

BIDS AND AWARDS COMMITTEE FOR INFRASTRUCTURE (BAC-I)

**Re-Bidding for the Construction of Sewage Treatment Plant, Access Road, and
Freedom Park in Bonifacio Capital District, Taguig City**

BID BULLETIN NO. 2

This Bid Bulletin clarifies queries raised during pre-bid conference, queries received by the BAC-I through email until 15 February 2021, and other matters relative to the bidding for the aforementioned project.

1. Queries/Questions by Prospective Bidders

Issues Raised	Clarifications
<p>a. Stated project duration is 360 days only but there will be 1 year commissioning and testing/process proving plus another 1 year interim O&M. Are the expenses (manpower, energy cost etc.) of the process proving and O&M still on the contractor?</p> <p><i>Section VI. Specifications 8.3.6</i></p>	<p>Testing and Commissioning and Process Proving is included in the ABC and will be covered by the Contractor.</p> <p>Interim O&M for one year from the issuance of preliminary acceptance and turnover is not included in the ABC and may be done by the winning bidder subject to negotiations with the following Operational Expenses that will be shouldered by BCDA:</p> <ol style="list-style-type: none"> 1. Utility consumption cost 2. Chemical consumption cost 3. Maintenance cost (parts, sludge treatment/waste disposal, disinfection, etc.) 4. Manpower/Labor cost
<p>b. What are the other sources of inflow to the STP? Why do Boron, cyanide, fluoride, and selenium need to be included in the wastewater analysis?</p> <p><i>Section VI. Specifications 3.4</i></p>	<p>The inflow to the STP shall be domestic wastewater only.</p> <p>Key parameters indicated in Section VI. Specifications 3.4 shall be met so as to comply with DAO 2016-08 Water Quality and General Effluent Standards Class C.</p>
<p>c. How many passed test result/s (analyzed by a third party DENR accredited laboratory) is/are required prior to the acceptance and eventual turnover of the STP?</p> <p><i>Section V. SCC, GCC Clause 1.17</i></p>	<p>Complete Water Quality tests should be conducted by the third party quarterly as mandated by DENR.</p>

<p>d. Do you have any specific required test kits for the monthly/daily monitoring of the STP?</p> <p><i>Section V. SCC, GCC Clause 1.17</i></p>	<p>NONE, as long as it's acceptable to DENR. The Contractor shall arrange for the tests required to support conformance with the contract and the required quality parameters.</p>
<p>e. Is complying with this BOD level (1000mg/l to be reduced by 95%) different from the one mentioned in section 4 for the components of the process of the STP?</p> <p><i>Section VI. Specifications 2.3</i></p>	<p>Section 2.3 shall refer to Section 3.4 on the required effluent characteristics of the DAO 2016-08.</p> <p>Section 4 states that the biological treatment will remove the required amount of BOD, which is stated in Section 2.3 and 3.4.</p> <p>REDUCTION by 95% only ensures compliance during surges in loads.</p>
<p>f. Please clarify what does the future allocation to comply with DAO 2016-08 mean given that the STP to be constructed is DAO 2016-08 compliant already?</p> <p><i>Section VI. Specifications 3.6.11</i></p>	<p>The proposed STP to be constructed shall comply with DAO2016-08.</p> <p>Future allocation is for future needs of BCDA, where additional facilities may be installed or upgraded.</p>
<p>g. In case of a joint venture, do both parties need to submit their all on-going and awarded projects? How will the NFCC be computed? With whose audited financial statement will govern or will it have two NFCC's?</p> <p><i>Section IX. Checklist of Technical and Financial Documents Tab #4-5</i></p>	<p>Yes, both parties in a joint venture need to submit all on-going and awarded projects.</p> <p>The JV can decide whose NFCC to use. Only one compliant NFCC is required.</p>
<p>h. Kindly specify the required permits and licenses to be included in the scope of work (ECC, LLDA, building permit, clearance for new construction and others)</p> <p><i>Section V. SCC GCC Clause 1.31</i></p>	<p>It is in the scope of the Contractor to identify all the necessary applications for clearances and permits needed (DENR, LLDA, Electrical, Building, Sanitary/Plumbing, Excavation, Discharge Permit, Permit to operate to name a few).</p>
<p>i. Do you have provisions regarding the tree balling and cutting of trees?</p>	<p>The Contractor shall coordinate with DENR for the provisions of tree cutting and balling. BCDA shall assist and facilitate the permits but tree-balling and tree-cutting are the responsibilities of the Contractor.</p>

<p>j. In the event that there is low inflow and sufficient volume of septage is not delivered and/or the characteristic of the inflow does not meet the design considerations, will this be subjected for variation as it will greatly affect the project cost and duration?</p> <p><i>Section VI. Specifications 3.2-3.3</i></p>	<p>It is important that the completion of STP is in line with the completion and partial operation of the new Senate Building so that the Testing and Commissioning can already be done since the incoming volume will initially be coming from the new Senate Building.</p> <p>If you expect to use dilution as a method of compliance, this is not allowed during the testing period.</p>																	
<p>k. Are the quantities in the BOQ final? What if there is a variation on the actual construction?</p> <p><i>Section VII. Bill of Quantities</i></p>	<p>Quantities in the BOQ are Final. For variations during actual construction please refer to GCC Clause 43 Variation Order.</p>																	
<p>l. Are we restricted to MBBR Technology as the outline provided in the specification 3.0 Design Criteria seems to fit the said technology. Please clarify.</p> <p><i>Section VI. Specifications 3.0</i></p>	<p>Section 3.1 of the Performance Specification mentioned the preferred technologies with lower unit energy consumption and reduced sludge production such as Fixed Bed-Biofilm Activated Sludge (FBAS), Membrane Aerated Biofilm Reactor (MABR), Moving Bed Biofilm Reactor (MBBR), or other best practice process to remove nitrogen, phosphorus, and other impurities from the effluent.</p>																	
<p>m. Reference to the detailed cost estimate form as part of the submittal for the Financial, we would like to ask for the correct formula in determining the VAT for each pay item.</p> <p>Normally, it should be the Total Direct Cost multiplied by the Total Mark-up (OCM + Profit) while in the said form pages 157 to 162 except page 156 it is incorrect, might be a typo error.</p>	<table border="1" data-bbox="746 1252 1326 1413"> <thead> <tr> <th rowspan="2">OST</th> <th colspan="2">MARK-UPS IN PERCENT</th> <th colspan="2">TOTAL MARK-UP</th> <th rowspan="2">VAT</th> </tr> <tr> <th>TOTAL</th> <th>OCM</th> <th>PROFIT</th> <th>%</th> <th>VALUE</th> </tr> </thead> <tbody> <tr> <td>(5) (5.1)+(5.2) +(5.3)</td> <td>(6)</td> <td>(7)</td> <td>(8)</td> <td>(9) (5)X (8)</td> <td>(10) 12%[(5)+(9)]</td> </tr> </tbody> </table> <p>Please see the above-corrected formula for VAT. Please see Annex F. Correction for the said item will be reflected on the soft copy of DCE.</p>	OST	MARK-UPS IN PERCENT		TOTAL MARK-UP		VAT	TOTAL	OCM	PROFIT	%	VALUE	(5) (5.1)+(5.2) +(5.3)	(6)	(7)	(8)	(9) (5)X (8)	(10) 12%[(5)+(9)]
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<p>n. Are we going to follow Department Order 197, series of 2016 of the DPWH standard of computing the approved ABC for the percentage of OCM and Profit for each pay item, the VAT percentage at 12% was already given.</p>	<p>Follow the provided Detailed Cost Estimates Form.</p>																	

o. Is the site inspection a requirement for the Technical submittal?	The site inspection is not a requirement for the technical submission.
p. Can separate contracts with a single certificate of completion be submitted as the SLCC?	This is to reiterate that the SLCC pertains to a SINGLE Largest completed contract of a combination of the construction of STP and civil works. A combination of two or more different contracts to meet the required ABC will not be accepted.
q. Can you please identify where the location of LCP1 is for Road lighting?	This may be located in the corner of the access road and Pasong Tamo extension inside the freedom park.
r. Does underground lines included in our scope of work? If yes, can you please identify the limit of our scope?	<p>There is no underground electrical for 34.5kV in the access road.</p> <p>Permanent power from the tapping point to the STP shall be underground and is part of the scope of the Contractor in the design and build.</p> <p>Lines for the lighting shall be underground, plans included in the drawings. Please see Sheet E-1 & E-2.</p>
s. Can you provide a plan for underground lines if included on our scope of work along the access road?	<p>There is no underground electrical for 34.5kV in the access road.</p> <p>Permanent power from the tapping point to the STP shall be underground and is part of the scope of the Contractor in the design and build.</p> <p>Lines for the lighting shall be underground, plans included in the drawings. Please see Sheet E-1 & E-2.</p>
t. Can you provide the load schedule for Road Lighting LCP1 panelboard?	Please see Annex G for the revised load schedule.
u. Can you please provide specification (wattage, height, mounting) for lighting fixtures?	The contractor must submit a proposed specification for lighting fixtures and for approval of BCDA but please see A-8.4 & A-8.5 for reference of the specification of lighting fixtures.
v. Road lightings and Single Pole Luminaire interlap each other location along the access road? Which will govern?	Road lighting and Single Pole Luminaire does not overlap each other. Road Lightings shall be located at the sidewalk, while the single pole luminaire should be within the freedom park.

<p>w. For a JV, may we clarify if one partner lacks the PCAB Classification but has the experience for the similar scope of works can submit the SLCC requirement, while the other partner will submit the NFCC?</p> <p>Then the partner who has submitted the NFCC will submit the rest of the requirements for the Technical and Financial documents, but both parties will submit their respective PCAB, PhilGEPS, Mayor's Permit, Tax Clearance and the Special PCAB License for the JV.</p>	<p>The special PCAB license must be at least a Category A and License Classification Medium B either for General Engineering-1, General Building-2, or General Building-3.</p> <p>Each partner of the joint venture shall submit their respective PhilGEPS Certificates of Registration in accordance with Section 8.5.2 of R.A. 9184. The submission of technical and financial eligibility documents by any of the joint venture partners constitutes compliance.</p> <p>Either party in the JV may submit the SLCC and NFCC. Submission of one is submission of all with respect to SLCC and NFCC.</p> <p>But please note that the PCAB licenses for JV and Consortium have different requirements. A Special PCAB License is required for JV, and all JV partners must secure a PCAB License. On the other hand, in the case of a Consortium, a Special PCAB License is required for Consortium but PCAB requires PCAB License only for at least one company or partner in a Consortium and it is the constructor which shall possess the PCAB License. Consortium means there is a constructor, a financier, or a supplier.</p>
<p>x. Whether the bidders can be provided with the editable files of the bidding forms.</p> <p>What are the attachments /requirements for the Curriculum Vitae (CV) of the key personnel to be nominated?</p>	<p>The editable files of the bidding forms shall be included in the files to be provided to the interested bidders who will purchase the bidding documents for the Project.</p> <p>The bidders should submit/attach the required valid license of all their nominated key personnel. They should also attach the DPWH Certificate of Accreditation for the required Materials Engineer, and DOLE Certificate of Accreditation for the required Health and Safety Officer.</p> <p>For the required experience of the key personnel to be nominated to the project, the number of years of experience of key personnel shall be computed from the start of the project up to the completion of the project. However, if the nominated personnel has two or more projects at</p>

	the same time, the experience shall be computed as one.
y. Whether the prospective bidders can be provided with details of bank account where they can deposit the payment for the bidding documents.	Online payment or payment through the bank for the bidding documents for the Project is not allowed. The prospective bidders shall pay for the bidding documents at the BCDA Cashier. Check payment is allowed.
z. Whether the bidder can nominate a Landscape Architect to the Project whom they hired on a consultancy basis.	Yes, provided that the nominated Landscape Architect should be committed to the Project or for the duration of the Project. The bidder should nominate a licensed "Landscape Architect" and not just "Architect".
aa. Whether the bidder can nominate the equipment which are still deployed to its other projects.	Yes. The bidder may nominate the equipment which are still deployed to its other projects during bid submission and post-qualification, provided that the said equipment are presented to the BAC-I TWG for actual onsite inspection during post-qualification, and provided that the said equipment should be available at the start of the project construction and for the duration of the project. For this purpose, a Certificate of availability of the equipment for the project is required to be signed by the owner or the lessor, as the case may be.
bb. Whether the required SLCC is just one single contract with a component of construction of STP and construction of roads. Whether the required SLCC is PhP75.58M for the construction of roads and another PhP75.58M for the construction of STP, which means that the bidders will submit two (2) separate contracts. Whether the cost of maintenance component in a contract of a construction of STP and maintenance can be considered to meet the required amount of SLCC which is PhP75.58M.	<p>The required SLCC is only one (1) contract or a single contract of completed project of a combination of the construction of STP and civil works.</p> <p>The SLCC doesn't have to be a combination of the construction of STP and roads, <u>as long as it is a contract of a combination of the construction of STP and civil works with a total contract amount of at least PhP75.58M.</u></p> <p>The required SLCC doesn't need to have a construction of road component as long as it has a construction of STP and civil works component. It can be a contract of completed project which has a combination of the construction of STP and, for example, a hotel or building.</p> <p>There is no requirement for ratio and proportion for STP and civil works in the required SLCC. The</p>

<p>Whether in the amount required for SLCC which is at least PhP75.58M, there is a required percentage for STP component.</p> <p>Whether the STP component in the required SLCC can be substituted with water treatment component, i.e. a contract with water treatment component instead of STP component.</p> <p>Whether the contractor's experience or the SLCC on the construction of STP with technology which is different from the requirement of BCDA is acceptable.</p>	<p>required SLCC is <u>one completed contract</u> of a combination construction of STP and civil works with a <u>total contract cost of at least PhP75.58M.</u></p> <p>The STP component of a contract cannot be substituted with water treatment because it involves different technology and process. The bidder should stick to the required SLCC which is a combination of construction of STP and civil works components. Maintenance cost is not counted in the cost of the STP for SLCC purposes.</p> <p>It is not required that the experience of the bidder on the construction of STP should be the STP with the same technology as the one required by BCDA in the project being bid out.</p>
<p>cc. On the possibility that the contract will start two (2) months from the issuance of Notice of Award depending on the approval of DENR on the ECC, can the nominated key personnel and equipment be made available for the Project only upon the execution of the contract?</p>	<p>Yes, but the winning bidder should sign the Certificate of Availability of the nominated key personnel and equipment which is the proof of the bidder's commitment to the BCDA that the nominated key personnel and equipment are available for the duration of the Project.</p>
<p>dd. Whether it is only the design of the STP, which is the drawing, that the bidder should secure approval from DENR.</p>	<p>The winning bidder/contractor should secure the approval of the building permit which includes approvals from the Department of Environment and Natural Resources (DENR) and Laguna Lake Development Authority (LLDA) to ensure that the design of the STP is in conformance with DENR Administrative Order (DAO) 2016-08. The said approvals from the DENR and LLDA should be secured by the winning bidder before it can start with the construction of STP.</p> <p>The building permit should be secured from the Local Government Unit while the design of STP should also be provided to DENR/LLDA before the implementation of the project. Tree cutting permit and Environmental Compliance Certificate (ECC) should also be secured from DENR prior to the start of construction.</p>

	BCDA shall extend assistance to the winning contractor in securing the ECC and other government permits/clearances.
<p>ee. Whether the one (1) year warranty of the equipment for STP will start on the 8th month of year 1.</p> <p>How can the winning bidder do the Testing and Commissioning if there is no influent yet from the 8-month period?</p>	<p>The 1-year warranty on the equipment for STP starts on the 8th month of year 1 regardless whether there is already incoming volume or none.</p> <p>It is important that the completion of STP is in line with the completion and partial operation of the new Senate Building so that the Testing and Commissioning can already be done since the incoming volume will initially be coming from the new Senate Building.</p>
<p>ff. How frequent is the water analysis?</p> <p>Will the winning bidder get a third party to do the water analysis and how often is the third party needed for the water analysis?</p> <p>Whether basic testing as to the Testing and Commissioning would be acceptable.</p>	<p>Testing is daily because the BOD shall be the moving 5-day averages while pH is continuously monitored.</p> <p>The third party may be required by LLDA that's why the third party should be acceptable and accredited with LLDA because it will not accept the Certification from the laboratory which is not LLDA accredited.</p> <p>The third party, as may be required, shall monitor certain parameters like PH and dissolved oxygen. The LLDA has a checklist on the frequency for other parameters which the contractor should comply with LLDA standards like nitrates, fats oil and greases. The contractor has to be ready when LLDA checks for surges because a discharge above the effluent standard class C is not allowed. The contractor has to comply with class C 24/7.</p> <p>Basic testing as regards the Testing and Commissioning is acceptable provided it is acceptable with LLDA and DENR.</p>
<p>gg. Whether an interested bidder can bid for the project if it has only the required SLCC but has no required PCAB License, and will just get a</p>	<p>Yes. It is advised that the said interested bidder, along with its partner/s, shall apply for a PCAB License for a Consortium because PCAB requires Special PCAB License for a Consortium but only at least one company or partner in a Consortium is</p>

<p>Joint Venture (JV) partner who has the required PCAB License.</p>	<p>required to have a PCAB License, and it is the constructor which shall possess the PCAB License. Unlike in a JV, a Special PCAB License is also required and all JV partners must secure a PCAB License. As to the SLCC, at least one JV or Consortium partner meets the SLCC requirement.</p>
<p>hh. Up to what percentage a winning bidder can request for price escalation or amendment of prices on the Bill of Quantities (BOQ).</p>	<p>There is a provision on price escalation under R.A. 9184 and BCDA abides by that provision. As to the percentage of increase, a variation order is allowed at a maximum of 10% based on R.A. 9184. The bidders should carefully prepare their bid prices because it would be the reference already once the project is awarded.</p>
<p>ii. Whether there is a specific requirement for Sequencing Batch Reactor (SBR), and whether the structure of STP is above ground or underground.</p> <p>How high is the water table in the project area?</p>	<p>The SBR is negative.</p> <p>On the structure of STP, it would be up to the winning bidder whether to construct the STP which is above ground or underground. The water table in the project area is 3m-down, so the winning bidder can go 6m or 12m-down. There is a flooding problem in the project area.</p> <p>The data on the water table is provided in Annex C.</p>

2. Other Clarifications from BAC-I

- a. The location of the incoming sewer line will be along Pasong Tamo Extension. Inlet Invert Elevation = 4.094, Outlet Invert Elevation = 4.090. (Please see **Annex A**)
- b. The maximum Flood level in the area is at 7.5 m. Please see attached flood map taken from the University of the Philippines Nationwide Operational Assessment of Hazards (UP-NOAH). (Please see **Annex B**)
- c. Geotechnical Investigation Results. Ground Water table was recorded at -3.00 meters from the top of the boreholes at the date and time of drilling. (Please see **Annex C**)
- d. The Single Largest and Completed Contract (SLCC) required for the Project is a single contract of completed project of a combination of the Civil Works and Sewage Treatment Plant with a total contract cost of at least PhP75,580,000.00 or 50% of the ABC".
- e. The interested bidder who cannot meet the requirement for SLCC may partner with other company/interested bidder, who has the required SLCC, and form a Joint Venture or Consortium.

- f. The updated bid forms for Statement of Availability of Equipment, Joint Venture Agreement and Detailed Cost Estimate Template are attached as **Annex D, Annex E and Annex F**, respectively.
- g. The Bidding Forms already indicate where to put the name of the company, name of bidder or authorized representative, and the signature. There is no specific requirement as to the pagination and size of paper to be used by the bidders in the preparation of their bids but it is advised that they use size A4 and put pagination to ensure that their submission is complete and that the pages of their bid submission are complete and readable.
- h. The Construction of Sewage Treatment Plant, Access Road, and Freedom Park is a re-bidding of the same project, which has been bidded out by the BCDA but has been declared by the BAC-I as a failure of bidding. As such, the Bidders shall ONLY refer to and comply with the requirements under the Bidding Documents, Supplemental/Bid Bulletins, and other documents which the BAC-I issued, posted, and provided for the “Re-Bidding” of the project in the preparation of their bids.
- i. Project Schedule
 - Eight (8) months are allocated for the construction of STP. The Partial Certificate of Completion shall be issued after the completion of construction of STP which is on the 8th month of year 1.
 - Also in year 1 is the construction of Access Road and Freedom Park which must also be completed on the 12th month of year 1. The Certificate of Completion shall be issued to the winning contractor after the 12th month of year 1 which is after the completion of STP construction and civil works.
 - The conduct of 1 year Testing and Commissioning, and Proving Phase is on the 8th month of year 1 to the 8th month of year 2. Thereafter, the Preliminary Acceptance and Turnover will be issued to the winning contractor which is on the 8th month of year 2. The Final Acceptance will be issued to the winning contractor after the 12th month of year 2.

3. Reminders from BAC-I

- a. The Form for the Detailed Unit Price Analysis is replaced with the Form for Detailed Cost Estimates, attached as **Annex F** (which is included in the Bidding Documents for the project), to simplify the submission on the requirements of Financial Component.
- b. Key Personnel
 - The bidder must have at least one (1) key personnel nominated for each position and that nominated key personnel must not be nominated to another position.

- Nominating two (2) personnel then adding/combining their work experiences to qualify/satisfy the required number of years of experience for one (1) position, is not acceptable.
- The work experience of the nominated personnel must be for the position he/she is nominated for, i.e. if the engineer is nominated for a Chemical Engineer position, he/she should have an experience of at least three (3) years as Chemical Engineer and should be a licensed chemical engineer.
- The work experience of the nominated personnel shall not be counted if he/she is not licensed during the time when he/she gained the experience required of the position where he/she is nominated.
- The bidder which has a nominated key personnel whose number of years of experience lacks even just one (1) day of the required experience shall be disqualified.
- The number of years of experience of key personnel shall be computed from the start of the project up to the completion of the project. If the nominated personnel has two or more projects at the same time, the experience shall be computed as one.

c. Equipment

- If owned, supported by proof of ownership and Certification of Availability of Equipment for the duration of the project signed by the bidder;
- If leased, supported by Lease Agreement and Certification of Availability from the equipment lessor for the duration of the project. Proof of ownership of the Lessor should be included in the Technical Proposal;
- The nominated equipment should not be leased from a lessor who shall also lease the equipment from another lessor.
- If the bidder is leasing the equipment, the bidder should submit the Certificate of Availability from its lessor, not from the lessor of its lessor.
- If under purchase agreement, supported by Agreement to Purchase and Certification of Availability of Equipment from the equipment vendor and the bidder for the duration of the project.

d. Joint Venture (JV)/Consortium

- A consortium or Joint Venture is allowed to bid for the project but at least 60% of the interest belongs to Filipino citizens. A foreign bidder is allowed to bid but its interest in the JV or Consortium must only be up to 40%.

- The PCAB licenses for JV and Consortium have different requirements. A Special PCAB License is required for JV, and all JV partners must secure a PCAB License. On the other hand, in the case of a Consortium, a Special PCAB License is required for Consortium but PCAB requires PCAB License only for at least one company or partner in a Consortium and it is the constructor which shall possess the PCAB License. Consortium means there is a constructor, a financier, or a supplier.
- e. Contract period is 360 calendar days
- f. The bidders must be registered with PhilGEPS under Platinum Membership, otherwise the bidders will be rated “FAILED” which shall result in declaring them as “INELIGIBLE”. However, per GPPB Circular No. 07-2017, prospective bidders may opt to submit their PhilGEPS Certificate of Registration or their Class “A” Eligibility Documents, or a combination thereof, during the bid submission. The Platinum Membership remains as a post-qualification requirement to be submitted in accordance with Section 34.2 of the 2016 Revised IRR of RA 9184.
- g. Visiting or calling the members of the BAC-I the TWG, the Secretariat (except for administrative matters relating to the project), or anyone working for BCDA is not allowed and will not be entertained. All queries should be addressed to the BAC-I Chairperson but emailed to the Secretariat. In some cases where it is necessary to talk to the Secretariat for a query, e.g., involving or pointing to a design, the query should be followed up with a written query.
- h. Submission of Photocopied (Xerox/Scanned) Documents

All xeroxed or scanned documents being submitted as supporting documents must be clear and readable. Also, the entire document being copied is completely captured.
- i. The bid documents can be accessed in the PhilGEPS and BCDA Websites. Those who have purchased the Bid Documents will be provided with soft copy of the same (PDF Format) and editable forms.
- j. The bidders must purchase the bid documents before they are allowed to submit their bids. They can still purchase the document until the deadline of submission.
- k. The **deadline for the submission** of Eligibility Documents and Financial Proposals for the **Re-Bidding for the Construction of Sewage Treatment Plant, Access Road, and Freedom Park in Bonifacio Capital District, Taguig City** is at **12:00 noon on 10 March 2021** at the BCDA Central Receiving and Releasing Area (CRRRA) located at the 2nd Floor Bonifacio Technology Center, 31st St. cor. 2nd Avenue Bonifacio Global City, Taguig City. **Late bids or those submitted after 12:00 noon of 10 March 2021 shall not be accepted.**

Online Bid Submission is not allowed.

- l. The computer system clock at the CRRRA that is set to Philippine Standard Time (PhST) shall be used as reference in determining the time for the submission of bids. Hence, participating bidders are advised to synchronize their timepieces with the said computer system clock.
- m. Bidders may submit their bid proposal a day before the deadline for bid submission to avoid the possibility of being late for submission.
- n. The **Opening of Bids** for the **Re-Bidding for the Construction of Sewage Treatment Plant, Access Road, and Freedom Park in Bonifacio Capital District, Taguig City** shall be at **1:00 PM** on **10 March 2021** at the BCDA Corporate Center, 2nd Floor Bonifacio Technology Center, 31st St. cor. 2nd Avenue Bonifacio Global City, Taguig City.
- o. Bids will be opened in the presence of the Bidders. However, the Bidders' attendance during the Opening of Bids is not compulsory but it is advised that Bidders send their representative to assist the BAC-I and answer clarifications, if any.
- p. Each and every page of the Financial Bid Form/s must be appropriately signed by the bidders or the bidder's authorized representative. The authorization should also be attached. **Failure to do so shall be a ground for the rejection of the Bid.**
- q. The BAC expects the bidders to exercise due diligence in going through the bidding documents to be able to prepare their bids intelligently.
- r. The bidders are requested to use tabs in compiling their bid documents for quick and easy identification and verification.
- s. The computation of the bid security shall be based on the Approved Budget for the Contract (ABC).
- t. All licenses, permits and other required clearances should be valid at the time of the submission of bids, Post-Qualification evaluation, and signing of the contract.
- u. The following documents are required to be NOTARIZED:
 - a. Omnibus Sworn Statement
 - b. Bidder's Representative Authorization (as provided in Paragraph 2 of the Omnibus Sworn Statement)
 - c. Bid Securing Declaration
- v. The bidders may submit a notarized Bid Securing Declaration in lieu of other forms of bid security. It is important to note, however, that although the Bid Securing Declaration does not require cash, its enforcement will include automatic blacklisting and payment of certain fines in the event that the bidder violates any of the conditions set forth in the bidding documents.
- w. The bid should not be more than the ABC, otherwise the bidder will be disqualified.

- x. NFCC Computation should be based on the Audited Financial Statements for the year 2019 or 2020 whichever is available, using the computation provided in paragraph 5.5 of the Instruction to Bidders, and should be at least equivalent to the (ABC).
- y. BCDA reserves the right to waive minor defects in forms and requirement as long as they do not affect the genuineness and authenticity of the documents submitted.
- z. BCDA reserves the right to accept or reject any bid, to annul the bidding process, and to reject all bids at any time prior to contract award, without thereby incurring any liability to the affected bidder or bidders.

The deadline for requests for clarifications is on 24 February 2021, and the last day for the issuance of Supplemental/Bid Bulletin is on 01 March 2021.

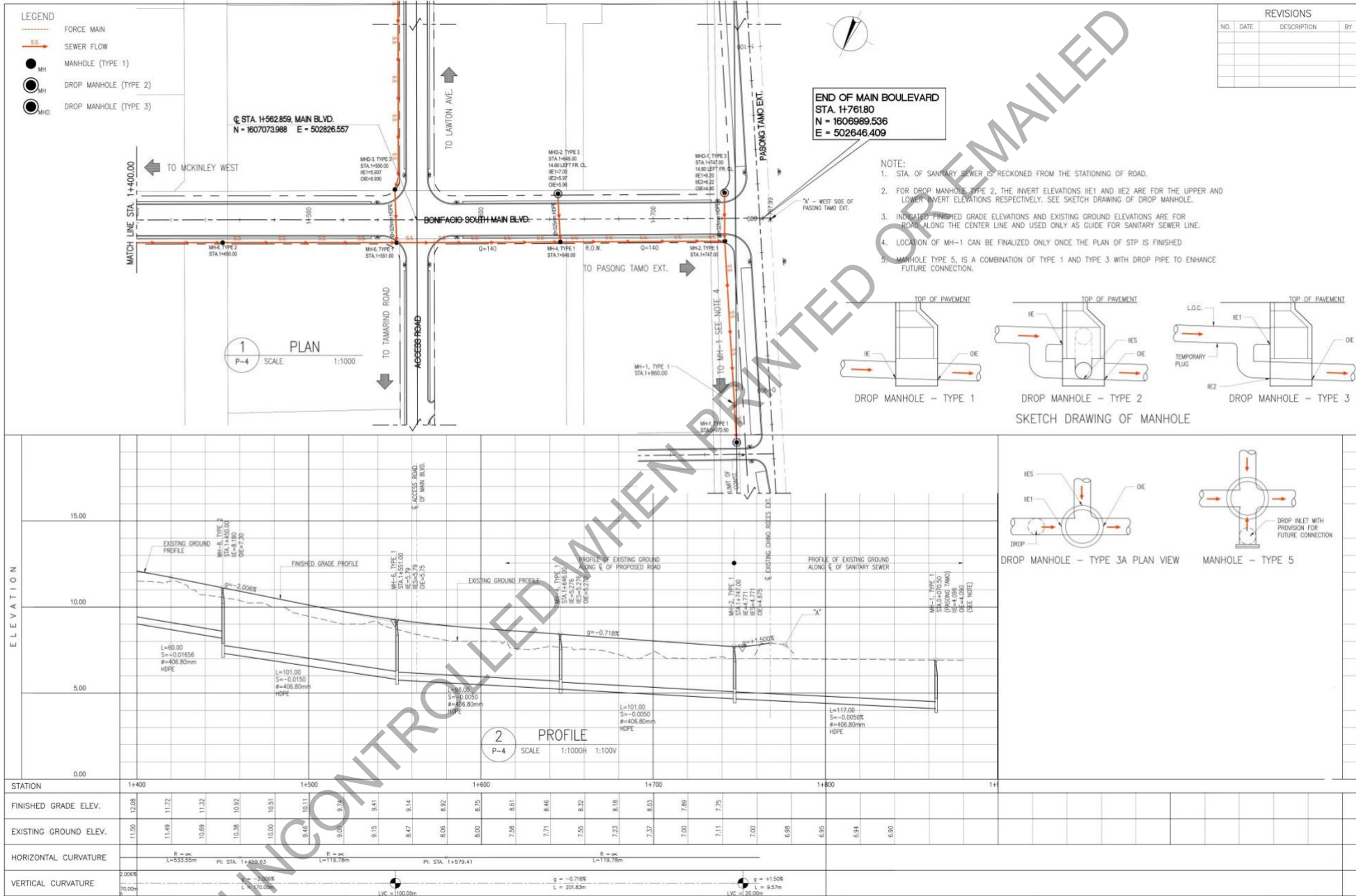
All provisions, conditions and statements in the bidding documents inconsistent with this Bid Bulletin are either modified or rendered ineffective, as the case may be.

Issued on 22 February 2021.

BIDS AND AWARDS COMMITTEE FOR INFRASTRUCTURE (BAC-I)


AILEEN ANUNCIACION R. ZOSA
Chairperson

Annex A



Annex B



Annex C

BH-1:

Depth (m)		Soil Description	Class (USCS)	N-value	Consistency
From	To				
0.55	1.00	Clayey silt	ML	14	Stiff
1.55	2.00	Silt	ML	16	Stiff
2.55	3.00		ML	Refusal	Hard
4.05	4.50		ML	Refusal	Hard
5.55	6.00		ML	Refusal	Hard
6.00	7.50	Sandstone	Rock	Coring	Poorly cemented
7.50	9.00		Rock	Coring	Poorly cemented
9.00	10.50		Rock	Coring	Poorly cemented
11.55	12.00	Sand	SP	Refusal	Very dense
13.05	13.50		SP	Refusal	Very dense
14.55	15.00		SP	Refusal	Very dense

BH-2:

Depth (m)		Soil Description	Class (USCS)	N-value	Consistency
From	To				
0.55	1.00	Clayey silt	ML	22	Very stiff
1.55	2.00	Silt	ML	24	Very stiff
2.55	3.00		ML	Refusal	Hard
4.05	4.50	Clayey silt	ML	Refusal	Hard
5.55	6.00		ML	Refusal	Hard
6.00	7.50	Siltstone tuff	Rock	Coring	Poorly cemented
7.50	9.00	Sandstone	Rock	Coring	Poorly cemented
9.00	10.50		Rock	Coring	Poorly cemented
11.55	12.00		Rock	Coring	Poorly cemented
13.05	13.50		Rock	Coring	Poorly cemented
14.55	15.00	Silty sand	SM	Refusal	Very dense

The ground water table was recorded at -3.00 m from the top of the boreholes at the date and time of drilling.

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Annex D

STATEMENT OF AVAILABILITY OF KEY PERSONNEL AND EQUIPMENT

[Date of Issuance]

To:

Dear _____:

In compliance with the requirements of the BCDA Bids and Awards Committee for the bidding of the *[Name of the Project]* ("the Project"), we certify that *[Name of the Bidder]* has in its employ key personnel, such as Project Manager, Project Engineer, Chemical Engineer, Electrical Engineer, Sanitary Engineer, Landscape Architect, Quantity Surveyor, Materials Engineer and Health and Safety Officer, who will be engaged for the construction of the said Project.

Further, we likewise certify the availability of equipment that *[Name of the Bidder]* owns, has under lease, and/or has under purchase agreement that may be used for the Project.

Very truly yours,

[Name of Authorized Representative]
[Position]
[Name of Bidder]

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JOINT VENTURE AGREEMENT

KNOW ALL MEN BY THESE PRESENTS:

This **JOINT VENTURE AGREEMENT** (hereinafter referred to as the "Agreement"), entered into this _____ day of _____ 20__ at _____ City, Philippines by and among:

_____, a domestic corporation duly organized, registered and existing under and by virtue of the laws of the Republic of the Philippines, with office address at _____, represented by its _____, hereinafter referred to as "_____";
- and -

_____, a domestic corporation duly organized, registered and existing under and by virtue of the laws of the Republic of the Philippines, with office address at _____, represented by its _____, hereinafter referred to as "_____";
- and -

_____ a foreign corporation organized and existing under and by virtue of the laws of _____, represented by its _____, hereinafter referred to as "_____";

(Henceforth collectively referred to as the "**Parties**")

WITNESSETH: That

WHEREAS, the Bases Conversion and Development Authority (BCDA) has recently published an Invitation to Apply for Eligibility and to Bid for the Supply and Delivery of _____ for the _____;

WHEREAS, the parties have agreed to pool their resources together to form the "_____ Joint Venture", hereinafter referred to as the Joint Venture, under the laws of the Philippines, for the purpose of participating in the abovementioned procurement of BCDA;

NOW, THEREFORE, for and in consideration of the foregoing premises and the covenants hereto set forth, the Parties have agreed as follows:

**ARTICLE I
ORGANIZATION OF THE JOINT VENTURE**

SECTION 1. Formation – The Parties do hereby agree and bind themselves to establish, form and organize a Joint Venture pursuant to the laws of the Republic of the Philippines, in order for the JV to carry on the purposes and objectives for which it is created;

SECTION 2. Name – The name and style under which the JV shall be conducted is “_____”;

SECTION 3. Principal Place of Business – The JV shall maintain its principal place of business at _____;

SECTION 4. Preparation and Documentation – The Parties shall secure and/or execute such certifications, documents, deeds and instruments as may be required by the laws of the Republic of the Philippines for the realization of the JV and in compliance with the Project. Further, they shall do all other acts and things requisite for the continuation of the JV pursuant to applicable laws;

SECTION 5. The Joint Venture shall be represented by the _____ in all biddings, related procurement transactions and other official dealings that it shall enter into with the BCDA and third parties, such transactions to include, among others, the submission of eligibility documents, bids, registration documents obtaining bonds, performing the principal contract in the event that the contract is awarded in favor of the Joint Venture, receipt of payment for goods delivered, and similar and related activities.

SECTION 6. The period of the Joint Venture shall begin upon execution of this Agreement and shall continue until the complete performance of its contractual obligations to BCDA, as described in Article II hereof, or upon its termination for material breach of any term or condition of this Agreement, by service of a written statement in English on the other Party, not less than 90 days prior to the intended date termination

**ARTICLE II
PURPOSE**

SECTION 1. The primary purpose of the Joint Venture is to participate in the public bidding to be conducted by the BCDA Bids and Awards Committee for the supply and delivery of _____ for the _____.

SECTION 2. If the above-described contract/s is/are awarded to the Joint Venture, the Joint Venture shall undertake the performance thereof to BCDA, and such other incidental activities necessary for the completion of its contractual obligations.

**ARTICLE III
SOLIDARY LIABILITY OF THE PARTIES**

SECTION 1. In the performance of the contract/s that may be awarded to the Joint Venture by the BCDA, and all other related activities/obligations, as described in Article II hereof, the Parties bind themselves jointly and solidarily, in the concept of solidarily debtors, subject to the right of reimbursement, as provided in the relevant provisions of the Civil Code of the

Annex E (Cont.)

Philippines.

**ARTICLE IV
CONTRIBUTION AND OTHER ARRANGEMENTS**

SECTION 1. Contribution – The Parties shall contribute the amount of _____ (Php _____) to support the financial requirements of the Joint Venture, in the following proportion:

A.	-	P	.00
B.	-	P	.00
TOTAL		P	.00

Additional contributions to the Joint Venture shall be made as may be required for contract implementation. In addition, _____ shall contribute any labor and contract management requirements.

SECTION 2. Profit Sharing – The share of the Parties to the JV from any profit derived or obtained from the implementation and execution of the Project shall be distributed pro rata to each, in accordance with the contribution and resources each has provided to the JV;

SECTION 3. Liquidation and Distributions – Any sum remaining after deducting from the total of all moneys or benefits received for the performance of the contract, all costs incurred by the JV after award of the contract for the Project pursuant to the accounting practices established for the JV, shall be distributed in accordance with the relative balances in the accounts of each Party pursuant to Sec.1 of this Article upon completion, final accounting, termination and liquidation of the JV. In the event of liquidation and termination of JV, and after taking into account the shares of the Parties in all income, gain, deductions, expenses, and losses, should the account of a Party contain a negative balance, such Party shall contribute cash to the JV sufficient to restore the said balance to zero;

SECTION 4. Sharing of Burden of a Net Loss – In case a net loss is incurred, additional contributions shall be made by the Parties in accordance with their respective shares.

**ARTICLE V
MISCELLANEOUS PROVISIONS**

SECTION 1. The provisions of the Instructions to Bidders, Supplemental Bid Bulletin, and other bidding documents issued by the BCDA in relation to the contract described in Article II hereof, shall be deemed incorporated in this Agreement and made an integral part thereof.

SECTION 2. This Agreement shall be binding upon and inure to the benefit of the Parties and their respective successors and assigns.

SECTION 3. The Parties herein are duly represented by their authorized officers.

SECTION 4. Governing Law - This Agreement shall be governed by and construed
Annex E (Cont.)

according to the laws of the Republic of the Philippines. Venue of any court action arising from this Agreement shall be exclusively laid before the proper court of the _____, Philippines.

IN WITNESS WHEREOF, the parties have set their hands and affixed their signatures on the date and place first above-stated.

Signed in the Presence of:

ACKNOWLEDGMENT

REPUBLIC OF THE PHILIPPINES)
CITY/MUNICIPALITY OF _____) S.S.
PROVINCE OF (in the case of Municipality)

BEFORE ME, a Notary Public for and in the City/Municipality of _____ (indicate also the Province in the case of Municipality), this _____ day of _____ (month & year) personally appeared the following:

Name
Validity Date

ID Name, Number and

Known to me and to me known to be the same persons who executed the foregoing instrument and they acknowledge to me that the same is their free and voluntary act and deed and that of the corporation(s) they represent.

This instrument refers to a Joint Venture Agreement consisting of _____ pages, including the page on which this Acknowledgement is written, and signed by the parties and their instrumental witnesses.

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

Annex E (Cont.)

(Notary Public)

Until _____
PTR No. _____
Date _____
Place _____
TIN _____
IBP _____

Doc. No. ;
Page No. ;
Book No. ;
Series of 20__.

Note: The competent evidence of identity for Notary shall comply with Sec. 12 (a), Rule II of the 2004 Rules on Notarial Practice. "Sec. 12. Competent Evidence of Identity – The phrase "competent evidence of identity" refers to the identification of an individual based on at least one current identification document issued by an official agency bearing the photograph and signature of the individual, such as but not limited to, passport, driver's license, Professional Regulations Commission ID, National Bureau of Investigation clearance, police clearance, postal ID, voter's ID, Barangay certification, Government Service and Insurance System (GSIS) e-card, Social Security System (SSS) card, Philhealth card, senior citizen card, Overseas Workers Welfare Administration (OWWA) ID, OFW ID, seaman's book, alien certificate of registration/immigrant certificate of registration, government office ID, certification from the National Council for the Welfare of Disabled Persons (NCWDP), Department of Social Welfare and Development (DSWD) certification;

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Annex F

DETAILED COST ESTIMATE		
Project:	Construction of Sewage Treatment Plant, Access Road, and Freedom Park	
Location:	Bonifacio Capital District, Taguig City	
SUMMARY		
ITEM	DESCRIPTION	BID AMOUNT (Php)
I	GENERAL REQUIREMENTS	
II.A	SITE DEVELOPMENT	II.B + II.C
II.B	ACCESS ROAD	
II.C	FREEDOM PARK	
III	SEWAGE TREATMENT PLANT	
	TOTAL COST	

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**DETAILED COST ESTIMATE
CONSTRUCTION OF STP, ACCESS ROAD, AND FREEDOM PARK
BONIFACIO CAPITAL DISTRICT, TAGUIG CITY**

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	ESTIMATED DIRECT COST				MARK-UPS IN PERCENT		TOTAL MARK-UP		VAT <small>12%[(5)+(9)]</small>	TOTAL INDIRECT COST	TOTAL COST	UNIT COST
				MATERIAL	LABOR	EQUIP ENT	TOTAL	OCM	PROFIT	%	VALUE				
(1)	(2)	(3)	(4)	(5.1)	(5.2)	(5.3)	(5) (5.1)+(5.2) +(5.3)	(6)	(7)	(8)	(9) (5) X (8)	(10)	(11) (9)+(10)	(12) (5)+(11)	(13) (12)/(3)
PART A	FACILITIES FOR THE ENGINEER														
A.1.1a1	Rental of Field Office for the Engineer (Min. of 50sq.m. Floor Area)	12.00	Month												
A.1.1 (16)	Operation and Maintenance of Field Office for the Engineer	12.00	Month												
A.1.1.b2	Furnishing Supplies and Consumables Stores for the Field Office for the Engineer (To be supplied on 1st month)	1.00	l.s.												
A.1.1.b3	Furnishing Supplies and Consumables Stores for the Field Office for the Engineer (To be supplied monthly)	12.00	Month												
A.1.1.b1	Furniture and Equipment for the Field Office of the Engineer	1.00	l.s.												
A.1.2 (2)	Pick Up Type Service Vehicle for the Engineer , 1 Unit per month, Rental Basis	12.00	Month												
A.1.2 (5)	Operation and Maintenance of 1 Unit - Pick Up Type Service Vehicle for the Engineer	12.00	Month												
A.1.4 (1)	Provision of Progress Photographs (assumed 50 photos per month)	600.00	ea.												
A.1.5 (1)	Communication Facility for the Engineer, 2 Units Cellular Phone, includes open access data, unli calls and unli texts,and Drone for weekly progress photographs Rental Basis	12.00	Month												
	TOTAL COST - PART A														
PART B	OTHER GENERAL REQUIREMENTS														
B.7 (1)	Occupational Safety and Health Program	12.00	Month												
B.4 (10)	Miscellaneous Survey and Staking	0.20	k.m.												
B.4 (10)	Slope, Reference, and Clearing and Grubbing Stakes	0.20	k.m.												
B.4 (10)	Centerline Re-establishment	0.20	k.m.												
B.4 (10)	Grade Finishing Stakes	0.20	k.m.												
B.5	Project Billboards / Signboards	2.00	ea.												
B.9	Mobilization / Demobilization	1.00	l.s.												
B.14	Environmental Management and Monitoring	12.00	Month												
B.15	Permits and Other Miscellaneous Fees	1.00	l.s.												
SPL (EIS)	Preparation of Environmental Impact Statement	1.00	Prov. Sum												
	TOTAL COST - PART B														
	TOTAL COST - PART A & B														

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**DETAILED COST ESTIMATE
CONSTRUCTION OF STP, ACCESS ROAD, AND FREEDOM PARK
BONIFACIO CAPITAL DISTRICT, TAGUIG CITY**

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	ESTIMATED DIRECT COST				MARK-UPS IN PERCENT		TOTAL MARK-UP		VAT	TOTAL INDIRECT COST	TOTAL COST	UNIT COST
				MATERIAL	LABOR	EQUIPMENT	TOTAL	OCM	PROFIT	%	VALUE				
(1)	(2)	(3)	(4)	(5.1)	(5.2)	(5.3)	(5) (5.1)+(5.2) +(5.3)	(6)	(7)	(8)	(9) (5) X (8)	(10) 12%[(5)+(9)]	(11) (9)+(10)	(12) (5)+(11)	(13) (12)/(3)
II.B	ACCESS ROAD														
PART C	EARTHWORKS														
100 (1)	Clearing and Grubbing (including removal of trees and other existing structures and obstructions)	0.32	has.												
104 (2)a	Embankment from Borrow Fill	2,194.82	cu.m.												
105 (1)a	Subgrade Preparation, Common Materials	3,254.40	sq.m.												
	TOTAL COST - EARTHWORKS														
PART D	SUBBASE AND BASE COURSE														
200 (1)	Aggregate Subbase Course	655.00	cu.m.												
202 (1)	Crushed Aggregate Base Course	499.00	cu.m.												
	TOTAL COST - SUBBASE AND BASE COURSE														
PART E	SURFACE COURSES														
301 (1)	Bituminous Prime Coat (MC70 - Cut-back Asphalt)	1,926.25	sq.m.												
302 (2)	Bituminous Tack Coat (Emulsified Asphalt, SS-1)	1,926.25	sq.m.												
310 (1)c	Bituminous Concrete Surface Wearing Course, Hot-Laid, 63.5mm thk	1,926.25	sq.m.												
310 (2)c	Bituminous Concrete Surface Binder Course, Hot-Laid, 63.5mm thk	1,926.25	sq.m.												
311 (1)a	Portland Cement Concrete Pavement (Unreinforced), 0.15m Thick, 2,100 psi @ 14 days	1,008.00	sq.m.												
	TOTAL COST - SURFACE COURSES														
PART G	DRAINAGE AND SLOPE PROTECTION STRUCTURES														
103 (6)a	Structure Excavation (Pipe Culverts and Drain)	327.60	cu.m.												
103 (3)-1	Foundation Fill, Gravel Bedding (RCPC)	170.40	cu.m.												
500 (1)a3	Pipe Culvert, 910mm dia. Class II, TYPE B (RCPC)	218.00	l.m.												
	Curb Inlet Manhole with manhole cover, includes excavation, backfill, lean concrete, concrete, reinforcing steel, formworks, disposal and other items to complete the work														
502 (1)	Curb Inlet Manhole, Depth = 2.46m	10.00	ea.												
	TOTAL COST - DRAINAGE AND SLOPE PROTECTION STRUCTURES														

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**DETAILED COST ESTIMATE
CONSTRUCTION OF STP, ACCESS ROAD, AND FREEDOM PARK
BONIFACIO CAPITAL DISTRICT, TAGUIG CITY**

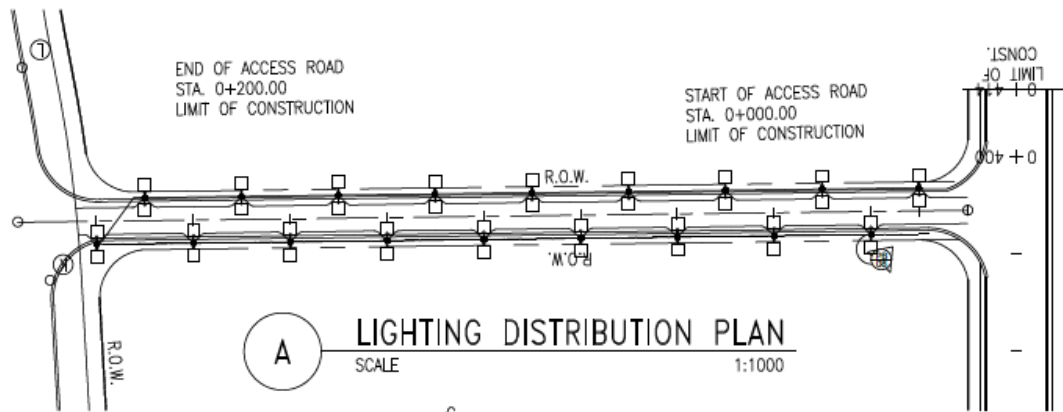
ITEM NO.	DESCRIPTION	QUANTITY	UNIT	ESTIMATED DIRECT COST				MARK-UPS IN PERCENT		TOTAL MARK-UP		VAT	TOTAL INDIRECT COST	TOTAL COST	UNIT COST
				MATERIAL	LABOR	EQUIP MENT	TOTAL	OCM	PROFIT	%	VALUE				
(1)	(2)	(3)	(4)	(5.1)	(5.2)	(5.3)	(5) (5.1)+(5.2) +(5.3)	(6)	(7)	(8)	(9) (5)X (8)	(10) 12%[(5)+(9)]	(11) (9)+(10)	(12) (5)+(11)	(13) (12)/(3)
	LANDSCAPING WORKS														
608 (2)	Placing of Top Soil	1,765.00	cu.m.												
807 (3) a	Softscape, Large Trees (Cotton Tree, 4" dia.)	25.00	ea.												
807 (3) a	Softscape, Medium Size Trees (Golden Shower 4" dia.)	15.00	ea.												
807 (3) a	Softscape, Small Size Trees (Pink Tabebuia, 2" dia.)	2.00	ea.												
807 (3) a	Softscape, Flowering Trees (Ilang-ilang, 2" dia.)	38.00	ea.												
807 (3) b.1	Softscape, Shrubs	2,453.00	sq.m.												
807 (3) b.2	Softscape, Shrubs (Hedge Planting)	682.00	sq.m.												
807 (4) a	Softscape, Grass/Groundcover	2,751.10	sq.m.												
807 (16)	Landscaping Maintenance for 3 Months	3.00	l.s.												
	TOTAL COST - LANDSCAPING WORKS														
	ELECTRICAL WORKS														
	Landscape Lighting, all specified in the Landscape Lighting detail plan or approved equal; including all necessary fixing accessories and work to complete the job; all as shown in Drawing A-8.2, A-8.4 and A-8.5														
	Pole Luminaire (Single Head)	15.00	ea.												
	Garden Luminaire w/ Mounting Clamp	20.00	ea.												
	Garden Luminaire w/ Earth Spike	51.00	ea.												
	Pole Floodlight (Single Head)	6.00	ea.												
	Recess Floor Uplights	90.00	ea.												
	Decorative Garden Pole Luminaire	70.00	ea.												
	Lighting Outlet, in 20mm dia. PVC Conduit; including 2-3.5mm ² THHN + 1-3.5mm ² THHN (G)														
	Lighting outlet	7.00	ea.												
	Main Circuit Breaker, 150AT, 100AF, 2P, 230V Center Main Floor Mounted Electrical Panel Board Enclosure Weatherproof/Outdoor type with Photocell and Automatic Switch Timer														
	Panel Board	1.00	ea.												
	Main Feederline, using 2-38mm ² THHN + 1-8.0mm ² THHN (G) in 50mm dia. RSC Pipe; including all necessary fixing accessories and works to complete the job	1.00	lot												
	Testing and Commissioning	1.00	lot												
	TOTAL COST - ELECTRICAL WORKS														
	GRAND TOTAL COST - FREEDOM PARK														

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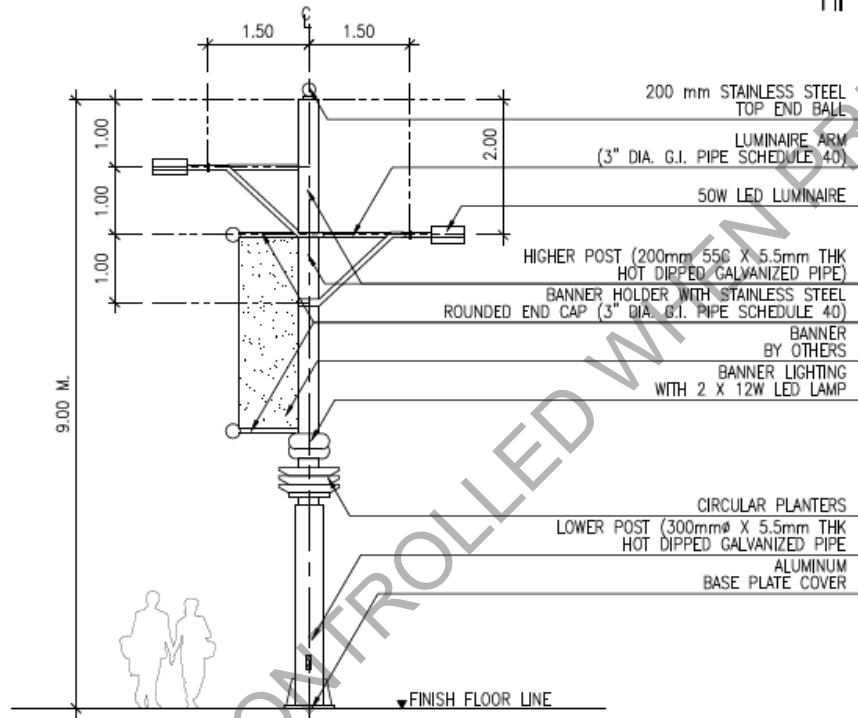
**DETAILED COST ESTIMATE
CONSTRUCTION OF STP, ACCESS ROAD, AND FREEDOM PARK
BONIFACIO CAPITAL DISTRICT, TAGUIG CITY**

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	ESTIMATED DIRECT COST				MARK-UPS IN PERCENT		TOTAL MARK-UP		VAT	TOTAL INDIRECT COST	TOTAL COST	UNIT COST
				MATERIAL	LABOR	EQUIP MENT	TOTAL	OCM	PROFIT	%	VALUE				
(1)	(2)	(3)	(4)	(5.1)	(5.2)	(5.3)	(5) (5.1)+(5.2) +(5.3)	(6)	(7)	(8)	(9) (5)X (8)	(10) 12%[(5)+(9)]	(11) (9)+(10)	(12) (5)+(11)	(13) (12)/(3)
III	SEWAGE TREATMENT PLANT	1	lot												

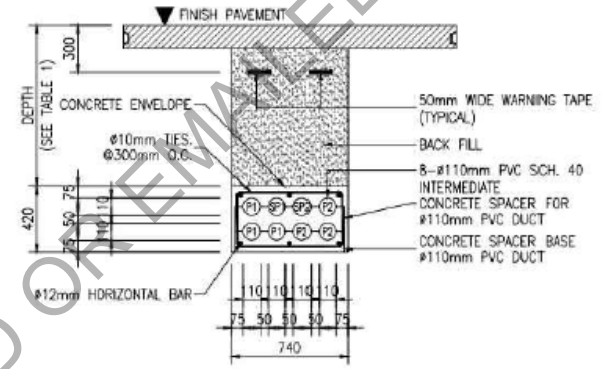
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A LIGHTING DISTRIBUTION PLAN
SCALE 1:1000



B LAMP POST
SCALE NTS



C DUCT BANK DETAIL
SCALE NTS

APPLICATION NOTES:

1. THESE CONSTRUCTIVE UNITS ARE APPLICABLE TO BOTH 13.5kW U.G. LINES.
2. LABOR INCLUDES CLEANING OF DUCTS WITH MANDREL.
3. ULTIMATE COMPRESSIVE STRENGTH OF CONCRETE SHALL BE 13.8 MPa (2000psi).
4. DUCTS SHALL BE SLOPED DOWN BY ATLEAST 0.25% TOWARDS MANHOLES OR PULLBOXES.
5. THE CONDUIT CONCRETE ENCASEMENT SHALL HAVE 300mm MINIMUM VERTICAL CLEARANCE WHEN CROSSING OVER OR UNDER UTILITIES AND 500mm HORIZONTAL CLEARANCE WHEN INSTALLED IN PARALLEL TO OTHER UNDERGROUND UTILITIES.
6. WARNING TAPE SHALL BE HIGH GRADE LEAD FREE PIGMENTS, LOW DENSITY POLYETHYLENE POLYMERS AND RESISTANT TO MOST SOIL TYPES INCLUDING ALKALINE AND ACID SOILS.

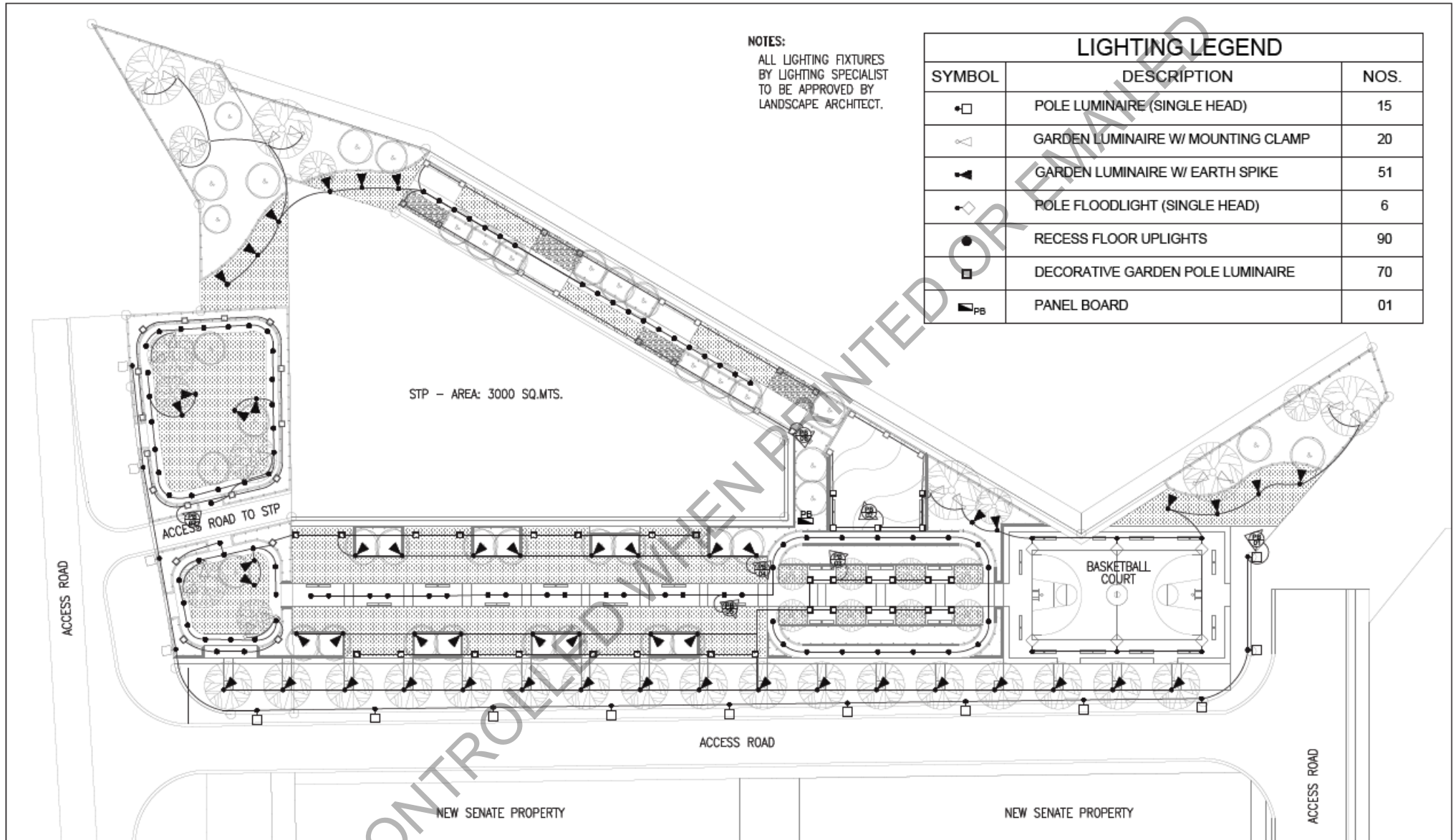
TABLE 1

MINIMUM DEPTH "D" IN MM	
AREAS SUBJECT TO VEHICULAR TRAFFIC (SEE NOTE)	OTHER AREAS*
525	385

*MEASURED FROM TOP OF CONDUIT CONCRETE ENCASEMENT TO FINAL GRADE.

NOTES:

AREAS SUBJECT TO VEHICULAR TRAFFIC ARE PUBLIC OR PRIVATE ROADS, PARKING LOTS, OR OTHER AREAS SUBJECT TO USE BY CARS OR TRUCKS.



E LIGHTING LAYOUT
SCALE 1:600




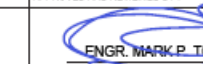
<p>Republic of the Philippines Office of the President BCDA Basin Conversion and Development Authority</p>	PREPARED BY: JANSEN GABRIEL S. LIM ENGINEER	PREPARED BY: JOHN V. PACETE ARCHITECT	APPROVED AND REVIEWED BY: ENGR. MARK P. TORRES OIC - ENGINEERING & SOCIAL SUPPORT DEPARTMENT	PROJECT TITLE: "STP, ACCESS ROAD AND FREEDOM PARK"	SHEET CONTENT: LIGHTING LAYOUT		SCALE: 1:600	SHEET NO. E-2
	DATE:	DATE:	DATE:	LOCATION: PASONG TAMD EXTENSION, TAGLIG CITY	REVISION NO.			

GENERAL NOTES

1. ALL ELECTRICAL WORKS SHALL BE DONE IN ACCORDANCE WITH THE PROVISION OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE (PEC). THE RULES AND REGULATIONS OF LOCAL AND NATIONAL AUTHORITIES CONCERNED WITH ENFORCEMENT OF RULES AND REGULATIONS OF LOCAL UTILITY COMPANY.
2. THE SERVICE VOLTAGE SHALL BE ONE PHASE, THREE WIRES, 230 VOLTS, 60 HERTZ SYSTEM.
3. THE INSTALLATION SHALL BE DONE AS FOLLOWS:
 - a. RIGID STEEL CONDUIT (RSC) ----- POWER SERVICE ENTRANCE FEEDERS
 - b. POLYVINYL CHLORIDE (PVC) ----- LIGHTING, POWER BRANCH CIRCUITS
4. TYPE "THW/THHN" UNLESS NOTED OTHERWISE SPECIFIED.
5. ALL MATERIALS TO BE USED SHALL BE BRAND NEW AND OF THE APPROVED TYPE FOR THE LOCATION AND PURPOSED INTENDED.
6. THE MINIMUM SIZE OF WIRE AND CONDUIT TO BE USED SHALL BE 3.5 sqmm THHN AND 20 mm dia. RESPECTIVELY.
7. WHENEVER NECESSARY PULLBOX SHALL BE PROVIDED EVEN NOT INDICATED IN THE PLAN.
8. BRANCH CIRCUIT HOMERUNS SHALL NOT BE COMBINED IN THE SAME RACEWAY AND RACEWAY FOR AUXILIARY LINES SHALL NOT CONTAINS POWER LINES.
9. MOUNTING HEIGHTS SHALL BE AS FOLLOWS:
 - a. 1.70m ABOVE FLOOR FINISH@ CENTER ----- PANELBOARDS
 - b. ALL OTHER HEIGHTS ----- VERIFY TO THE ARCHITECT
10. ALL SERVICE ENTRANCE EQUIPMENTS SUCH AS PANELBOARD SHALL BE PROPERLY GROUNDED IN ACCORDANCE WITH THE PROVISION OF THE PHILIPPINE ELECTRICAL CODE. ALL ELECTRICAL WORKS AND INSTALLATIONS HEREIN SHALL BE DONE UNDER THE DIRECT SUPERVISION OF A DULY REGISTERED ELECTRICAL ENGINNER OR MASTER ELECTRICIAN.

PANEL BOARD (PB) WITH PHOTOCELL & AUTOMATIC SWITCH TIMER								
CKT NO	LOAD DESCRIPTION	VA	V	A	TRIP	P	SIZE OF WIRES	CONDUIT
01	LIGHTING OUTLET	3750	230	16.30	20	2	2-3.5mm ² THHN + 1-3.5mm ² THHN (G)	20mmø PVC
02	LIGHTING OUTLET	3600	230	15.65	20	2	2-3.5mm ² THHN + 1-3.5mm ² THHN (G)	20mmø PVC
03	LIGHTING OUTLET	4500	230	19.57	20	2	2-3.5mm ² THHN + 1-3.5mm ² THHN (G)	20mmø PVC
04	LIGHTING OUTLET	4100	230	17.83	20	2	2-3.5mm ² THHN + 1-3.5mm ² THHN (G)	20mmø PVC
05	LIGHTING OUTLET	3600	230	15.65	20	2	2-3.5mm ² THHN + 1-3.5mm ² THHN (G)	20mmø PVC
06	LIGHTING OUTLET	4700	230	20.43	20	2	2-3.5mm ² THHN + 1-3.5mm ² THHN (G)	20mmø PVC
07	LIGHTING OUTLET	4400	230	19.13	20	2	2-3.5mm ² THHN + 1-3.5mm ² THHN (G)	20mmø PVC
08	LIGHTING OUTLET	3600	230	15.65	20	2	2-3.5mm ² THHN + 1-3.5mm ² THHN (G)	20mmø PVC
TOTAL		32250		140.22				
TOTAL CONNECTED LOAD		SIZE OF MAIN CIRCUIT BREAKER			SIZE OF MAIN FEEDERLINE			
IFL = 140.22A + (25%) (20.43A) IFL = 145.33A		Use : 150AT, 100AF, 2P, 230V Center Main Floor Mounted Electrical Panel board Enclosure Weatherproof/Outdoor type with Photocell and Automatic Switch Timer			Use : 2-38mm ² THHN + 1-8.0mm ² THHN (G) 50mmø RSC Pipe			
IFL @ 85% DF = 145.33A x 0.85 IFL @ 85% DF = 123.53A					NOTE: Tap to nearest distribution power supply			

E
LOAD SCHEDULE
 SCALE _____ NTS.

 Republic of the Philippines Office of the President Bases Conversion and Development Authority	PREPARED BY:  JANSSEN GABRIEL S. LIM ENGINEER	PREPARED BY:  JOHN V. PACETE ARCHITECT	APPROVED AND REVIEWED BY:  ENGR. MARK P. TORRES CHIEF - ENGINEERING & SOCIAL SUPPORT DEPARTMENT	PROJECT TITLE: "STP, ACCESS ROAD AND FREEDOM PARK"	SHEET CONTENT: GENERAL NOTES AND LOAD SCHEDULE	SCALE: NTS	SHEET NO. E-3
	DATE:	DATE:	DATE:	LOCATION: PASONG TAMO EXTENSION, TAGLIG CITY			REVISION NO.