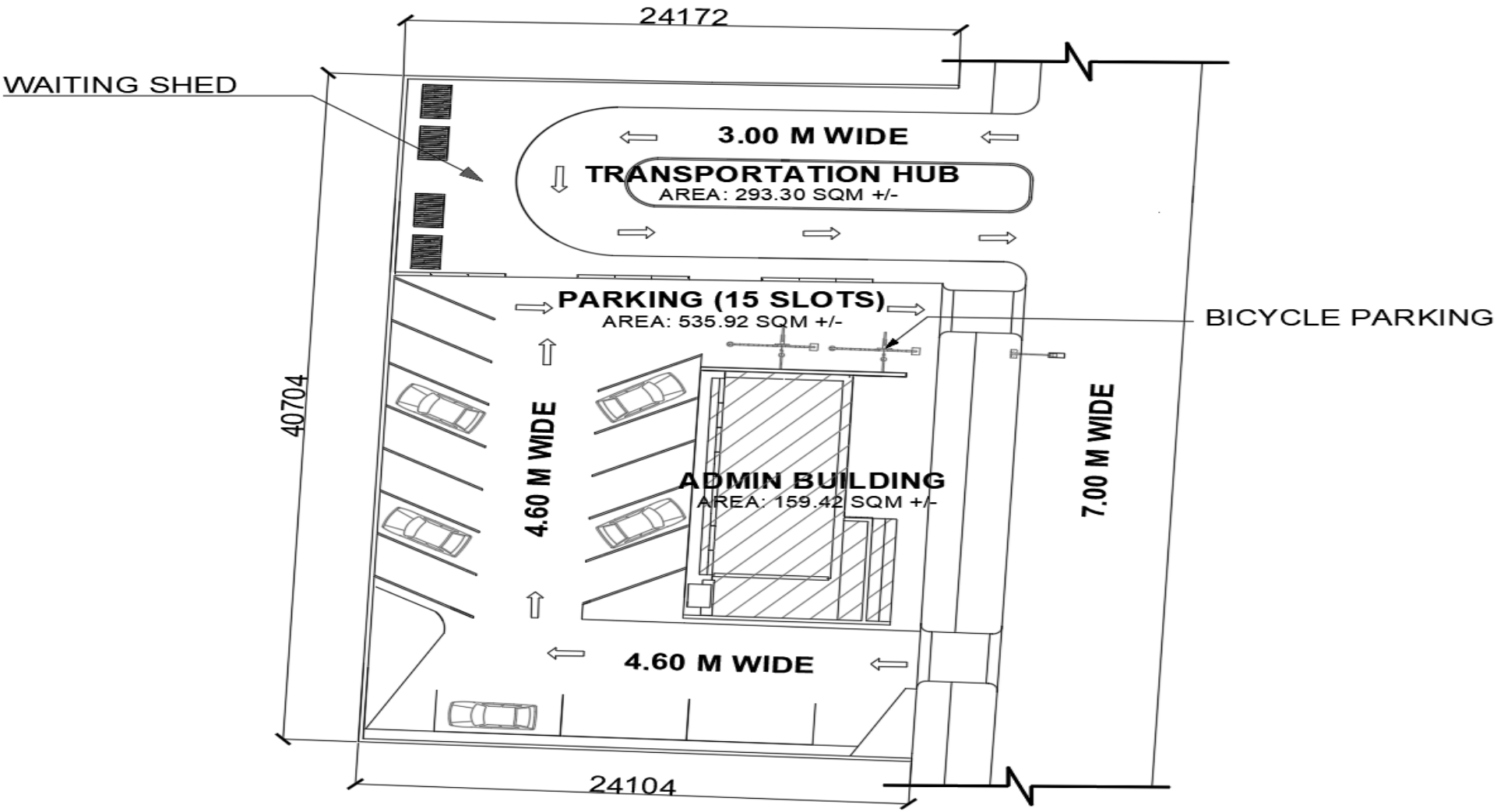
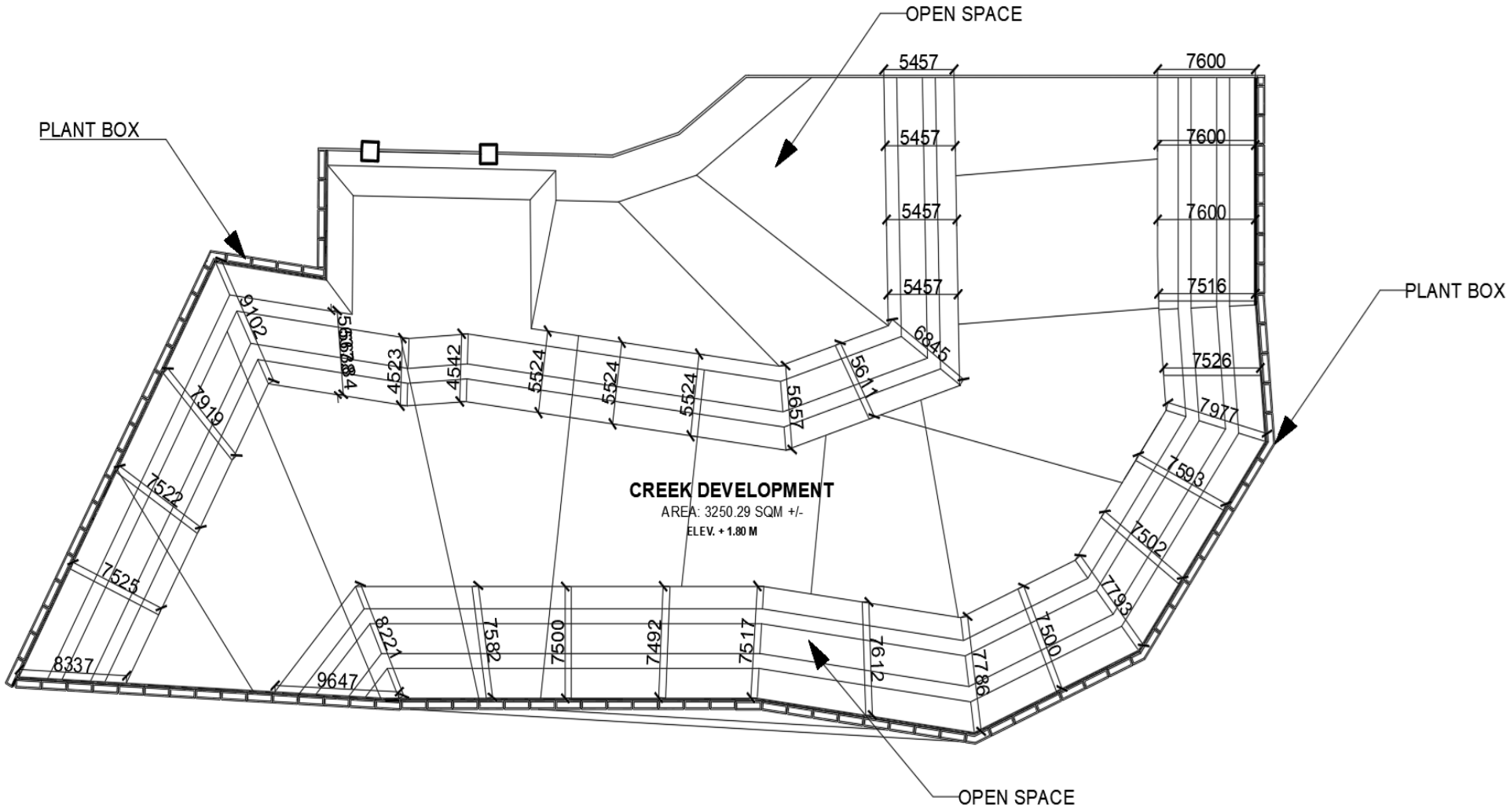
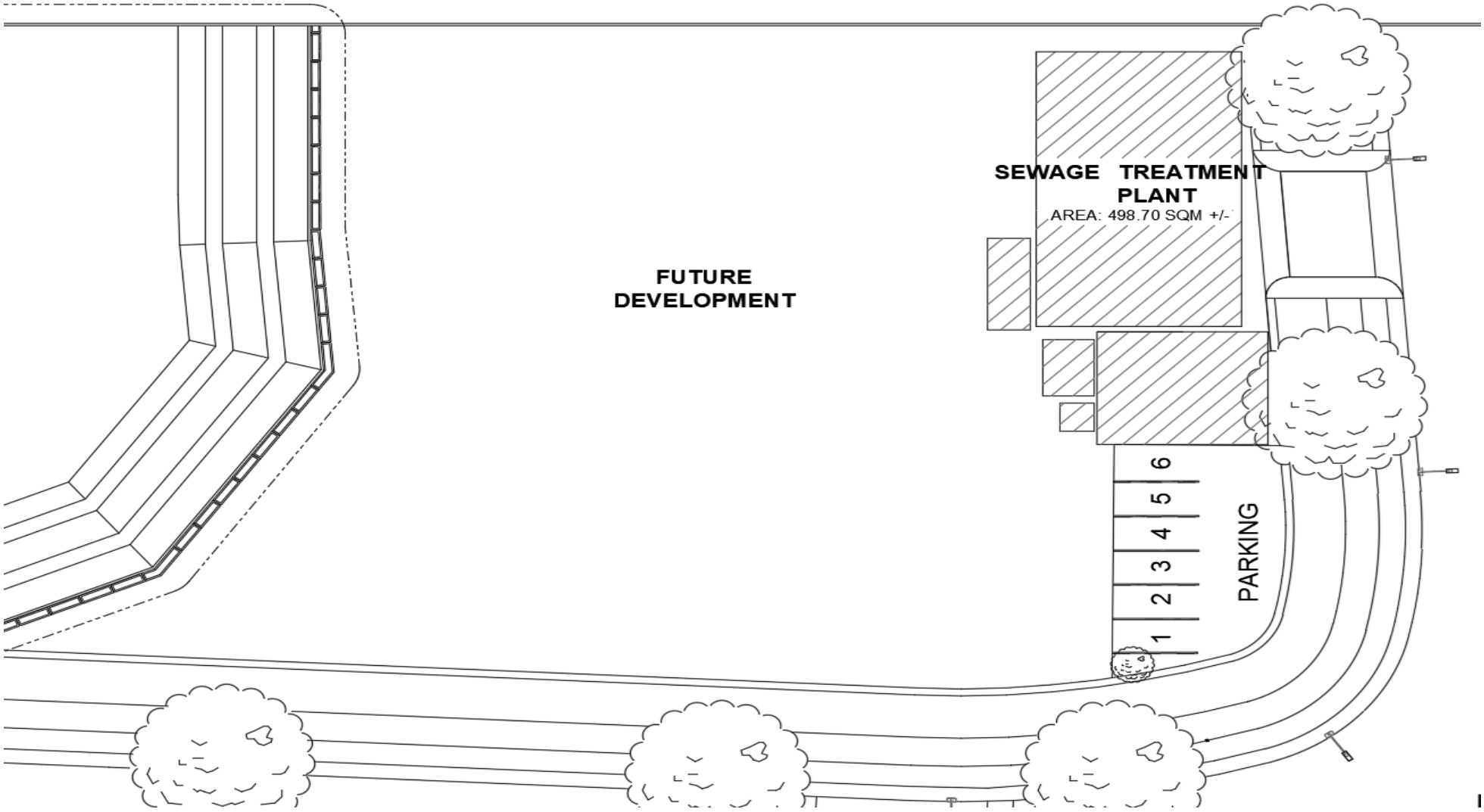
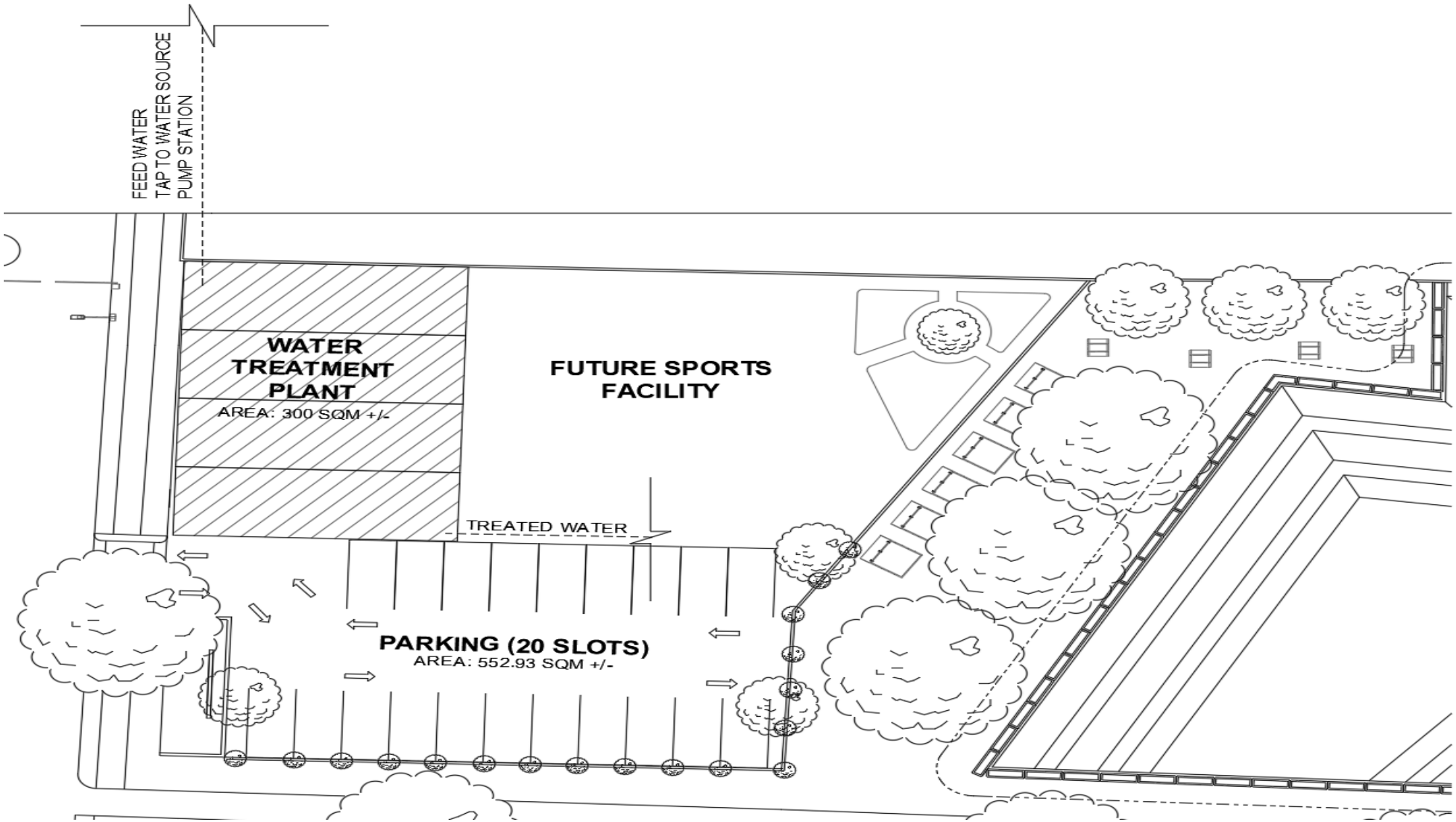
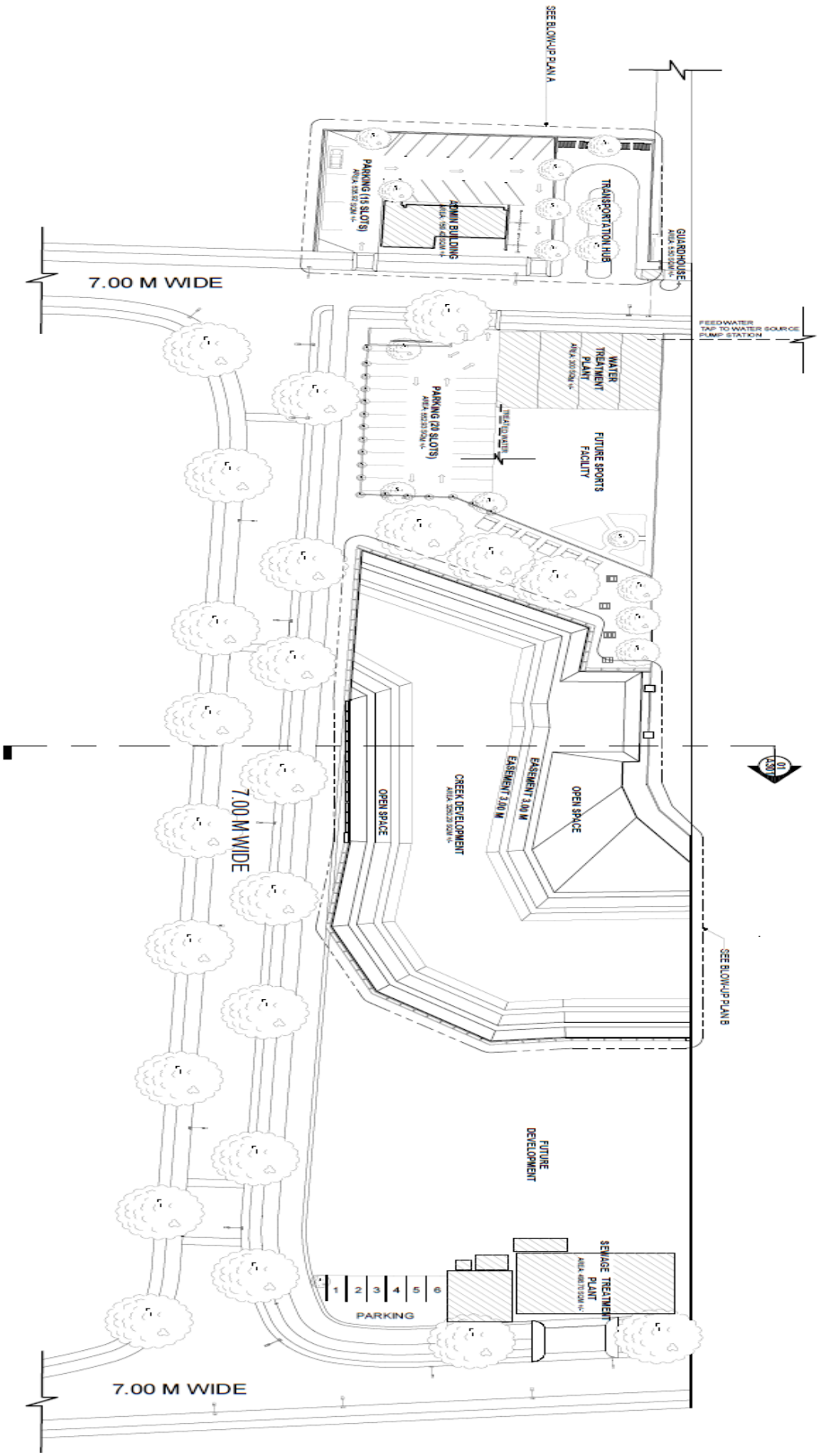

24172
WAITING SHED
3.00 M WIDE
TRANSPORTATION HUB
AREA: 293.30 SQM +/-
PARKING (15 SLOTS)
AREA: 535.92 SQM +/-
BICYCLE PARKING
40704
4.60 M WIDE
ADMIN BUILDING
AREA: 159.42 SQM +/-
7.00 M WIDE
4.60 M WIDE
24104


OPEN SPACE
PLANT BOX
PLANT BOX
OPEN SPACE
5457
5457
5457
5457
7600
7600
7600
7516
7526
9102
4523
4542
5524
5524
5524
5657
5611
6845
7919
7522
7525
8337
9647
8221
7582
7500
7492
7517
7612
7786
7500
7793
7502
7593
7977
CREEK DEVELOPMENT
AREA: 3250.29 SQM +/-
ELEV. + 1.80 M


SEWAGE TREATMENT PLANT
AREA: 498.70 SQM +/-
FUTURE DEVELOPMENT
PARKING
1
2
3
4
5
6


FEED WATER
TAP TO WATER SOURCE
PUMP STATION
WATER
TREATMENT
PLANT
AREA: 300 SQM +/-
FUTURE SPORTS
FACILITY
TREATED WATER
PARKING (20 SLOTS)
AREA: 552.93 SQM +/-


SEE BLOW-UP PLAN A
PARKING (15 SLOTS)
AREA: 536.92 SQM +/-
ADMIN BUILDING
AREA: 150.48 SQM +/-
TRANSPORTATION HUB
GUARDHOUSE
AREA: 15.5 SQM +/-
7.00 M WIDE
FEEDWATER
TAP TO WATER SOURCE
PUMP STATION
WATER
TREATMENT
PLANT
AREA: 300 SQM +/-
PARKING (20 SLOTS)
AREA: 520.81 SQM +/-
TREATED WATER
FUTURE SPORTS
FACILITY
EASEMENT 3.00 M
EASEMENT 3.00 M
OPEN SPACE
OPEN SPACE
CREEK DEVELOPMENT
AREA: 3250.39 SQM +/-
01
A301
7.00 M WIDE
SEE BLOW-UP PLAN B
FUTURE
DEVELOPMENT
SEWAGE TREATMENT
PLANT
AREA: 400.70 SQM +/-
1
2
3
4
5
6
PARKING
7.00 M WIDE


Republic of the Philippines
gppb
Government Procurement Policy Board