

PHILIPPINE BIDDING DOCUMENTS

**Procurement of
INFRASTRUCTURE
PROJECTS**

Government of the Republic of the Philippines

**PROPOSED CONSTRUCTION OF HANDWASHING
FACILITY AND REHABILITATION OF DAY CARE CENTER
AT DISTRICT 2 AREA VII (CLUSTER 2)**

**Project number:
21-00177**

**Sixth Edition
July 2020**

Preface

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

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

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

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

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

- a. All the documents listed in the Table of Contents are normally required for the procurement of Infrastructure Projects. However, they should be adapted as necessary to the circumstances of the particular Project.
- b. Specific details, such as the “*name of the Procuring Entity*” and “*address for bid submission*,” should be furnished in the Instructions to Bidders, Bid Data Sheet, and Special Conditions of Contract. The final documents should contain neither blank spaces nor options.
- c. This Preface and the footnotes or notes in italics included in the Invitation to Bid, BDS, General Conditions of Contract, Special Conditions of Contract, Specifications, Drawings, and Bill of Quantities are not part of the text of the final document, although they contain instructions that the Procuring Entity should strictly follow.
- d. The cover should be modified as required to identify the Bidding Documents as to the names of the Project, Contract, and Procuring Entity, in addition to date of issue.

- e. Modifications for specific Procurement Project details should be provided in the Special Conditions of Contract as amendments to the Conditions of Contract. For easy completion, whenever reference has to be made to specific clauses in the Bid Data Sheet or Special Conditions of Contract, these terms shall be printed in bold typeface on Sections I (Instructions to Bidders) and III (General Conditions of Contract), respectively.
- f. For guidelines on the use of Bidding Forms and the procurement of Foreign-Assisted Projects, these will be covered by a separate issuance of the Government Procurement Policy Board.

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Glossary of Terms, Abbreviations, and Acronyms

ABC – Approved Budget for the Contract.

ARCC – Allowable Range of Contract Cost.

BAC – Bids and Awards Committee.

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

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

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

BIR – Bureau of Internal Revenue.

BSP – Bangko Sentral ng Pilipinas.

CDA – Cooperative Development Authority.

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

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

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

CPI – Consumer Price Index.

DOLE – Department of Labor and Employment.

DTI – Department of Trade and Industry.

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

GFI – Government Financial Institution.

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

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

GOP – Government of the Philippines.

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

LGUs – Local Government Units.

NFCC – Net Financial Contracting Capacity.

NGA – National Government Agency.

PCAB – Philippine Contractors Accreditation Board.

PhilGEPS - Philippine Government Electronic Procurement System.

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

PSA – Philippine Statistics Authority.

SEC – Securities and Exchange Commission.

SLCC – Single Largest Completed Contract.

UN – United Nations.

Section I. Invitation to Bid

Notes on the Invitation to Bid

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

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

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

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



REPUBLIC OF THE PHILIPPINES
QUEZON CITY GOVERNMENT
BIDS AND AWARDS COMMITTEE FOR INFRASTRUCTURE &
CONSULTANCY



2nd floor, Finance Building, Procurement Department, Quezon City Hall Complex, Elliptical Road, Quezon City

November 15, 2021

Invitation to Bid

No.	Project No.	Project Name	Location	Amount	Durati on Cal. Days	Office	Source Fund
<u>Buildings – Small B</u>							
1	21-00156	Proposed Construction of Hand Washing Facility and Rehabilitation of Waterline System at Krus Na Ligas Elementary School (Simon Building)	Krus Na Ligas	1,136,052.36	60	Engineering Department	Special Education Fund
2	21-00157	Proposed Construction of Hand Washing Facility at Payatas C Elementary School	Payatas	1,278,401.32	60	Engineering Department	Special Education Fund
3	21-00158	Proposed Construction of Hand Washing Facility at Main Building of Balara High School	Pansol	1,282,912.05	60	Engineering Department	Special Education Fund
4	21-00159	Proposed Rehabilitation of Day Care Center at District 3 / Area XIII and XIV	Claro, Silangan & East Kamias	1,458,079.64	45	Engineering Department	Engineering - SB No. 1
5	21-00160	Proposed Construction of Hand Washing Facility and Rehabilitation of Waterline System at Ramon Magsaysay High School Belmonte Building)	Pinagkaisahan	1,731,551.85	90	Engineering Department	Special Education Fund
6	21-00161	Proposed Construction of Hand Washing Facility and Rehabilitation of Waterline at Bagong Pag-Asa Elementary School (SB Building)	Bagong Pag-Asa	1,801,334.79	60	Engineering Department	Special Education Fund
7	21-00162	Proposed Rehabilitation of Milagrosa Daycare Center and Livelihood Center	Milagrosa	2,198,687.07	75	Engineering Department	Engineering - SB No. 1
8	21-00163	Proposed Construction of Hand Washing Facility and Rehabilitation of Comfort Rooms and Waterline System at Aguinaldo Elementary School (Estrada Building)	San Roque	2,296,791.86	120	Engineering Department	Special Education Fund
9	21-00164	Proposed Construction of Hand Washing Facility and Rehabilitation of Day Care Center at District 2 Area VII (Cluster 5)	Payatas	2,871,590.18	60	Engineering Department	Engineering - SB No. 1
10	21-00165	Proposed Construction of Hand Washing Facility and Rehabilitation of Day Care Center at District 3 / Area XV	Matandang Balara & Pansol	3,027,863.77	60	Engineering Department	Engineering - SB No. 1

11	21-00166	Proposed Construction of Hand Washing Facility and Rehabilitation of Comfort Rooms and Waterline System at Maligaya Elementary School (Vargas Building)	Pasong Putik	3,565,679.65	90	Engineering Department	Special Education Fund
12	21-00167	Proposed Construction of Hand Washing Facility and Rehabilitation of Comfort Rooms and Waterline System at San Francisco High School (SB Building)	Ramon Magsaysay	4,900,074.64	60	Engineering Department	Special Education Fund
13	21-00168	Proposed Construction of Hand Washing Facility and Rehabilitation of Day Care Center at District 3 / Area XVI and XVIII	Villa Maria Clara, Bagumbuhay, Bayanihan, Escopa 3, Marilag	5,527,209.52	90	Engineering Department	Engineering - SB No. 1
14	21-00169	Proposed Construction of Hand Washing Facility and Rehabilitation of Day Care Center at District 4 / Area XIX	Kamuning, Obrero, Paligsahan, Roxas & South Triangle	7,108,186.57	60	Engineering Department	Engineering - SB No. 1
15	21-00170	Proposed Construction of Hand Washing Facility and Rehabilitation of Day Care Center at District 4 / Area XXIII	Old Capitol Site, San Vicente & U.P. Campus	8,767,692.58	90	Engineering Department	Engineering - SB No. 1
16	21-00171	Proposed Construction of Hand Washing Facility and Rehabilitation of Day Care Center at District 4 / Area XXIV	Central, Krus Na Ligas & Pinyahan	8,801,647.54	60	Engineering Department	Engineering - SB No. 1
17	21-00172	Proposed Construction of Hand Washing Facility and Rehabilitation of Day Care Center at District 2 Area VII (Cluster 1)	Bagong Silangan	8,899,769.12	90	Engineering Department	Engineering - SB No. 1
18	21-00173	Proposed Construction of Hand Washing Facility and Rehabilitation of Day Care Center at District 4 / Area XX	Horseshoe, Immaculate Concepcion, Kaunlaran, Pinagkaisahan & San Martin De Porres	9,342,308.35	60	Engineering Department	Engineering - SB No. 1
19	21-00174	Proposed Construction of Hand Washing Facility and Rehabilitation of Day Care Center at District 2 Area VII (Cluster 4)	Holy Spirit	9,513,555.66	90	Engineering Department	Engineering - SB No. 1
20	21-00175	Proposed Construction of Hand Washing Facility and Rehabilitation of Day Care Center at District 4 / Area XXII	Tatalon, Don Manuel, Doña Aurora, Doña Imelda, Doña Josefa, San Isidro Galas, Santol & Sto. Niño	11,988,174.41	90	Engineering Department	Engineering - SB No. 1
21	21-00176	Proposed Construction of Hand Washing Facility and Rehabilitation of Day Care Center at District 2 Area VII (Cluster 3)	Balonbato & Sangandaan	14,755,919.20	90	Engineering Department	Engineering - SB No. 1

22	21-00177	Proposed Construction of Hand Washing Facility and Rehabilitation of Day Care Center at District 2 Area VII (Cluster 2)	Batasan Hills	17,576,527.83	90	Engineering Department	Engineering - SB No. 1
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1. The **QUEZON CITY LOCAL GOVERNMENT**, through *funding source of various years* intends to apply the sum stated above being the Approved Budget for the Contract (ABC) to payments under the contract *for the above stated Projects*. Bids received in excess of the ABC shall be automatically rejected at bid opening.
2. The **QUEZON CITY LOCAL GOVERNMENT** now invites bids for the above Procurement Project. Completion of the Works is required *as stated above*. Bidders should have completed a contract similar to the Project. The description of an eligible bidder is contained in the Bidding Documents, particularly, in Section II (Instructions to Bidders).
3. Bidding will be conducted through open competitive bidding procedures using non-discretionary "*pass/fail*" criterion as specified in the 2016 revised Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 9184.
4. Interested bidders may obtain further information from **QUEZON CITY LOCAL GOVERNMENT – BAC Secretariat** and inspect the Bidding Documents at the address given below *weekdays from 8:00 am. – 5:00 p.m.*
5. A complete set of Bidding Documents may be acquired by interested bidders on **16 November 2021 (Tuesday)** from given address and website/s below *and upon payment of a non-refundable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB*. The Procuring Entity shall allow the bidder to present its proof of payment for the fees *presented in person*.

STANDARD RATES:

Approved Budget for the Contract	Maximum Cost of Bidding Documents (in Philippine Peso)
More than 1 Million up to 5 Million	5,000.00
More than 5 Million up to 10 Million	10,000.00
More than 10 Million up to 50 Million	25,000.00
More than 50 Million up to 500 Million	50,000.00
More than 500 Million	75,000.00

The following are the requirements for purchase of Bidding Documents;

1. PhilGEPS Registration Certificate (Platinum – 3 Pages)
2. Document Request List (DRL)
3. Authorization to purchase bidding documents
 - 3.1 Secretary's Certificate (for corporation)
 - 3.2 Special Power of Attorney (for sole proprietorship)
4. Notarized Joint Venture Agreement (if applicable)
5. Letter of Intent

It must be duly received by the BAC Secretariat at 2nd Floor, Procurement Department, Finance Building, Quezon City Hall Compound on or before **November 23, 2021 - 5:00PM**.

6. The **QC- BAC- INFRASTRUCTURE & CONSULTANCY** will hold a Pre-Bid Conference¹ on **November 24, 2021 at 10:00 AM at 2nd Floor, Procurement Department-Bidding Room, Finance Building, Quezon City Hall Compound** or we encourage the prospective bidders to join through our **Virtual Conference (ZOOM APP)** which shall be open to prospective bidders.

Virtual Conference (ZOOM APP)

Meeting ID: 854 9489 0133

Password: 273320

7. Bids must be duly received by the BAC Secretariat through manual submission at the office address as indicated below, on or before **December 6, 2021 – 9:00AM**. 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 **December 6, 2021 - 10:00 AM at 2nd Floor, Procurement Department-Bidding Room, Finance Building, Quezon City Hall Compound** and/or via Zoom. Bids will be opened in the presence of the bidders' representatives who choose to attend the activity.

Virtual Conference (ZOOM APP)

Meeting ID: 810 3646 5257

Password: 201522

10. The **Quezon City Local Government** reserves the right to reject any and all bids, declare a failure of bidding, or not award the contract at any time prior to contract award in accordance with Sections 35.6 and 41 of the 2016 revised Implementing Rules and Regulations (IRR) of RA No. 9184, without thereby incurring any liability to the affected bidder or bidders.
11. For further information, please refer to:

ATTY. DOMINIC B. GARCIA

OIC, Procurement Department

2nd Floor, Procurement Department,

Finance Building, Quezon City Hall Compound

Elliptical Road, Barangay Central Diliman, Quezon City.

Tel. No. (02)8988-4242 loc. 8506/8710


Email Add: bacinfra.procurement@quezoncity.gov.ph

Website: www.quezoncity.gov.ph

12. You may visit the following websites:

For downloading of Bidding Documents: <https://quezoncity.gov.ph/public-notices/procurement/>

By:


ATTY. MARK DALE DIAMOND P. PERRAL
Chairman, BAC-Infra and Consultancy

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.

Section II. Instructions to Bidders

Notes on the Instructions to Bidders

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

1. Scope of Bid

The Procuring Entity, **Quezon City Government** invites Bids for the **PROPOSED CONSTRUCTION OF HANDWASHING FACILITY AND REHABILITATION OF DAY CARE CENTER AT DISTRICT 2 AREA VII (CLUSTER 2)**, with Project Identification Number **21-00177**.

[Note: The Project Identification Number is assigned by the Procuring Entity based on its own coding scheme and is not the same as the PhilGEPS reference number, which is generated after the posting of the bid opportunity on the PhilGEPS website.]

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

2. Funding Information

2.1. The GOP through the source of funding as indicated below for **2021** in the amount of **Seventeen Million Five Hundred Seventy-Six Thousand Five Hundred Twenty-Seven Pesos & 83/100 Cts. (P 17,576,527.83)**.

2.2. The source of funding is:

a. LGUs, the Annual or Supplemental Budget, as approved by the Sanggunian.

3. Bidding Requirements

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

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

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

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

The Procuring Entity, as well as the Bidders and Contractors, shall observe the highest standard of ethics during the procurement and execution of the contract. They or

through an agent shall not engage in corrupt, fraudulent, collusive, coercive, and obstructive practices defined under Annex “I” of the 2016 revised IRR of RA No. 9184 or other integrity violations in competing for the Project.

5. Eligible Bidders

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

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

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

6. Origin of Associated Goods

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

7. Subcontracts

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

The Procuring Entity has prescribed that:

a. Subcontracting is not allowed.

- 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 on **November 24, 2021, 10:00 A.M. at 2nd Floor, Procurement Department-Bidding Room, Finance Building, Quezon City Hall Compound** and/or we encourage the prospective bidders to join through our **Virtual Conference (ZOOM APP) Meeting ID: 854 9489 0133 Password: 273320**

9. Clarification and Amendment of Bidding Documents

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

10. Documents Comprising the Bid: Eligibility and Technical Components

- 10.1. The first envelope shall contain the eligibility and technical documents of the Bid as specified in **Section IX. Checklist of Technical and Financial Documents**.
- 10.2. If the eligibility requirements or statements, the bids, and all other documents for submission to the BAC are in foreign language other than English, it must be accompanied by a translation in English, which shall be authenticated by the appropriate Philippine foreign service establishment, post, or the equivalent office having jurisdiction over the foreign bidder's affairs in the Philippines. For Contracting Parties to the Apostille Convention, only the translated documents shall be authenticated through an apostille pursuant to GPPB Resolution No. 13-2019 dated 23 May 2019. The English translation shall govern, for purposes of interpretation of the bid.
- 10.3. A valid PCAB License is required, and in case of joint ventures, a valid special PCAB License, and registration for the type and cost of the contract for this Project. Any additional type of Contractor license or permit shall be indicated in the **BDS**.

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

11. Documents Comprising the Bid: Financial Component

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

12. Alternative Bids

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

13. Bid Prices

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

14. Bid and Payment Currencies

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

15. Bid Security

- 15.1. The Bidder shall submit a Bid Securing Declaration or any form of Bid Security in the amount indicated in the **BDS**, which shall be not less than the percentage of the ABC in accordance with the schedule in the **BDS**.
- 15.2. The Bid and bid security **in no case shall exceed One Hundred Twenty (120) calendar days from the date of opening of bids, unless duly extended by the bidder upon the request of the Head of the Procuring Entity (HoPE) of the Quezon City Local Government**. 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 5 of the **IB**.

18. Opening and Preliminary Examination of Bids

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

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

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

19. Detailed Evaluation and Comparison of Bids

- 19.1. The Procuring Entity's BAC shall immediately conduct a detailed evaluation of all Bids rated "*passed*" using non-discretionary pass/fail criteria. The BAC shall consider the conditions in the evaluation of Bids under Section 32.2 of 2016 revised IRR of RA No. 9184.
- 19.2. If the Project allows partial bids, all Bids and combinations of Bids as indicated in the **BDS** shall be received by the same deadline and opened and evaluated simultaneously so as to determine the Bid or combination of Bids offering the lowest calculated cost to the Procuring Entity. Bid Security as required by **ITB** Clause 15 shall be submitted for each contract (lot) separately.
- 19.3. In all cases, the NFCC computation pursuant to Section 23.4.2.6 of the 2016 revised IRR of RA No. 9184 must be sufficient for the total of the ABCs for all the lots participated in by the prospective Bidder.

20. Post Qualification

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

21. Signing of the Contract

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

Section III. Bid Data Sheet

Notes on the Bid Data Sheet (BDS)

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

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

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

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

Bid Data Sheet

ITB Clause																																													
5.2	For this purpose, similar contracts shall refer to contracts which have the same major categories of work.																																												
7.1	Subcontracting is not allowed.																																												
10.3	<p><i>No additional contractor license or permit is required</i></p> <p><i>In addition, eligible bidders shall qualify or comply with the following:</i></p> <p>1. Bidders with valid Philippine Contractors Accreditation Board (PCAB)</p> <p style="padding-left: 40px;">Type</p> <p style="padding-left: 80px;">Building - Small B</p>																																												
10.4	<p>The minimum work experience requirements for key personnel are the following:</p> <p style="text-align: center;">PROPOSED CONSTRUCTION OF HANDWASHING FACILITY AND REHABILITATION OF FREEDOM PARK 5 DAY CARE CENTER</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Qty.</th> <th style="text-align: center;">Key Personnel</th> <th style="text-align: center;">General Experience</th> <th style="text-align: center;">Relevant Experience</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td>Project Engineer</td> <td style="text-align: center;">3 years</td> <td style="text-align: center;">3 years</td> </tr> <tr> <td style="text-align: center;">1</td> <td>Safety Officer</td> <td style="text-align: center;">3 years</td> <td style="text-align: center;">3 years</td> </tr> <tr> <td style="text-align: center;">1</td> <td>Foreman</td> <td style="text-align: center;">3 years</td> <td style="text-align: center;">3 years</td> </tr> <tr> <td style="text-align: center;">7</td> <td>Skilled Worker</td> <td style="text-align: center;">3 years</td> <td style="text-align: center;">3 years</td> </tr> <tr> <td style="text-align: center;">1</td> <td>Driver</td> <td style="text-align: center;">3 years</td> <td style="text-align: center;">3 years</td> </tr> <tr> <td style="text-align: center;">7</td> <td>Laborer</td> <td style="text-align: center;">1 year</td> <td style="text-align: center;">3 months</td> </tr> </tbody> </table> <p style="text-align: center;">PROPOSED CONSTRUCTION OF HANDWASHING FACILITY AND REHABILITATION OF KALAYAAN B DAY CARE CENTER</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Qty.</th> <th style="text-align: center;">Key Personnel</th> <th style="text-align: center;">General Experience</th> <th style="text-align: center;">Relevant Experience</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td>Project Engineer</td> <td style="text-align: center;">3 years</td> <td style="text-align: center;">3 years</td> </tr> <tr> <td style="text-align: center;">1</td> <td>Safety Officer</td> <td style="text-align: center;">3 years</td> <td style="text-align: center;">3 years</td> </tr> <tr> <td style="text-align: center;">1</td> <td>Foreman</td> <td style="text-align: center;">3 years</td> <td style="text-align: center;">3 years</td> </tr> </tbody> </table>	Qty.	Key Personnel	General Experience	Relevant Experience	1	Project Engineer	3 years	3 years	1	Safety Officer	3 years	3 years	1	Foreman	3 years	3 years	7	Skilled Worker	3 years	3 years	1	Driver	3 years	3 years	7	Laborer	1 year	3 months	Qty.	Key Personnel	General Experience	Relevant Experience	1	Project Engineer	3 years	3 years	1	Safety Officer	3 years	3 years	1	Foreman	3 years	3 years
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7	Skilled Worker	3 years	3 years
1	Driver	3 years	3 years
7	Laborer	1 year	3 months

PROPOSED CONSTRUCTION OF HANDWASHING FACILITY AND REHABILITATION OF LUZVIMINDA DAY CARE CENTER

Qnty.	Key Personnel	General Experience	Relevant Experience
1	Project Engineer	3 years	3 years
1	Safety Officer	3 years	3 years
1	Foreman	3 years	3 years
7	Skilled Worker	3 years	3 years
1	Driver	3 years	3 years
7	Laborer	1 year	3 months

PROPOSED CONSTRUCTION OF HANDWASHING FACILITY AND REHABILITATION OF POOK PAG-ASA DAY CARE CENTER

Qnty.	Key Personnel	General Experience	Relevant Experience
1	Project Engineer	3 years	3 years
1	Safety Officer	3 years	3 years
1	Foreman	3 years	3 years
5	Skilled Worker	3 years	3 years
1	Driver	3 years	3 years
5	Laborer	1 year	3 months

PROPOSED CONSTRUCTION OF HANDWASHING FACILITY AND REHABILITATION OF TALANAY DAY CARE CENTER

Qnty.	Key Personnel	General Experience	Relevant Experience
1	Project Engineer	3 years	3 years
1	Safety Officer	3 years	3 years

1	Foreman	3 years	3 years
5	Skilled Worker	3 years	3 years
1	Driver	3 years	3 years
5	Laborer	1 year	3 months

**PROPOSED REHABILITATION OF FREEDOM PARK III AND IV
DAY CARE CENTER**

Qty.	Key Personnel	General Experience	Relevant Experience
1	Project Engineer	3 years	3 years
1	Safety Officer	3 years	3 years
1	Foreman	3 years	3 years
6	Skilled Worker	3 years	3 years
1	Driver	3 years	3 years
6	Laborer	1 year	3 months

**PROPOSED REHABILITATION OF CONSTITUTIONAL DAY CARE
CENTER**

Qty.	Key Personnel	General Experience	Relevant Experience
1	Project Engineer	3 years	3 years
1	Safety Officer	3 years	3 years
1	Foreman	3 years	3 years
5	Skilled Worker	3 years	3 years
1	Driver	3 years	3 years
5	Laborer	1 year	3 months

PROPOSED REHABILITATION OF JASMIN DAY CARE CENTER

Qty.	Key Personnel	General Experience	Relevant Experience
1	Project Engineer	3 years	3 years

1	Safety Officer	3 years	3 years
1	Foreman	3 years	3 years
7	Skilled Worker	3 years	3 years
1	Driver	3 years	3 years
7	Laborer	1 year	3 months

In addition, the bidder must execute an affidavit of undertaking duly notarized stating that the foregoing personnel shall perform work exclusively for the project until its completion. Please see attached bid forms.

10.5	The minimum major equipment requirements are the following:		
	PROPOSED CONSTRUCTION OF HANDWASHING FACILITY AND REHABILITATION OF FREEDOM PARK 5 DAY CARE CENTER		
	Equipment	Capacity	Number of Units
	Elf Truck		1
	Scaffolding		as needed
	Power Tools		as needed
	Minor Tools		as needed
	PROPOSED CONSTRUCTION OF HANDWASHING FACILITY AND REHABILITATION OF KALAYAAN B DAY CARE CENTER		
	Equipment	Capacity	Number of Units
	Elf Truck		1
	Scaffolding		as needed
	Power Tools		as needed
	Minor Tools		as needed
	PROPOSED CONSTRUCTION OF HANDWASHING FACILITY AND REHABILITATION OF LUZVIMINDA DAY CARE CENTER		
	Equipment	Capacity	Number of Units
	Elf Truck		1
	Scaffolding		as needed
	Power Tools		as needed
	Minor Tools		as needed

PROPOSED CONSTRUCTION OF HANDWASHING FACILITY AND REHABILITATION OF POOK PAG-ASA DAY CARE CENTER

Equipment	Capacity	Number of Units
Elf Truck		1
Scaffolding		as needed
Power Tools		as needed
Minor Tools		as needed

PROPOSED CONSTRUCTION OF HANDWASHING FACILITY AND REHABILITATION OF TALANAY DAY CARE CENTER

Equipment	Capacity	Number of Units
Elf Truck		1
Scaffolding		as needed
Power Tools		as needed
Minor Tools		as needed

PROPOSED REHABILITATION OF FREEDOM PARK III AND IV DAY CARE CENTER

Equipment	Capacity	Number of Units
Elf Truck		1
Scaffolding		as needed
Power Tools		as needed
Minor Tools		as needed

PROPOSED REHABILITATION OF CONSTITUTIONAL DAY CARE CENTER

Equipment	Capacity	Number of Units
Elf Truck		1
Scaffolding		as needed
Power Tools		as needed
Minor Tools		as needed

PROPOSED REHABILITATION OF JASMIN DAY CARE CENTER

Equipment	Capacity	Number of Units
Elf Truck		1
Scaffolding		as needed
Power Tools		as needed
Minor Tools		as needed

	<i>In addition, the bidder must execute an affidavit of undertaking duly notarized stating that the foregoing equipment shall be used exclusively for the project until its completion. Please see attached bid forms.</i>
12	<i>[Insert Value Engineering clause if allowed.]</i>
15.1	The bid security shall be in the form of a Bid Securing Declaration with project number, or any of the following forms and amounts: <ul style="list-style-type: none"> a) The amount of not less than Php 351,530.56 or equivalent to two percent (2%) of ABC if bid security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit; or b) The amount of not less than Php 878,826.39 or equivalent to five percent (5%) of ABC if bid security is in Surety Bond.
19.2	Partial bid is not allowed. The infrastructure project is packaged in a single lot and the lot shall not be divided into sub-lots for the purpose of bidding, evaluation, and contract award.
20	No additional requirement.
21	Additional Contract Documents relevant to the Project as required: <ol style="list-style-type: none"> 1. Construction Schedule and S-curve, 2. Manpower Schedule, 3. Construction Methods, 4. Equipment Utilization Schedule, 5. PERT/CPM or other acceptable tools of project scheduling, shall be included in the submission of Technical Proposal.

Section IV. General Conditions of Contract

Notes on the General Conditions of Contract

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

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

Any complementary information, which may be needed, shall be introduced only through the Special Conditions of Contract.

1. **Scope of Contract**

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

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

2. **Sectional Completion of Works**

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

3. **Possession of Site**

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

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

4. **The Contractor's Obligations**

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

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

5. **Performance Security**

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

6. Site Investigation Reports

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

7. Warranty

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

8. Liability of the Contractor

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

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

9. Termination for Other Causes

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

10. Dayworks

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

11. Program of Work

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

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

12. Instructions, Inspections and Audits

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

13. Advance Payment

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

14. Progress Payments

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

15. Operating and Maintenance Manuals

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

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

Section V. Special Conditions of Contract

Notes on the Special Conditions of Contract

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

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

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

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

Special Conditions of Contract

GCC Clause	
2	Completion of work shall be within 90 calendar days
4.1	The Procuring Entity shall give possession of all parts of the Site to the Contractor upon receipt of the Notice to Proceed.
6	The site investigation reports are: <i>[list here the required site investigation reports.]</i>
7.2	<p><i>[Select one, delete the other.]</i></p> <p><i>[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:]</i> Fifteen (15) years.</p> <p><i>[In case of semi-permanent structures, such as buildings of types 1, 2, and 3 as classified under the National Building Code of the Philippines, concrete/asphalt roads, concrete river control, drainage, irrigation lined canals, river landing, deep wells, rock causeway, pedestrian overpass, and other similar semi-permanent structures:]</i> Five (5) years.</p> <p><i>[In case of other structures, such as bailey and wooden bridges, shallow wells, spring developments, and other similar structures:]</i> Two (2) years.</p>
10	Dayworks are applicable at the rate shown in the Contractor’s original Bid.
13	The amount of the advance payment is no more that fifteen percent (15%) of the Contract Price subject to approval by the HOPE and compliance with the conditions under RA 9184 and its IRR.
14	No further instructions.
15.1	<p>The date by which operating and maintenance manuals are required is <i>thirty (30) days</i></p> <p>The date by which “as built” drawings are required as part of final payment</p>
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 ten (10%) percent of the contract price.

Section VI. Specifications

Notes on Specifications

A set of precise and clear specifications is a prerequisite for Bidders to respond realistically and competitively to the requirements of the Procuring Entity without qualifying or conditioning their Bids. In the context of international competitive bidding, the specifications must be drafted to permit the widest possible competition and, at the same time, present a clear statement of the required standards of workmanship, materials, and performance of the goods and services to be procured. Only if this is done will the objectives of economy, efficiency, and fairness in procurement be realized, responsiveness of Bids be ensured, and the subsequent task of bid evaluation facilitated. The specifications should require that all goods and materials to be incorporated in the Works be new, unused, of the most recent or current models, and incorporate all recent improvements in design and materials unless provided otherwise in the Contract.

Samples of specifications from previous similar projects are useful in this respect. The use of metric units is mandatory. Most specifications are normally written specially by the Procuring Entity or its representative to suit the Works at hand. There is no standard set of Specifications for universal application in all sectors in all regions, but there are established principles and practices, which are reflected in these PBDs.

There are considerable advantages in standardizing General Specifications for repetitive Works in recognized public sectors, such as highways, ports, railways, urban housing, irrigation, and water supply, in the same country or region where similar conditions prevail. The General Specifications should cover all classes of workmanship, materials, and equipment commonly involved in construction, although not necessarily to be used in a particular Works Contract. Deletions or addenda should then adapt the General Specifications to the particular Works.

Care must be taken in drafting specifications to ensure that they are not restrictive. In the specification of standards for goods, materials, and workmanship, recognized international standards should be used as much as possible. Where other particular standards are used, whether national standards or other standards, the specifications should state that goods, materials, and workmanship that meet other authoritative standards, and which ensure substantially equal or higher quality than the standards mentioned, will also be acceptable. The following clause may be inserted in the SCC.

Sample Clause: Equivalency of Standards and Codes

Wherever reference is made in the Contract to specific standards and codes to be met by the goods and materials to be furnished, and work performed or tested, the provisions of the latest current edition or revision of the relevant standards and codes in effect shall apply, unless otherwise expressly stated in the Contract. Where such standards and codes are national, or relate to a particular country or region, other authoritative standards that ensure a substantially equal or higher quality than the standards and codes specified will be accepted

subject to the Procuring Entity's Representative's prior review and written consent. Differences between the standards specified and the proposed alternative standards shall be fully described in writing by the Contractor and submitted to the Procuring Entity's Representative at least twenty-eight (28) days prior to the date when the Contractor desires the Procuring Entity's Representative's consent. In the event the Procuring Entity's Representative determines that such proposed deviations do not ensure substantially equal or higher quality, the Contractor shall comply with the standards specified in the documents.

These notes are intended only as information for the Procuring Entity or the person drafting the Bidding Documents. They should not be included in the final Bidding Documents.



Republic of the Philippines
Quezon City

CITY ENGINEERING DEPARTMENT

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TECHNICAL SPECIFICATIONS QUEZON CITY INFRASTRUCTURE PROJECT

PROJECT TITLE: PROPOSED CONSTRUCTION OF HANDWASHING FACILITY AND REHABILITATION OF FREEDOM PARK 5 DAY CARE CENTER ✓

LOCATION: BARANGAY BATASAN HILLS, DISTRICT 2, QUEZON CITY ✓

I. GENERAL REQUIREMENTS

- a. Comply with the current and existing laws, ordinances and applicable codes, rules and regulations and standards. Any works perform contrary to the existing laws, rules and regulations, ordinances and standards without notice shall bear all cost arising therefrom.
- b. Drawings, specifications, codes and standards are minimum requirements. Where requirements differ, the more stringent apply.
- c. Should there be any change(s) in drawings or specifications, it is required to comply with the governing regulations, notify the implementing agency.
- d. Photographs shall be taken as, when and where directed at intervals of not more than one month. The photographs shall be sufficient in number and location to record the exact progress of the works. The photographs shall be retained and will become the property of the Government.
- e. Site verification / inspection shall be conducted to validate the scope of works. No extra compensation and extension of time shall be given due to negligence or inadvertence.
- f. The quality of materials shall be of the best grade of their respective kinds for the purpose. The work shall also be performed in the best and most capable manner in strict accordance with requirements of the plans and details. All materials not conforming to the requirements of these specifications shall be considered as defective.
- g. All equipment and installations shall meet or exceed minimum requirements of the standards and codes.
- h. Mobilization and Demobilization (if applicable)
 - i. Mobilization shall include all activities and related costs for transportation of personnel, equipment, and operating supplies to the site; establishment of offices, buildings, and other necessary general facilities for the operations at the site.
 - ii. Demobilization shall include all activities and costs for transportation of personnel, equipment and supplies not anymore required within the construction site including the disassembly, removal and site clean-up of offices and other facilities assembled on the site specifically for this contract.
- i. Execute work in strict accordance with the best practices of the trades in a thorough, substantial, workmanlike manner by competent workmen. Provide a competent, experienced, full-time supervisor who is authorized to make decisions on behalf of the Contractor.
- j. Temporary Facilities and Utilities
 - i. All facilities shall be near the job site, where necessary and shall conform to the best standard for the required types.

- ii. Temporary facilities shall be provided and maintained including sanitary facilities and first aid stations.
 - iii. Temporary utilities shall be sufficiently provided until the completion of the project such as water, power and communication.
 - iv. Temporary enclosure shall be provided within the construction site with adequate guard lights, railings and proper signages.
 - v. Temporary roadways shall be constructed and maintained to sustain loads to be carried on them during the entire construction period.
 - vi. Upon completion of the work, the temporary facilities shall be demolished, hauled-out and disposed properly.
- k. Adequate construction safety and health protection shall be provided at all times during the execution of work to both workers and property.
- i. A fully trained Medical Aide shall be employed permanently on the site who shall be engaged solely from medical duties
 - ii. The medical room shall be provided in waterproof, it could be a building or room designated and used exclusively for the purpose and have a floor area of at least 15 square meters and a glazed window area of at least 2 square meters
 - iii. The location of the medical room and any other arrangements shall be made known to all employees by posting on prominent locations suitable notices in the site
 - iv. Additional safety precautions shall be provided in the observance of pandemic. Protocols set-forth by the government shall be strictly followed
- l. Necessary protections to the adjacent property shall be provided to avoid untoward incidents / accidents.
- m. Final cleaning of the work shall be employed prior to the final inspection for certification of final acceptance. Final cleaning shall be applied on each surface or unit of work and shall be of condition expected for a building cleaning and maintenance program.

II. SITE WORKS

- A. All grades, lines, levels and dimensions shall be verified as indicated on the plans and details. Any discrepancies or inconsistencies shall be reported before commencing to work.
- B. Removal / demolition of existing structures shall be done in accordance to safety procedures.

III. CIVIL / STRUCTURAL WORKS

A. CONCRETE WORK

- a. Delivery, Storage, and Handling: All materials shall be so delivered, stored, and handled as to prevent the inclusion of foreign materials and the damage of materials by water or breakage. Package materials shall be delivered and stored in original packages until ready to be used. Packages or materials showing evidence of water or other damage shall be rejected
- b. Unless otherwise specified herein, concrete works shall conform to the requirements of the ACI Building Code. Full cooperation shall be given on trades to install embedded items. Provisions shall be made for setting items not placed in the forms. Before concrete is placed, embedded items shall have been inspected and tested for concrete aggregates and other materials shall have been done.
- c. Materials

- i. Cement for concrete shall conform to the requirements of specifications for Portland Cement (ASTM C - 150).
 - ii. Water used in mixing concrete shall be clean and free from other injurious amounts of oils, acids, alkaline, organic materials or other substances that may be deleterious to concrete or steel
 - iii. Fine aggregates shall be beach or river sand conforming to ASTM C33. "Specification for Concrete Aggregates". Sand particle shall be coarse, sharp, clean free from salt, dust, loam, dirt and all foreign matters.
 - iv. Coarse aggregates shall be either natural gravel or crushed rock conforming to the "Specifications for Concrete Aggregates (ASTM C33). The minimum size of aggregates shall be larger than one fifth (1/5) of the narrowest dimensions between sides of the forms within which the concrete is to be cast nor larger than three fourths (3/4) of the minimum clear spacing between reinforcing bars or between reinforcing bars and forms
- d. Proportioning and Mixing
- i. Proportioning and mixing of concrete shall conform to the requirements for Item 405 of the standard specification with the following proportions:
 Cement . Sand . Gravel
 - Class "A" - 1 : 2 : 3
 - Class "B" - 1 : 2 : 4
 - Class "C" - 1 : 2 ½
 - ii. Concrete mixture to be used for concrete shall conform with the structural requirements.
 - iii. Mixing - concrete shall be machine mixed. Mixing shall begin within 30 minutes after the cement has been added to the aggregates.
- e. Forms
- i. General - Forms shall be used whatever necessary to confine the concrete and shape it to the required lines, or to insure the concrete of contamination with materials caving from adjacent, excavated surfaces. Forms shall have sufficient strength to withstand the pressure resulting from placement and vibration of the concrete, and shall be maintained rigidly in correct position. Forms shall be sufficiently tight to prevent loss of mortar from the concrete. Forms shall be ½" waterproof plywood and form lumber.
 - ii. Cleaning of Forms - before placing the concrete, the contact surfaces of the formed shall be cleaned of encrustations of mortar, the grout or other foreign material.
 - iii. Removal of Forms - forms shall be removed in a manner which will prevent damage to the concrete. Forms shall not be removed without approval. Any repairs of surface imperfections shall be formed at once and curing shall be started as soon as the surface is sufficiently hard to permit it without further damage.
- f. Placing Reinforcement:
- Steel reinforcement shall be provided as indicated, together with all necessary wire ties, chairs, spacer supported and other devices necessary to install and secure the reinforcement properly. All reinforcement, when placed, shall be free from loose, flaky rust and scale, oil grease, clay and other coating and foreign substances that would reduce or destroy its bond with concrete. Reinforcement shall be placed accurately and secured in place by use of metal or concrete supports, spacers and ties. Such supports shall be used in such manner that they will not be exposed or contribute in any way, to the discoloration or deterioration of the concrete
- g. Conveying and Placing Concrete:

- i. Conveying – concrete shall be conveyed from mixer to forms as rapidly as applicable, by methods which will prevent segregation, or loss of ingredients. There will be no vertical drop greater than 1.5 meters except where suitable equipment is provided to prevent segregation and where specifically authorized.
 - ii. Placing – concrete shall be worked readily into the corners and angles of the forms and around all reinforcement and embedded items without permitting the material to segregate, concrete shall be deposited as close as possible to its final position in the forms so that flow within the mass does not exceed two (2) meters and consequently segregation is reduced to a minimum near forms or embedded items, or elsewhere as directed. The discharge shall be so controlled that the concrete may be effectively compacted into horizontal layers not exceeding 30 centimeters in depth within the maximum lateral movement specified.
 - iii. Time interval between mixing and placing. Concrete shall be placed before initial set has occurred and before it has contained its water content for more than 45 minutes. No concrete mix shall be placed before 60 complete revolution of the machine mixer.
 - iv. Consolidation of Concrete – concrete shall be consolidated with the aid of mechanical vibrating equipment and supplemented by the hand spading and tamping. Vibrators shall not be inserted into lower courses that have commenced initial set and reinforcement embedded in concrete beginning to set or already set shall not be disturbed by vibrators. Consolidation around major embedded parts shall be by hand spading and tamping and vibrators shall not be used.
 - v. Placing Concrete through reinforcement – In placing concrete through reinforcement, care shall be taken that no segregation of the coarse aggregate occurs. On the bottom of beams and slabs, where the congestion of steel near the forms makes placing difficult, a layer of mortar of the same cement-sand ratios as used in concrete shall be first deposited to cover the surfaces.
- h. Curing
- i. General – All concrete shall be moist cured for a period not less than seven (7) consecutive days by an approved method or combination applicable to local conditions
 - ii. Moist Curing – The surface of the concrete shall be kept continuously wet by covering with burlap plastic or other approved materials thoroughly saturated with water and keeping the covering spraying or intermittent hosing
- i. Finishing
- i. Concrete surfaces shall not be plastered unless otherwise indicated. Exposed concrete surfaces shall be formed with plywood, and after removal of forms, the surfaces shall be smooth, true to line and shall present or finished appearance except for minor defects which can be easily repaired with patching with cement mortar, or can be ground to a smooth surface to remove all joint marks of the form works.
 - ii. Concrete Slabs on Fill. The concrete slabs on fill shall be laid on a prepared foundation consisting of sub grade and granular fill with thickness equal to the thickness of the overlaying slab except when indicated.

B. MASONRY WORKS

- a. Masonry Units (CHB):
100mm thick for all interior walls and 150mm thick for all exterior walls unless otherwise indicated.

Use 400 psi for non-load bearing blocks and 700 psi for load bearing blocks where required.

Where full height walls are constructed with concrete hollow blocks, these shall extend up to the bottom of beam or slab unless otherwise indicated on plans. Provide stiffener columns & lintel beams as specified in the structural drawings or as specified or as deemed required to assure a stabilized wall due to height & other considerations.

b. Sand:

S-1, washed, clean and greenish in color.

c. Mortar:

One part "Portland" cement and two parts sand and water but not more than three parts sand and water.

d. Plaster bond:

Apply plaster bond to all wall area.

C. METAL WORKS

a. Description

Metal works shall conform to the approved plans and to the Standard Specifications.

b. Reference Standards

Comply with the latest edition of the following as applicable, unless otherwise specified or modified.

1. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC): 1978 Specification for the Design, Fabrication and Erection of Structural Steel for Buildings, Code of Standard Practice for Steel Buildings and Bridges, Specification for Architecturally Exposed Structural Steel.
2. AMERICAN WELDING SOCIETY (AWS): Standard Welding Symbols A2.058; Standard Welding Code D1 1-1973 (Rev 1-73 & 2-74) (To govern if in conflict with AISC)
3. RESEARCH COUNCIL ON RIVETED AND BOLTED JOINTS OF THE ENGINEERING FOUNDATION (RCREJ): Specification for Structural Joists using ASTM A-325-76s Bolts
4. STRUCTURAL STEEL PAINTING COUNCIL (SSPC): Painting Manual, Vol. 1; Good Painting Practice, Painting Manual, Vol. 2; Systems and Specifications.

c. Source Quality Control

Errors of Shop Drawings, fabrication, correct fitting and alignment of the various metal items or component members shall be the responsibility of the Contractor. However, the Contractor shall permit the Architect or an independent inspection agency, if engaged by the Owner, to inspect work in progress in his shop. Such inspections shall not relieve the Contractor of his responsibility to furnish materials and workmanship in accordance with the Contract Documents.

d. Product Delivery, Handling and Storage

Handle and store in such manner as to prevent damage or disfigurement. Store finished items or components above ground on platforms, pallets or other supports and protect from harmful elements.

e. Protection

The Contractor shall protect any existing work subject to damage during the installation of the specified work and shall adequately protect specified work during installation.

f. Field Quality Control

Facilities shall be provided by the Contractor as needed for the proper inspection of the specified work, including temporary platforms, hoists, protective devices, electric current, etc. Improper workmanship, as determined by the Architect shall be corrected and replaced, at no additional cost to the Owner.

g. Materials

Products shall conform to the respective reference specifications and standards and to the requirements specified herein:

- a) STEEL AND IRON: If not specified otherwise, use standard mill-finished structural steel shapes or bar iron in compliance with AISC Specifications for Design, Fabrication and Erection of Structural Steel for Buildings.
- b) BOLTS, NUTS, STUDS AND RIVETS: ASTM A 307 & A 325
- c) SCREWS: Fed. Spec. FF-S-85, Fed. Spec. FF-S-92, and Fed. Spec. FF-S-111

h. Fabrication

By mechanics skilled in the trade and in accordance with the manufacturer's directions, Metalwork shall be fabricated to allow for expansion and contraction of materials. Provide welding and bracing of adequate strength and durability, with light, flush joints, dressed smooth and clean. Complete with bolts and nuts.

i. Measurements

Before fabrication, provide necessary field measurements and verify all measurements.

j. Metal Surfaces

Shall be clean and free from all scale, flake, rust, and rust pitting; well-formed and finished to shape and size, with sharp lines, angles and smooth surface. Shearing and punching shall leave clean true lines and surfaces. Weld or rivet permanent connections. Weld and flush rivets shall be used and finished flush smooth on surfaces that will be exposed after installation. Do not use screws or bolts where they can be avoided; when used, heads shall be countersunk, screwed up tight and threads nicked to prevent loosening.

k. Construction

Thickness of metals and details of assembly and supports shall give ample strength and stiffness for the minimum loads specified or indicated. Joints exposed to weather shall be formed to exclude water.

l. Shop Fabrication

Fabrication and assembly shall be done in the shop to the greatest extent possible.

m. **Submittals**

Shop Drawings. Submit along with catalogue, cuts, templates and erection and installation details, indicating thickness, type, grade, type of metal and dimensions. Show construction details, reinforcement, anchorage, and installation with relation to the construction.

n. **Delivery and Storage**

Protect from corrosion, deformation and other types of damage. Store items in an enclosed area free from contact with soil and weather. Contractor shall replace and removed damage items with new items.

o. **Welding**

Use welding electrode E70xx and perform welding, welding inspection and corrective welding in accordance with AWS D1.1. Weld in a manner to prevent permanent distortion of the connected parts. Weld continuously along the entire area of contact (except where lack welding is permitted. Do not lack weld exposed to connections.) Grind smooth visible weld in finished installation.

p. **Metal Purlins**

Metal purlins shall be of high grade galvanized steel with minimum tensile strength of 275 MPA, 1.4mm in thickness.

D. ROOFING WORKS

- a. The roof shall be covered with Ga. 24 pre-painted G.I. rib-type roofing sheets as shown on the plans. The roofing shall be secured to the purlins with min. 2 1/2" max 3" long Tek screws. Ridge rolls, hip rolls and valleys to be used shall be those compatible with the Ga. 24 pre-painted G.I. rib-type roofing sheets. They shall lap the roofing sheets at least 250mm. The ridge rolls, hip rolls and valleys shall be riveted to the roofing sheets.
- b. All roofing sheets adjacent to concrete hollow block and other masonry walls such as property line firewalls, shall be provided with Gauge 26 pre-painted plain G.I. Flashing to extend to the top and over to the other side of the wall. All fasteners shall be placed at the top of the corrugations of the roofing sheets to prevent water from standing around the fasteners.

IV. ARCHITECTURAL WORKS

A. WALLS AND FLOOR FINISHES

- a. 600mm x 600mm Non-skid Ceramic Tiles including tile adhesive
- b. 50mm concrete Topping with Plain Cement Finish
- c. 50mm Concrete Topping for Tiles
- d. 300mm x 600mm Ceramic Wall Tiles
- e. Urinal partition including stainless steel support and accessories
- f. Plastering Guide/ Grooves

B. CEILING FINISHES

- a. 12mm thk Gypsum Board including framing and accessories
- b. 12mm thk Moisture Resistant Gypsum Board on lightweight aluminum frames
- c. Rubbed Concrete

C. DOORS & WINDOWS

- a. Follow as per approved plan and specifications.

D. PAINTING WORKS

- a. All primers, thinners and putty, also waterproofing for internal and external application shall be the same brand as the specified material.
- b. Application shall be as per paint Manufacturer's specification and recommendation
- c. Provide all drop cloth and other covering requisite for protection of floors, walls, aluminum, glass, finishes and other works
- d. All applications and methods used shall strictly follow the Manufacturer's Instructions and Specifications.
- e. All surfaces including masonry wall shall be thoroughly cleaned, puttied, sandpapered, rubbed and polished. masonry wall shall be treated with Neutralizer
- f. All exposed finish hardware, lighting fixtures and accessories, glass and the like shall be adequately protected so that these are not stained with paint and other painting materials prior to painting works.
- g. All other surfaces endangered by stains and paint marks should be taped and covered with craft paper

V. SANITARY / PLUMBING WORKS

- A. Comply with the current applicable codes, ordinances, and regulations of the authority or authorities having jurisdiction, the rules, regulations and requirements of the utility companies (as applicable).
- B. Supply, installation and testing of the following.
 - B.1 Potable water supply system complete in all respects including but not limited to submittals, shop drawings, piping, water meters, valves, bibbs, insulation, all accessories required for complete and operational of the system.
 - B.2 Water service connections including but not limited to water meters, float valves. Any and all other works involve in providing the complete operation of the water supply system
 - B.3 Soil waste and vent system complete in all respect including but not limited to connection to existing sewer, submittals, shop drawings, pipes, fittings, valves, cleanout, drains, etc. Complete and operational
 - B.4 Storm drainage system complete in all respect including but not limited to connection to existing storm drainage, submittals, shop drawings, pipes, fittings, valves, cleanout, drains, etc. Complete and operational
- C. Workmanship and installation methods shall conform to the best modern practice. Employ skilled tradesmen to perform work under the direct supervision of fully qualified personnel.
- D. All equipment and installations shall meet or exceed minimum requirements of the Standards and Codes as specified in plans and program of work
- E. Install equipment in strict accordance with manufacturers written recommendations
- F. Physical sizes of all plant and equipment are to be suitable for the space allocated for the accommodation of such plant and equipment, taking into account the requirement of access for maintenance purposes.
- G. In selecting makes and types of equipment, the Contractor shall ascertain that facilities for proper maintenance, repair and replacement are provided.
- H. Where the Contractor proposes to use an item of equipment other than that specified or detailed in the drawing, which requires any redesign of the system, drawings showing the layout of the equipment and such redesign as required therefore shall be prepared by the Contractor at his own expenses. Where such approved deviation necessitates a different quantity and arrangement of materials and equipment's from that originally specified or

indicated in the drawings, the Contractor shall furnish and install any such additional materials and equipment's required by the system at no additional cost.

- I. Equipment catalogue and manufacturer's specifications must be submitted for examination and details shall be submitted for approval before any equipment is to be ordered.
- J. This shall include all information necessary to ascertain the equipment comply with this specification and drawings. Data and sales catalogue of a general nature will not be accepted
- K. All materials, equipment, components and accessories shall be delivered to the Site in a new condition, properly packed and protected against damage or contamination or distortion, breakage or structural weakening due to handling, adverse weather or other circumstances and, as far as practicable, they shall be kept in the packing cases or under approved protective coverings until required for use.
- L. Any items suffering from damage during manufacture or in transit, or on site whilst in storage or during erection shall be rejected and replaced without extra cost
- M. All sanitary fittings and pipework shall be cleaned after installation and keep them in a new condition
- N. All installed pipelines shall be flushed through with water, rodded when necessary to ensure clearance of debris
- O. Cleaning and flushing shall be carried out in sections as the installation becomes completed
- P. The Contractor shall carry out hydraulic test on the complete plumbing systems and the drainage system to show that it is functioning satisfactorily within the requirements of this Specification and local regulations.
- Q. The Contractor shall provide suitable test pumps and arrange for a supply of water required in connection with testing of pipework. The test pump shall be fitted with pressure gauges which shall be of suitable range for the pressure being applied.
- R. Hydraulic tests shall be carried out as the pipework is installed and shall be completed before chases in walls and ducts are closed. Also test shall be carried out prior to false ceilings and other finishes are installed.
- S. Testing apparatus shall be provided by the Contractor. Where any section of pipework or equipment is unable to withstand the maximum pipework test pressure it shall be isolated during the pipework test then that section of pipework or equipment shall be re-tested at the appropriate test pressure.
- T. The Sanitary Contractor must carry out any additional tests required by the end-user and/or approving agency.
- U. Drainage pipe shall be tested by filling the pipe with 3m. of water higher than the test section and wait for 15 min then check for leakage at every joints
- V. Testing of drainage systems shall be carried out in sections by dividing the system horizontally. Each section shall comprise pipework and fitting for three floors/storeys required for testing.
- W. Drainage pressure pipe shall be hydraulic tested at minimum pressure 50 psi.
- X. Hangers and supports for plumbing piping and equipment shall withstand the effects of gravity loads and stresses within limits and under conditions indicated according to ASCE/SEI 7.
- Y. Install hangers and supports to allow controlled thermal and seismic movement of piping systems, to permit freedom of movement between pipe anchors, and to facilitate action of expansion joints, expansion loops, expansion bends, and similar units.
- Z. Install lateral bracing with pipe hangers and supports to prevent swaying.
- AA. Install building attachments within concrete slabs or attach to structural steel. Install additional attachments at concentrated loads, including valves, flanges, and strainers, NPS

2-1/2 (DN 65) and larger and at changes in direction of piping. Install concrete inserts before concrete is placed, fasten inserts to forms and install reinforcing bars through openings at top of inserts.

- BB. Install hangers and supports so that piping live and dead loads and stresses from movement will not be transmitted to connected equipment.
- CC. Install hangers and supports to provide indicated pipe slopes and to not exceed maximum pipe deflections allowed by ASME B31.9 for building services piping.

VI. ELECTRICAL WORKS

- A. Comply with the current applicable codes, ordinances, and regulations of the authority or authorities having jurisdiction, the rules, regulations and requirements of the utility companies (as applicable)
- B. Drawings, specifications, codes and standards are minimum requirements. Where requirements differ, the more stringent apply.
- C. All equipment and installations shall meet or exceed minimum requirements of the Standards and Codes
- D. Execute work in strict accordance with the best practices of the trades in a thorough, substantial, workmanlike manner by competent workmen.
- E. When the tests and inspections have been completed, a label shall be attached to all devices tested. The label shall provide the name of the testing company, the date the tests were completed, and the initials of the person who performed the tests

F. PANELBOARDS

- F.1 Fabricate and test panel boards according to IEEE 344 to withstand seismic forces defined in Division 16 Sections 16073 and 16074 "Hangers and Supports for Electrical Systems and Vibration and Seismic controls for Electrical Systems" respectively.
- F.2 Enclosures: Flush, Surface, Flush- and surface-mounted cabinets.
- F.2.1 Rated for environmental conditions at installed location.
- i. Indoor Dry and Clean Locations: NEMA 250, Type 1
 - ii. Outdoor Locations: NEMA 250, Type 3R.
 - iii. Kitchen and Wash-Down Areas: NEMA 250, Type 4X, stainless steel.
 - iv. Other Wet or Damp Indoor Locations. NEMA 250, Type 4.
 - v. Indoor Locations Subject to Dust, Falling Dirt, and Dripping Noncorrosive Liquids: NEMA 250, Type 5 or Type 12.
- F.2.2 Front: Secured to box with concealed trim clamps. For surface-mounted fronts, match box dimensions; for flush-mounted fronts, overlap box
- F.2.3 Hinged Front Cover: Entire front trim hinged to box and with standard door within hinged trim cover.
- F.2.4 Skirt for Surface-Mounted Panel boards. Same gage and finish as panel board front with flanges for attachment to panel board, wall, and ceiling or floor.
- F.2.5 Gutter Extension and Barrier: Same gage and finish as panel board enclosure; integral with enclosure body. Arrange to isolate individual panel sections.
- F.2.6 Finishes:
- i. Panels and Trim: Steel and galvanized steel, factory finished immediately after cleaning and pretreating with manufacturer's

standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat.

- ii. **Back Boxes:** Galvanized steel. Same finish as panels and trim.
- iii. **Fungus Proofing:** Permanent fungicidal treatment for overcurrent protective devices and other components.

F.2.7 **Directory Card:** Inside panel board door, mounted in transparent card holder metal frame with transparent protective cover.

F.3 **Incoming Mains Location:** Top or Bottom.

F.4 **Phase, Neutral, and Ground Buses:**

F.4.1 **Material:** Hard-drawn copper, 98 percent conductivity.

F.4.2 **Equipment Ground Bus:** Adequate for feeder and branch-circuit equipment grounding conductors; bonded to box.

F.4.3 **Neutral Bus:** 100 percent of phase bus. **4, Extra-Capacity Neutral Bus:** Neutral bus rated 200 percent of phase bus and UL listed as suitable for nonlinear loads.


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TECHNICAL SPECIFICATIONS QUEZON CITY INFRASTRUCTURE PROJECT

PROJECT TITLE: PROPOSED CONSTRUCTION OF HANDWASHING FACILITY AND REHABILITATION OF KALAYAAN B DAY CARE CENTER

LOCATION: BARANGAY BATASAN HILLS, DISTRICT 2, QUEZON CITY

I. GENERAL REQUIREMENTS

- a. Comply with the current and existing laws, ordinances and applicable codes, rules and regulations and standards. Any works perform contrary to the existing laws, rules and regulations, ordinances and standards without notice shall bear all cost arising therefrom.
- b. Drawings, specifications, codes and standards are minimum requirements. Where requirements differ, the more stringent apply.
- c. Should there be any change(s) in drawings or specifications, it is required to comply with the governing regulations, notify the implementing agency
- d. Photographs shall be taken as, when and where directed at intervals of not more than one month. The photographs shall be sufficient in number and location to record the exact progress of the works. The photographs shall be retained and will become the property of the Government.
- e. Site verification / inspection shall be conducted to validate the scope of works. No extra compensation and extension of time shall be given due to negligence or inadvertence.
- f. The quality of materials shall be of the best grade of their respective kinds for the purpose. The work shall also be performed in the best and most capable manner in strict accordance with requirements of the plans and details. All materials not conforming to the requirements of these specifications shall be considered as defective.
- g. All equipment and installations shall meet or exceed minimum requirements of the standards and codes.
- h. Mobilization and Demobilization (if applicable)
 - i. Mobilization shall include all activities and related costs for transportation of personnel, equipment, and operating supplies to the site; establishment of offices, buildings, and other necessary general facilities for the operations at the site
 - ii. Demobilization shall include all activities and costs for transportation of personnel, equipment, and supplies not anymore required within the construction site including the disassembly, removal and site clean-up of offices and other facilities assembled on the site specifically for this contract.
- i. Execute work in strict accordance with the best practices of the trades in a thorough, substantial, workmanlike manner by competent workmen. Provide a competent, experienced, full-time supervisor who is authorized to make decisions on behalf of the Contractor.
- j. Temporary Facilities and Utilities
 - i. All facilities shall be near the job site, where necessary and shall conform to the best standard for the required types.

- ii. Temporary facilities shall be provided and maintained including sanitary facilities and first aid stations
 - iii. Temporary utilities shall be sufficiently provided until the completion of the project such as water, power and communication.
 - iv. Temporary enclosure shall be provided within the construction site with adequate guard lights, railings and proper signages.
 - v. Temporary roadways shall be constructed and maintained to sustain loads to be carried on them during the entire construction period.
 - vi. Upon completion of the work, the temporary facilities shall be demolished, hauled-out and disposed properly.
- k. Adequate construction safety and health protection shall be provided at all times during the execution of work to both workers and property
- i. A fully trained Medical Aide shall be employed permanently on the site who shall be engaged solely from medical duties.
 - ii. The medical room shall be provided in waterproof, it could be a building or room designated and used exclusively for the purpose and have a floor area of at least 15 square meters and a glazed window area of at least 2 square meters.
 - iii. The location of the medical room and any other arrangements shall be made known to all employees by posting on prominent locations suitable notices in the site.
 - iv. Additional safety precautions shall be provided in the observance of pandemic Protocols set-forth by the government shall be strictly followed
- l. Necessary protections to the adjacent property shall be provided to avoid untoward incidents / accidents.
- m. Final cleaning of the work shall be employed prior to the final inspection for certification of final acceptance. Final cleaning shall be applied on each surface or unit of work and shall be of condition expected for a building cleaning and maintenance program.

II. SITE WORKS

- A. All grades, lines, levels and dimensions shall be verified as indicated on the plans and details. Any discrepancies or inconsistencies shall be reported before commencing to work.
- B. Removal / demolition of existing structures shall be done in accordance to safety procedures.

III. CIVIL / STRUCTURAL WORKS

A. CONCRETE WORK

- a. **Delivery, Storage, and Handling:** All materials shall be so delivered, stored, and handled as to prevent the inclusion of foreign materials and the damage of materials by water or breakage. Package materials shall be delivered and stored in original packages until ready to be used. Packages or materials showing evidence of water or other damage shall be rejected.
- b. Unless otherwise specified herein, concrete works shall conform to the requirements of the ACI Building Code. Full cooperation shall be given on trades to install embedded items. Provisions shall be made for setting items not placed in the forms. Before concrete is placed, embedded items shall have been inspected and tested for concrete aggregates and other materials shall have been done.
- c. **Materials**

- i. Cement for concrete shall conform to the requirements of specifications for Portland Cement (ASTM C – 150).
 - ii. Water used in mixing concrete shall be clean and free from other injurious amounts of oils, acids, alkaline, organic materials or other substances that may be deleterious to concrete or steel.
 - iii. Fine aggregates shall be beach or river sand conforming to ASTM C33. "Specification for Concrete Aggregates". Sand particle shall be coarse, sharp, clean free from salt, dust, loam, dirt and all foreign matters.
 - iv. Coarse aggregates shall be either natural gravel or crushed rock conforming to the "Specifications for Concrete Aggregates (ASTM C33). The minimum size of aggregates shall be larger than one fifth (1/5) of the narrowest dimensions between sides of the forms within which the concrete is to be cast nor larger than three fourths (3/4) of the minimum clear spacing between reinforcing bars or between reinforcing bars and forms.
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- i. Proportioning and mixing of concrete shall conform to the requirements for Item 405 of the standard specification with the following proportions:
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 - Class "A" - 1 : 2 : 3
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 - ii. Concrete mixture to be used for concrete shall conform with the structural requirements.
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- e. Forms
- i. General – Forms shall be used whatever necessary to confine the concrete and shape it to the required lines, or to insure the concrete of contamination with materials caving from adjacent, excavated surfaces. Forms shall have sufficient strength to withstand the pressure resulting from placement and vibration of the concrete, and shall be maintained rigidly in correct position. Forms shall be sufficiently tight to prevent loss of mortar from the concrete. Forms shall be ¼" waterproof plywood and form lumber.
 - ii. Cleaning of Forms – before placing the concrete, the contact surfaces of the formed shall be cleaned of encrustations of mortar, the grout or other foreign material.
 - iii. Removal of Forms – forms shall be removed in a manner which will prevent damage to the concrete. Forms shall not be removed without approval. Any repairs of surface imperfections shall be formed at once and curing shall be started as soon as the surface is sufficiently hard to permit it without further damage.
- f. Placing Reinforcement:
- Steel reinforcement shall be provided as indicated, together with all necessary wire ties, chairs, spacer supported and other devices necessary to install and secure the reinforcement properly. All reinforcement, when placed shall be free from loose, flaky rust and scale, oil grease, clay and other coating and foreign substances that would reduce or destroy its bond with concrete. Reinforcement shall be placed accurately and secured in place by use of metal or concrete supports, spacers and ties. Such supports shall be used in such manner that they will not be exposed or contribute in any way, to the discoloration or deterioration of the concrete.
- g. Conveying and Placing Concrete:

- s. Conveying – concrete shall be conveyed from mixer to forms as rapidly as applicable, by methods which will prevent segregation, or loss of ingredients. There will be no vertical drop greater than 1.5 meters except where suitable equipment is provided to prevent segregation and where specifically authorized.
 - k. Placing – concrete shall be worked readily into the corners and angles of the forms and around all reinforcement and imbedded items without permitting the material to segregate. concrete shall be deposited as close as possible to its final position in the forms so that flow within the mass does not exceed two (2) meters and consequently segregation is reduced to a minimum near forms or embedded items, or elsewhere as directed, the discharge shall be so controlled that the concrete may be effectively compacted into horizontal layers not exceeding 30 centimeters in depth within the maximum lateral movement specified.
 - iii. Time interval between mixing and placing. Concrete shall be placed before initial set has occurred and before it has contained its water content for more than 45 minutes. No concrete mix shall be placed before 60 complete revolution of the machine mixer.
 - iv. Consolidation of Concrete – concrete shall be consolidated with the aid of mechanical vibrating equipment and supplemented by the hand spading and tamping. Vibrators shall not be inserted into lower courses that have commenced initial set; and reinforcement embedded in concrete beginning to set or already set shall not be disturbed by vibrators. Consolidation around major embedded parts shall be by hand spading and tamping and vibrators shall not be used.
 - v. Placing Concrete through reinforcement – In placing concrete through reinforcement, care shall be taken that no segregation of the coarse aggregate occurs. On the bottom of beams and slabs, where the congestion of steel near the forms makes placing difficult, a layer of mortar of the same cement-sand ratios as used in concrete shall be first deposited to cover the surfaces.
- h. Curing
- i. General – All concrete shall be moist cured for a period not less than seven (7) consecutive days by an approved method or combination applicable to local conditions.
 - ii. Moist Curing – The surface of the concrete shall be kept continuously wet by covering with burlap plastic or other approved materials thoroughly saturated with water and keeping the covering spraying or intermittent hosing.
- t. Finishing
- i. Concrete surfaces shall not be plastered unless otherwise indicated. Exposed concrete surfaces shall be formed with plywood, and after removal of forms, the surfaces shall be smooth, true to line and shall present a finished appearance except for minor defects which can be easily repaired with patching with cement mortar, or can be ground to a smooth surface to remove all joint marks of the form works.
 - ii. Concrete Slabs on Fill. The concrete slabs on fill shall be laid on a prepared foundation consisting of sub grade and granular fill with thickness equal to the thickness of the overlaying slab except when indicated.

B. MASONRY WORKS

- a. Masonry Units (CHB):
100mm thick for all interior walls and 150mm thick for all exterior walls unless otherwise indicated.

Use 400 psi for non-load bearing blocks and 700 psi for load bearing blocks where required.

Where full height walls are constructed with concrete hollow blocks, these shall extend up to the bottom of beam or slab unless otherwise indicated on plans. Provide stiffener columns & lintel beams as specified in the structural drawings or as specified or as deemed required to assure a stabilized wall due to height & other considerations.

b. Sand:

S-1, washed, clean and greenish in color

c. Mortar:

One part "Portland" cement and two parts sand and water but not more than three parts sand and water.

d. Plaster bond:

Apply plaster bond to all wall area

C. METAL WORKS

a. Description

Metal works shall conform to the approved plans and to the Standard Specifications.

b. Reference Standards

Comply with the latest edition of the following as applicable, unless otherwise specified or modified.

1. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), 1978: Specification for the Design, Fabrication and Erection of Structural Steel for Buildings. Code of Standard Practice for Steel Buildings and Bridges; Specification for Architecturally Exposed Structural Steel
2. AMERICAN WELDING SOCIETY (AWS): Standard Welding Symbols A2.088; Standard Welding Code D1 1-1973 (Rev 1-73 & 2-74) (To govern if in conflict with AISC)
3. RESEARCH COUNCIL ON RIVETED AND BOLTED JOINTS OF THE ENGINEERING FOUNDATION (RCRBJ): Specification for Structural Joists using ASTM A-325-76s Bolts.
4. STRUCTURAL STEEL PAINTING COUNCIL (SSPC): Painting Manual, Vol. 1; Good Painting Practice, Painting Manual, Vol. 2, Systems and Specifications.

c. Source Quality Control

Errors of Shop Drawings, fabrication, correct fitting and alignment of the various metal items or component members shall be the responsibility of the Contractor. However, the Contractor shall permit the Architect or an independent inspection agency, if engaged by the Owner, to inspect work in progress in his shop. Such inspections shall not relieve the Contractor of his responsibility to furnish materials and workmanship in accordance with the Contract Documents.

d. Product Delivery, Handling and Storage

Handle and store in such manner as to prevent damage or disfigurement. Store finished items or components above ground on platforms, pallets or other supports and protect from harmful elements.

e. Protection

The Contractor shall protect any existing work subject to damage during the installation of the specified work and shall adequately protect specified work during installation.

f. Field Quality Control

Facilities shall be provided by the Contractor as needed for the proper inspection of the specified work, including temporary platforms, hoists, protective devices, electric current, etc. Improper workmanship, as determined by the Architect shall be corrected and replaced, at no additional cost to the Owner.

g. Materials

Products shall conform to the respective reference specifications and standards and to the requirements specified herein:

- a) STEEL AND IRON: If not specified otherwise, use standard mill-finished structural steel shapes or bar iron in compliance with AISC Specifications for Design, Fabrication and Erection of Structural Steel for Buildings.
- b) BOLTS, NUTS, STUDS AND RIVETS: ASTM A 307 & A 325
- c) SCREWS: Fed. Spec. FF-S-85, Fed. Spec. FF-S-92, and Fed. Spec. FF-S-111

h. Fabrication

By mechanics skilled in the trade and in accordance with the manufacturer's directions, Metalwork shall be fabricated to allow for expansion and contraction of materials. Provide welding and bracing of adequate strength and durability, with tight, flush joints, dressed smooth and clean. Complete with bolts and nuts.

i. Measurements

Before fabrication, provide necessary field measurements and verify all measurements

j. Metal Surfaces

Shall be clean and free from all scale, flake, rust, and rust pitting; well-formed and finished to shape and size, with sharp lines, angles and smooth surface. Shearing and punching shall leave clean true lines and surfaces. Weld or rivet permanent connections. Weld and flush rivets shall be used and finished flush smooth on surfaces that will be exposed after installation. Do not use screws or bolts where they can be avoided; when used, heads shall be countersunk, screwed up tight and threads nicked to prevent loosening.

k. Construction

Thickness of metals and details of assembly and supports shall give ample strength and stiffness for the minimum loads specified or indicated. Joints exposed to weather shall be formed to exclude water.

l. Shop Fabrication

Fabrication and assembly shall be done in the shop to the greatest extent possible.

m. **Submittals**

Shop Drawings. Submit along with catalogue, cuts, templates and erection and installation details, indicating thickness, type, grade, type of metal and dimensions. Show construction details, reinforcement, anchorage, and installation with relation to the construction.

n. **Delivery and Storage**

Protect from corrosion, deformation and other types of damage. Store items in an enclosed area free from contact with soil and weather. Contractor shall replace and removed damage items with new items

o. **Welding**

Use welding electrode E70xx and perform welding, welding inspection and corrective welding in accordance with AWS D1.1. Weld in a manner to prevent permanent distortion of the connected parts. Weld continuously along the entire area of contact (except where lack welding is permitted. Do not lack weld exposed to connections.) Grind smooth visible weld in finished installation.

p. **Metal Purlins**

Metal purlins shall be of high grade galvanized steel with minimum tensile strength of 275 MPA, 1.4mm in thickness.

D. ROOFING WORKS

- a. The roof shall be covered with Ga. 24 pre-painted G.I. rib-type roofing sheets as shown on the plans. The roofing shall be secured to the purlins with min. 2 1/2" max 3" long Tek screws. Ridge rolls, hip rolls and valleys to be used shall be those compatible with the Ga. 24 pre-painted G.I. rib-type roofing sheets. They shall lap the roofing sheets at least 250mm. The ridge rolls, hip rolls and valleys shall be riveted to the roofing sheets.
- b. All roofing sheets adjacent to concrete hollow block and other masonry walls such as property line firewalls, shall be provided with Gauge 26 pre-painted plain G.I. Flashing to extend to the top and over to the other side of the wall. All fasteners shall be placed at the top of the corrugations of the roofing sheets to prevent water from standing around the fasteners.

IV. ARCHITECTURAL WORKS

A. WALLS AND FLOOR FINISHES

- a. 600mm x 600mm Nonskid Ceramic Tiles including tile adhesive
- b. 50mm concrete Topping with Plain Cement Finish
- c. 50mm Concrete Topping for Tiles
- d. 300mm x 600mm Ceramic Wall Tiles
- e. Urinal partition including stainless steel support and accessories
- f. Plastering Guide/ Grooves

B. CEILING FINISHES

- a. 12mm thk Gypsum Board including framing and accessories
- b. 12mm thk Moisture Resistant Gypsum Board on lightweight aluminum frames
- c. Rubbed Concrete

C. DOORS & WINDOWS

- a. Follow as per approved plan and specifications

D. PAINTING WORKS

- a. All primers, thinners and putty, also waterproofing for internal and external application shall be the same brand as the specified material.
- b. Application shall be as per paint Manufacturer's specification and recommendation.
- c. Provide all drop cloth and other covering requisite for protection of floors, walls, aluminum, glass, finishes and other works.
- d. All applications and methods used shall strictly follow the Manufacturer's Instructions and Specifications.
- e. All surfaces including masonry wall shall be thoroughly cleaned, putted, sandpapered, rubbed and polished; masonry wall shall be treated with Neutralizer
- f. All exposed finish hardware, lighting fixtures and accessories, glass and the like shall be adequately protected so that these are not stained with paint and other painting materials prior to painting works.
- g. All other surfaces endangered by stains and paint marks should be taped and covered with craft paper.

V. SANITARY / PLUMBING WORKS

- A. Comply with the current applicable codes, ordinances, and regulations of the authority or authorities having jurisdiction, the rules, regulations and requirements of the utility companies (as applicable).
- B. Supply, installation and testing of the following
 - B.1 Potable water supply system complete in all respects including but not limited to submittals, shop drawings, piping, water meters, valves, bibbs, insulation, all accessories required for complete and operational of the system.
 - B.2 Water service connections including but not limited to water meters, float valves. Any and all other works involve in providing the complete operation of the water supply system.
 - B.3 Soil waste and vent system complete in all respect including but not limited to connection to existing sewer, submittals, shop drawings, pipes, fittings, valves, cleanout, drains, etc. Complete and operational.
 - B.4 Storm drainage system complete in all respect including but not limited to connection to existing storm drainage, submittals, shop drawings pipes, fittings, valves, cleanout, drains, etc. Complete and operational
- C. Workmanship and installation methods shall conform to the best modern practice. Employ skilled tradesmen to perform work under the direct supervision of fully qualified personnel.
- D. All equipment and installations shall meet or exceed minimum requirements of the Standards and Codes as specified in plans and program of work.
- E. Install equipment in strict accordance with manufacturers written recommendations.
- F. Physical sizes of all plant and equipment are to be suitable for the space allocated for the accommodation of such plant and equipment taking into account the requirement of access for maintenance purposes.
- G. In selecting makes and types of equipment, the Contractor shall ascertain that facilities for proper maintenance, repair and replacement are provided.
- H. Where the Contractor proposes to use an item of equipment other than that specified or detailed in the drawing, which requires any redesign of the system, drawings showing the layout of the equipment and such redesign as required therefore shall be prepared by the Contractor at his own expenses. Where such approved deviation necessitates a different quantity and arrangement of materials and equipment's from that originally specified or

indicated in the drawings, the Contractor shall furnish and install any such additional materials and equipment's required by the system at no additional cost.

- I. Equipment catalogue and manufacturer's specifications must be submitted for examination and details shall be submitted for approval before any equipment is to be ordered.
- J. This shall include all information necessary to ascertain the equipment comply with this specification and drawings. Data and sales catalogue of a general nature will not be accepted.
- K. All materials, equipment, components and accessories shall be delivered to the Site in a new condition, properly packed and protected against damage or contamination or distortion, breakage or structural weakening due to handling, adverse weather or other circumstances and as far as practicable they shall be kept in the packing cases or under approved protective coverings until required for use.
- L. Any items suffering from damage during manufacture, or in transit, or on site whilst in storage or during erection shall be rejected and replaced without extra cost.
- M. All sanitary fittings and pipework shall be cleaned after installation and keep them in a new condition.
- N. All installed pipelines shall be flushed through with water, rodded when necessary to ensure clearance of debris.
- O. Cleaning and flushing shall be carried out in sections as the installation becomes completed.
- P. The Contractor shall carry out hydraulic test on the complete plumbing systems and the drainage system to show that it is functioning satisfactorily within the requirements of this Specification and local regulations.
- Q. The Contractor shall provide suitable test pumps and arrange for a supply of water required in connection with testing of pipework. The test pump shall be fitted with pressure gauges which shall be of suitable range for the pressure being applied.
- R. Hydraulic tests shall be carried out as the pipework is installed and shall be completed before chases in walls and ducts are closed. Also test shall be carried out prior to false ceilings and other finishes are installed.
- S. Testing apparatus shall be provided by the Contractor. Where any section of pipework or equipment is unable to withstand the maximum pipework test pressure, it shall be isolated during the pipework test then that section of pipework or equipment shall be re-tested at the appropriate test pressure.
- T. The Sanitary Contractor must carry out any additional tests required by the end-user and/or approving agency.
- U. Drainage pipe shall be tested by filling the pipe with 3m of water higher than the test section and wait for 15 min, then check for leakage at every joints.
- V. Testing of drainage systems shall be carried out in sections by dividing the system horizontally. Each section shall comprise pipework and fitting for three floors/storeys required for testing.
- W. Drainage pressure pipe shall be hydraulic tested at minimum pressure 50 psi.
- X. Hangers and supports for plumbing piping and equipment shall withstand the effects of gravity loads and stresses within limits and under conditions indicated according to ASCE/SEI 7.
- Y. Install hangers and supports to allow controlled thermal and seismic movement of piping systems, to permit freedom of movement between pipe anchors, and to facilitate action of expansion joints, expansion loops, expansion bends, and similar units.
- Z. Install lateral bracing with pipe hangers and supports to prevent swaying.
- AA. Install building attachments within concrete slabs or attach to structural steel. Install additional attachments at concentrated loads, including valves, flanges, and strainers. NPS

2-1/2 (DN 65) and larger and at changes in direction of piping. Install concrete inserts before concrete is placed, fasten inserts to forms and install reinforcing bars through openings at top of inserts.

- BB Install hangers and supports so that piping live and dead loads and stresses from movement will not be transmitted to connected equipment.
- CC Install hangers and supports to provide indicated pipe slopes and to not exceed maximum pipe deflections allowed by ASME B31.9 for building services piping.

VI. ELECTRICAL WORKS

- A Comply with the current applicable codes, ordinances, and regulations of the authority or authorities having jurisdiction, the rules, regulations and requirements of the utility companies (as applicable).
- B Drawings, specifications, codes and standards are minimum requirements. Where requirements differ, the more stringent apply.
- C. All equipment and installations shall meet or exceed minimum requirements of the Standards and Codes.
- D. Execute work in strict accordance with the best practices of the trades in a thorough, substantial, workmanlike manner by competent workmen.
- E. When the tests and inspections have been completed, a label shall be attached to all devices tested. The label shall provide the name of the testing company, the date the tests were completed, and the initials of the person who performed the tests.

F. PANELBOARDS

- F.1 Fabricate and test panel boards according to IEEE 344 to withstand seismic forces defined in Division 16 Sections 16073 and 16074 "Hangers and Supports for Electrical Systems and Vibration and Seismic controls for Electrical Systems" respectively.
- F.2 Enclosures Flush, Surface, Flush- and surface-mounted cabinets.
 - F.2.1 Rated for environmental conditions at installed location.
 - i. Indoor Dry and Clean Locations: NEMA 250, Type 1.
 - ii. Outdoor Locations: NEMA 250, Type 3R
 - iii. Kitchen and Wash-Down Areas: NEMA 250, Type 4X, stainless steel.
 - iv. Other Wet or Damp Indoor Locations: NEMA 250, Type 4.
 - v. Indoor Locations Subject to Dust, Falling Dirt, and Dropping Noncorrosive Liquids: NEMA 250, Type 5 or Type 12.
 - F.2.2 Front Secured to box with concealed trim clamps. For surface-mounted fronts, match box dimensions; for flush-mounted fronts, overlap box.
 - F.2.3 Hinged Front Cover Entire front trim hinged to box and with standard door within hinged trim cover.
 - F.2.4 Skirt for Surface-Mounted Panel boards: Same gage and finish as panel board front with flanges for attachment to panel board, wall, and ceiling or floor.
 - F.2.5 Gutter Extension and Barrier Same gage and finish as panel board enclosure; integral with enclosure body. Arrange to isolate individual panel sections.
 - F.2.6 Finishes
 - i. Panels and Trim: Steel and galvanized steel, factory finished immediately after cleaning and pretreating with manufacturer's

standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat.

- ii. **Back Boxes:** Galvanized steel Same finish as panels and trim.
- iii. **Fungus Proofing:** Permanent fungicidal treatment for overcurrent protective devices and other components.

F.2.7 Directory Card: Inside panel board door, mounted in transparent card holder metal frame with transparent protective cover

F.3 Incoming Mains Location: Top or Bottom

F.4 Phase, Neutral, and Ground Buses:

F.4.1 Material: Hard-drawn copper 99 percent conductivity

F.4.2 Equipment Ground Bus: Adequate for feeder and branch-circuit equipment grounding conductors, bonded to box.

F.4.3 Neutral Bus: 100 percent of phase bus 4. **Extra-Capacity Neutral Bus:** Neutral bus rated 200 percent of phase bus and UL listed as suitable for nonlinear loads.


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TECHNICAL SPECIFICATIONS QUEZON CITY INFRASTRUCTURE PROJECT

PROJECT TITLE: PROPOSED CONSTRUCTION OF HANDWASHING FACILITY AND REHABILITATION OF LUZVIMINDA DAY CARE CENTER ✓

LOCATION: BARANGAY BATASAN HILLS, DISTRICT 2, QUEZON CITY

I. GENERAL REQUIREMENTS

- a. Comply with the current and existing laws, ordinances and applicable codes, rules and regulations and standards. Any works perform contrary to the existing laws, rules and regulations, ordinances and standards without notice shall bear all cost arising therefrom.
- b. Drawings, specifications codes and standards are minimum requirements. Where requirements differ the more stringent apply
- c. Should there be any change(s) in drawings or specifications, it is required to comply with the governing regulations, notify the implementing agency.
- d. Photographs shall be taken as, when and where directed at intervals of not more than one month. The photographs shall be sufficient in number and location to record the exact progress of the works. The photographs shall be retained and will become the property of the Government
- e. Site verification / inspection shall be conducted to validate the scope of works. No extra compensation and extension of time shall be given due to negligence or inadvertence
- f. The quality of materials shall be of the best grade of their respective kinds for the purpose. The work shall also be performed in the best and most capable manner in strict accordance with requirements of the plans and details. All materials not conforming to the requirements of these specifications shall be considered as defective
- g. All equipment and installations shall meet or exceed minimum requirements of the standards and codes
- h. Mobilization and Demobilization (if applicable)
 - i. Mobilization shall include all activities and related costs for transportation of personnel, equipment, and operating supplies to the site; establishment of offices, buildings, and other necessary general facilities for the operations at the site.
 - ii. Demobilization shall include all activities and costs for transportation of personnel, equipment, and supplies not anymore required within the construction site including the disassembly, removal and site clean-up of offices and other facilities assembled on the site specifically for this contract.
- i. Execute work in strict accordance with the best practices of the trades in a thorough, substantial, workmanlike manner by competent workmen. Provide a competent, experienced, full-time supervisor who is authorized to make decisions on behalf of the Contractor.
- j. Temporary Facilities and Utilities
 - i. All facilities shall be near the job site, where necessary and shall conform to the best standard for the required types.

- ii. Temporary facilities shall be provided and maintained including sanitary facilities and first aid stations.
 - iii. Temporary utilities shall be sufficiently provided until the completion of the project such as water, power and communication.
 - iv. Temporary enclosure shall be provided within the construction site with adequate guard lights, railings and proper signages
 - v. Temporary roadways shall be constructed and maintained to sustain loads to be carried on them during the entire construction period.
 - vi. Upon completion of the work, the temporary facilities shall be demolished, hauled-out and disposed properly
- k. Adequate construction safety and health protection shall be provided at all times during the execution of work to both workers and property.
- i. A fully trained Medical Aide shall be employed permanently on the site who shall be engaged solely from medical duties.
 - ii. The medical room shall be provided in waterproof; it could be a building or room designated and used exclusively for the purpose and have a floor area of at least 15 square meters and a glazed window area of at least 2 square meters.
 - iii. The location of the medical room and any other arrangements shall be made known to all employees by posting on prominent locations suitable notices in the site.
 - iv. Additional safety precautions shall be provided in the observance of pandemic. Protocols set-forth by the government shall be strictly followed.
- l. Necessary protections to the adjacent property shall be provided to avoid untoward incidents / accidents
- m. Final cleaning of the work shall be employed prior to the final inspection for certification of final acceptance. Final cleaning shall be applied on each surface or unit of work and shall be of condition expected for a building cleaning and maintenance program.

II. SITE WORKS

- A. All grades, lines, levels and dimensions shall be verified as indicated on the plans and details. Any discrepancies or inconsistencies shall be reported before commencing to work
- B. Removal / demolition of existing structures shall be done in accordance to safety procedures.

III. CIVIL / STRUCTURAL WORKS

A. CONCRETE WORK

- a. Delivery, Storage, and Handling. All materials shall be so delivered, stored, and handled as to prevent the inclusion of foreign materials and the damage of materials by water or breakage. Package materials shall be delivered and stored in original packages until ready to be used. Packages or materials showing evidence of water or other damage shall be rejected.
- b. Unless otherwise specified herein, concrete works shall conform to the requirements of the ACI Building Code. Full cooperation shall be given on trades to install embedded items. Provisions shall be made for setting items not placed in the forms. Before concrete is placed, embedded items shall have been inspected and tested for concrete aggregates and other materials shall have been done.
- c. Materials

- i. Cement for concrete shall conform to the requirements of specifications for Portland Cement (ASTM C – 150).
 - ii. Water used in mixing concrete shall be clean and free from other injurious amounts of oils, acids, alkaline, organic materials or other substances that may be deleterious to concrete or steel.
 - iii. Fine aggregates shall be beach or river sand conforming to ASTM C33, "Specification for Concrete Aggregates". Sand particle shall be coarse, sharp, clean free from salt, dust, loam, dirt and all foreign matters
 - iv. Coarse aggregates shall be either natural gravel or crushed rock conforming to the "Specifications for Concrete Aggregates (ASTM C33). The minimum size of aggregates shall be larger than one fifth (1/5) of the narrowest dimensions between sides of the forms within which the concrete is to be cast nor larger than three fourths (3/4) of the minimum clear spacing between reinforcing bars or between reinforcing bars and forms.
- d. **Proportioning and Mixing**
- i. Proportioning and mixing of concrete shall conform to the requirements for Item 405 of the standard specification with the following proportions.
 Cement : Sand : Gravel
 - Class "A" - 1 : 2 : 3
 - Class "B" - 1 : 2 : 4
 - Class "C" - 1 : 2 : ½
 - ii. Concrete mixture to be used for concrete shall conform with the structural requirements.
 - iii. Mixing – concrete shall be machine mixed. Mixing shall begin within 30 minutes after the cement has been added to the aggregates.
- e. **Forms**
- i. General – Forms shall be used wherever necessary to confine the concrete and shape it to the required lines or to insure the concrete of contamination with materials caving from adjacent, excavated surfaces. Forms shall have sufficient strength to withstand the pressure resulting from placement and vibration of the concrete, and shall be maintained rigidly in correct position. Forms shall be sufficiently tight to prevent loss of mortar from the concrete. Forms shall be ½" waterproof plywood and form lumber.
 - ii. Cleaning of Forms – before placing the concrete, the contact surfaces of the formed shall be cleaned of encrustations of mortar, the grout or other foreign material.
 - iii. Removal of Forms – forms shall be removed in a manner which will prevent damage to the concrete. Forms shall not be removed without approval. Any repairs of surface imperfections shall be formed at once and airing shall be started as soon as the surface is sufficiently hard to permit it without further damage
- f. **Placing Reinforcement:**
- Steel reinforcement shall be provided as indicated, together with all necessary wire ties, chairs, spacer supported and other devices necessary to install and secure the reinforcement properly. All reinforcement, when placed, shall be free from loose, flaky rust and scale, oil grease, clay and other coating and foreign substances that would reduce or destroy its bond with concrete. Reinforcement shall be placed accurately and secured in place by use of metal or concrete supports, spacers and ties. Such supports shall be used in such manner that they will not be exposed or contribute in any way, to the discoloration or deterioration of the concrete
- g. **Conveying and Placing Concrete:**

- i. Conveying – concrete shall be conveyed from mixer to forms as rapidly as applicable, by methods which will prevent segregation, or loss of ingredients. There will be no vertical drop greater than 1.5 meters except where suitable equipment is provided to prevent segregation and where specifically authorized.
 - ii. Placing – concrete shall be worked readily into the corners and angles of the forms and around all reinforcement and imbedded items without permitting the material to segregate, concrete shall be deposited as close as possible to its final position in the forms so that flow within the mass does not exceed two (2) meters and consequently segregation is reduced to a minimum near forms or embedded items, or elsewhere as directed, the discharge shall be so controlled that the concrete may be effectively compacted into horizontal layers not exceeding 30 centimeters in depth within the maximum lateral movement specified.
 - iii. Time Interval between mixing and placing Concrete shall be placed before initial set has occurred and before it has contained its water content for more than 45 minutes. No concrete mix shall be placed before 60 complete revolution of the machine mixer.
 - iv. Consolidation of Concrete – concrete shall be consolidated with the aid of mechanical vibrating equipment and supplemented by the hand spading and tamping. Vibrators shall not be inserted into lower courses that have commenced initial set; and reinforcement embedded in concrete beginning to set or already set shall not be disturbed by vibrators. Consolidation around major embedded parts shall by hand spading and tamping and vibrators shall not be used.
 - v. Placing Concrete through reinforcement – In placing concrete through reinforcement, care shall be taken that no segregation of the coarse aggregate occurs. On the bottom of beams and slabs, where the congestion of steel near the forms makes placing difficult, a layer of mortar of the same cement-sand ratios as used in concrete shall be first deposited to cover the surfaces.
- 7) Curing
- i. General – All concrete shall be moist cured for a period not less than seven (7) consecutive days by an approved method or combination applicable to local conditions.
 - ii. Moist Curing – The surface of the concrete shall be kept continuously wet by covering with burlap plastic or other approved materials thoroughly saturated with water and keeping the covering spraying or intermittent hosing.
- i. Finishing
- i. Concrete surfaces shall not be plastered unless otherwise indicated. Exposed concrete surfaces shall be formed with plywood, and after removal of forms, the surfaces shall be smooth, true to line and shall present a finished appearance except for minor defects which can be easily repaired with patching with cement mortar, or can be ground to a smooth surface to remove all joint marks of the form works.
 - ii. Concrete Slabs on Fill. The concrete slabs on fill shall be laid on a prepared foundation consisting of sub grade and granular fill with thickness equal to the thickness of the overlaying slab except when indicated.

B. MASONRY WORKS

- a. Masonry Units (CHB):
100mm thick for all interior walls and 150mm thick for all exterior walls unless otherwise indicated.

Use 400 psi for non-load bearing blocks and 700 psi for load bearing blocks where required.

Where full height walls are constructed with concrete hollow blocks, these shall extend up to the bottom of beam or slab unless otherwise indicated on plans. Provide stiffener columns & lintel beams as specified in the structural drawings or as specified or as deemed required to assure a stabilized wall due to height & other considerations.

b. Sand:

S-1, washed, clean and greenish in color.

c. Mortar:

One part "Portland" cement and two parts sand and water but not more than three parts sand and water.

d. Plaster bond:

Apply plaster bond to all wall area.

C. METAL WORKS

a. Description

Metal works shall conform to the approved plans and to the Standard Specifications.

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Comply with the latest edition of the following as applicable, unless otherwise specified or modified.

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Facilities shall be provided by the Contractor as needed for the proper inspection of the specified work, including temporary platforms, hoists, protective devices, electric current, etc. Improper workmanship, as determined by the Architect shall be corrected and replaced, at no additional cost to the Owner.

g. Materials

Products shall conform to the respective reference specifications and standards and to the requirements specified herein:

- a) STEEL AND IRON: If not specified otherwise, use standard mill-finished structural steel shapes or bar iron in compliance with AISC Specifications for Design, Fabrication and Erection of Structural Steel for Buildings.
- b) BOLTS, NUTS, STUDS AND RIVETS: ASTM A 307 & A 325
- c) SCREWS: Fed. Spec. FF-S-85, Fed. Spec. FF-S-92, and Fed. Spec. FF-S-111

h. Fabrication

By mechanics skilled in the trade and in accordance with the manufacturer's directions, Metalwork shall be fabricated to allow for expansion and contraction of materials. Provide welding and bracing of adequate strength and durability, with tight, flush joints, dressed smooth and clean. Complete with bolts and nuts.

i. Measurements

Before fabrication, provide necessary field measurements and verify all measurements.

j. Metal Surfaces

Shall be clean and free from all scale, flake, rust, and rust pitting; well-formed and finished to shape and size, with sharp lines, angles and smooth surface. Shearing and punching shall leave clean true lines and surfaces. Weld or rivet permanent connections. Weld and flush rivets shall be used and finished flush smooth on surfaces that will be exposed after installation. Do not use screws or bolts where they can be avoided; when used, heads shall be countersunk, screwed up tight and threads nicked to prevent loosening.

k. Construction

Thickness of metals and details of assembly and supports shall give ample strength and stiffness for the minimum loads specified or indicated. Joints exposed to weather shall be formed to exclude water.

l. Shop Fabrication

Fabrication and assembly shall be done in the shop to the greatest extent possible.

m. **Submittals**

Shop Drawings. Submit along with catalogue, cuts, templates and erection and installation details, indicating thickness, type, grade, type of metal and dimensions. Show construction details, reinforcement, anchorage, and installation with relation to the construction.

n. **Delivery and Storage**

Protect from corrosion, deformation and other types of damage. Store items in an enclosed area free from contact with soil and weather. Contractor shall replace and removed damage items with new items.

o. **Welding**

Use welding electrode E70xx and perform welding, welding inspection and corrective welding in accordance with AWS D1.1. Weld in a manner to prevent permanent distortion of the connected parts. Weld continuously along the entire area of contact (except where lack welding is permitted. Do not lack weld exposed to connections.) Grind smooth visible weld in finished installation.

p. **Metal Purlins**

Metal purlins shall be of high grade galvanized steel with minimum tensile strength of 275 MPA, 1.4mm in thickness.

D. ROOFING WORKS

- a. The roof shall be covered with Ga. 24 pre-painted G.I. rib-type roofing sheets as shown on the plans. The roofing shall be secured to the purlins with min. 2 1/2" max. 3' long Tek screws. Ridge rolls, hip rolls and valleys to be used shall be those compatible with the Ga. 24 pre-painted G.I. rib-type roofing sheets. They shall lap the roofing sheets at least 250mm. The ridge rolls, hip rolls and valleys shall be riveted to the roofing sheets.
- b. All roofing sheets adjacent to concrete hollow block and other masonry walls such as property line firewalls, shall be provided with Gauge 26 pre-painted plain G.I. Flashing to extend to the top and over to the other side of the wall. All fasteners shall be placed at the top of the corrugations of the roofing sheets to prevent water from standing around the fasteners.

IV. ARCHITECTURAL WORKS

A. WALLS AND FLOOR FINISHES

- a. 600mm x 600mm Nonskid Ceramic Tiles including tile adhesive
- b. 50mm concrete Topping with Plain Cement Finish
- c. 50mm Concrete Topping for Tiles
- d. 300mm x 600mm Ceramic Wall Tiles
- e. Urinal partition including stainless steel support and accessories
- f. Plastering Guide/ Grooves

B. CEILING FINISHES

- a. 12mm thk Gypsum Board including framing and accessories
- b. 12mm thk Moisture Resistant Gypsum Board on lightweight aluminum frames
- c. Rubbed Concrete

C. DOORS & WINDOWS

- a. Follow as per approved plan and specifications

D. PAINTING WORKS

- a. All primers, thinners and putty, also waterproofing for internal and external application shall be the same brand as the specified material.
- b. Application shall be as per paint Manufacturer's specification and recommendation.
- c. Provide all drop cloth and other covering requisite for protection of floors, walls, aluminum, glass finishes and other works.
- d. All applications and methods used shall strictly follow the Manufacturer's Instructions and Specifications
- e. All surfaces including masonry wall shall be thoroughly cleaned, puttied, sandpapered, rubbed and polished; masonry wall shall be treated with Neutralizer.
- f. All exposed finish hardware, lighting fixtures and accessories, glass and the like shall be adequately protected so that these are not stained with paint and other painting materials prior to painting works.
- g. All other surfaces endangered by stains and paint marks should be taped and covered with craft paper

V. SANITARY / PLUMBING WORKS

- A. Comply with the current applicable codes, ordinances and regulations of the authority or authorities having jurisdiction, the rules, regulations and requirements of the utility companies (as applicable).
- B. Supply, installation and testing of the following:
 - B.1 Potable water supply system complete in all respects including but not limited to submittals, shop drawings, piping, water meters, valves, bibbs, insulation, all accessories required for complete and operational of the system.
 - B.2 Water service connections including but not limited to water meters, float valves. Any and all other works involve in providing the complete operation of the water supply system.
 - B.3 Soil waste and vent system complete in all respect including but not limited to connection to existing sewer, submittals, shop drawings, pipes, fittings, valves, cleanout drains, etc. Complete and operational.
 - B.4 Storm drainage system complete in all respect including but not limited to connection to existing storm drainage submittals, shop drawings, pipes, fittings, valves, cleanout drains, etc. Complete and operational.
- C. Workmanship and installation methods shall conform to the best modern practice. Employ skilled tradesmen to perform work under the direct supervision of fully qualified personnel.
- D. All equipment and installations shall meet or exceed minimum requirements of the Standards and Codes as specified in plans and program of work.
- E. Install equipment in strict accordance with manufacturers written recommendations.
- F. Physical sizes of all plant and equipment are to be suitable for the space allocated for the accommodation of such plant and equipment, taking into account the requirement of access for maintenance purposes
- G. In selecting makes and types of equipment, the Contractor shall ascertain that facilities for proper maintenance, repair and replacement are provided.
- H. Where the Contractor proposes to use an item of equipment other than that specified or detailed in the drawing, which requires any redesign of the system, drawings showing the layout of the equipment and such redesign as required therefore shall be prepared by the Contractor at his own expenses. Where such approved deviation necessitates a different quantity and arrangement of materials and equipment's from that originally specified or

indicated in the drawings, the Contractor shall furnish and install any such additional materials and equipment's required by the system at no additional cost.

- I. Equipment catalogue and manufacturer's specifications must be submitted for examination and details shall be submitted for approval before any equipment is to be ordered.
- J. This shall include all information necessary to ascertain the equipment comply with this specification and drawings. Data and sales catalogue of a general nature will not be accepted
- K. All materials, equipment, components and accessories shall be delivered to the Site in a new condition, properly packed and protected against damage or contamination or distortion, breakage or structural weakening due to handling, adverse weather or other circumstances and, as far as practicable, they shall be kept in the packing cases or under approved protective coverings until required for use.
- L. Any items suffering from damage during manufacture, or in transit, or on site whilst in storage or during erection shall be rejected and replaced without extra cost.
- M. All sanitary fittings and pipework shall be cleaned after installation and keep them in a new condition.
- N. All installed pipelines shall be flushed through with water, rodded when necessary to ensure clearance of debris.
- O. Cleaning and flushing shall be carried out in sections as the installation becomes completed.
- P. The Contractor shall carry out hydraulic test on the complete plumbing systems and the drainage system to show that it is functioning satisfactorily within the requirements of this Specification and local regulations.
- Q. The Contractor shall provide suitable test pumps and arrange for a supply of water required in connection with testing of pipework. The test pump shall be fitted with pressure gauges which shall be of suitable range for the pressure being applied.
- R. Hydraulic tests shall be carried out as the pipework is installed and shall be completed before chases in walls and ducts are closed. Also test shall be carried out prior to false ceilings and other finishes are installed.
- S. Testing apparatus shall be provided by the Contractor. Where any section of pipework or equipment is unable to withstand the maximum pipework test pressure, it shall be isolated during the pipework test then that section of pipework or equipment shall be re-tested at the appropriate test pressure
- T. The Sanitary Contractor must carry out any additional tests required by the end-user and/or approving agency.
- U. Drainage pipe shall be tested by filling the pipe with 3m of water higher than the test section and wait for 15 min. then check for leakage at every joints
- V. Testing of drainage systems shall be carried out in sections by dividing the system horizontally. Each section shall comprise pipework and fitting for three floors/storays required for testing.
- W. Drainage pressure pipe shall be hydraulic tested at minimum pressure 50 psi.
- X. Hangers and supports for plumbing piping and equipment shall withstand the effects of gravity loads and stresses within limits and under conditions indicated according to ASCE/SEI 7.
- Y. Install hangers and supports to allow controlled thermal and seismic movement of piping systems, to permit freedom of movement between pipe anchors, and to facilitate action of expansion joints, expansion loops, expansion bends, and similar units.
- Z. Install lateral bracing with pipe hangers and supports to prevent swaying
- AA. Install building attachments within concrete slabs or attach to structural steel. Install additional attachments at concentrated loads, including valves, flanges, and strainers, NPS

2-1/2 (DN 65) and larger and at changes in direction of piping. Install concrete inserts before concrete is placed; fasten inserts to forms and install reinforcing bars through openings at top of inserts.

- BB. Install hangers and supports so that piping live and dead loads and stresses from movement will not be transmitted to connected equipment.
- CC. Install hangers and supports to provide indicated pipe slopes and to not exceed maximum pipe deflections allowed by ASME B31.9 for building services piping.

VI. ELECTRICAL WORKS

- A. Comply with the current applicable codes, ordinances, and regulations of the authority or authorities having jurisdiction, the rules, regulations and requirements of the utility companies (as applicable).
- B. Drawings, specifications, codes and standards are minimum requirements. Where requirements differ, the more stringent apply.
- C. All equipment and installations shall meet or exceed minimum requirements of the Standards and Codes.
- D. Execute work in strict accordance with the best practices of the trades in a thorough, substantial, workmanlike manner by competent workmen.
- E. When the tests and inspections have been completed, a label shall be attached to all devices tested. The label shall provide the name of the testing company, the date the tests were completed, and the initials of the person who performed the tests.

F. PANELBOARDS

- F.1 Fabricate and test panel boards according to IEEE 344 to withstand seismic forces defined in Division 16 Sections 16073 and 16074 "Hangers and Supports for Electrical Systems and Vibration and Seismic controls for Electrical Systems" respectively.
- F.2 Enclosures: Flush, Surface, Flush- and surface-mounted cabinets.
- F.2.1 Rated for environmental conditions at installed location.
- i. Indoor Dry and Clean Locations: NEMA 250, Type 1
 - ii. Outdoor Locations: NEMA 250, Type 3R.
 - iii. Kitchen and Wash-Down Areas: NEMA 250, Type 4X, stainless steel.
 - iv. Other Wet or Damp Indoor Locations: NEMA 250, Type 4
 - v. Indoor Locations Subject to Dust, Falling Dirt, and Dripping Noncorrosive Liquids: NEMA 250, Type 5 or Type 12.
- F.2.2 Front: Secured to box with concealed trim clamps. For surface-mounted fronts, match box dimensions; for flush-mounted fronts, overlap box.
- F.2.3 Hinged Front Cover: Entire front trim hinged to box and with standard door within hinged trim cover.
- F.2.4 Skirt for Surface-Mounted Panel boards: Same gage and finish as panel board front with flanges for attachment to panel board, wall, and ceiling or floor.
- F.2.5 Gutter Extension and Barrier: Same gage and finish as panel board enclosure; integral with enclosure body. Arrange to isolate individual panel sections.
- F.2.6 Finishes:
- i. Panels and Trim: Steel and galvanized steel, factory finished immediately after cleaning and pretreating with manufacturer's

standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat

- ii. Back Boxes: Galvanized steel Same finish as panels and trim.
- iii Fungus Proofing: Permanent fungicidal treatment for overcurrent protective devices and other components.

F.2.7 Directory Card. Inside panel board door, mounted in transparent card holder metal frame with transparent protective cover

F.3 Incoming Mains Location: Top or Bottom.

F.4 Phase, Neutral, and Ground Buses:

F.4.1 Material Hard-drawn copper. 98 percent conductivity

F.4.2 Equipment Ground Bus: Adequate for feeder and branch-circuit equipment grounding conductors; bonded to box.

F.4.3 Neutral Bus: 100 percent of phase bus 4. Extra-Capacity Neutral Bus. Neutral bus rated 200 percent of phase bus and UL listed as suitable for nonlinear loads.


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TECHNICAL SPECIFICATIONS QUEZON CITY INFRASTRUCTURE PROJECT

PROJECT TITLE: PROPOSED CONSTRUCTION OF HANDWASHING FACILITY AND REHABILITATION OF POOK PAG-ASA DAY CARE CENTER ✓

LOCATION: BARANGAY BATASAN HILLS, DISTRICT 2, QUEZON CITY

I. GENERAL REQUIREMENTS

- a. Comply with the current and existing laws, ordinances and applicable codes, rules and regulations and standards. Any works perform contrary to the existing laws, rules and regulations, ordinances and standards without notice shall bear all cost arising therefrom.
- b. Drawings, specifications, codes and standards are minimum requirements. Where requirements differ, the more stringent apply.
- c. Should there be any change(s) in drawings or specifications, it is required to comply with the governing regulations, notify the implementing agency.
- d. Photographs shall be taken as, when and where directed at intervals of not more than one month. The photographs shall be sufficient in number and location to record the exact progress of the works. The photographs shall be retained and will become the property of the Government.
- e. Site verification / inspection shall be conducted to validate the scope of works. No extra compensation and extension of time shall be given due to negligence or inadvertence.
- f. The quality of materials shall be of the best grade of their respective kinds for the purpose. The work shall also be performed in the best and most capable manner in strict accordance with requirements of the plans and details. All materials not conforming to the requirements of these specifications shall be considered as defective.
- g. All equipment and installations shall meet or exceed minimum requirements of the standards and codes.
- h. Mobilization and Demobilization (if applicable)
 - i. Mobilization shall include all activities and related costs for transportation of personnel, equipment, and operating supplies to the site, establishment of offices, buildings, and other necessary general facilities for the operations at the site.
 - ii. Demobilization shall include all activities and costs for transportation of personnel, equipment, and supplies not anymore required within the construction site including the disassembly, removal and site clean-up of offices and other facilities assembled on the site specifically for this contract.
- i. Execute work in strict accordance with the best practices of the trades in a thorough, substantial, workmanlike manner by competent workmen. Provide a competent, experienced, full-time supervisor who is authorized to make decisions on behalf of the Contractor.
- j. Temporary Facilities and Utilities
 - i. All facilities shall be near the job site, where necessary and shall conform to the best standard for the required types.

- ii. Temporary facilities shall be provided and maintained including sanitary facilities and first aid stations
 - iii. Temporary utilities shall be sufficiently provided until the completion of the project such as water, power and communication.
 - iv. Temporary enclosure shall be provided within the construction site with adequate guard lights, railings and proper signages.
 - v. Temporary roadways shall be constructed and maintained to sustain loads to be carried on them during the entire construction period
 - vi. Upon completion of the work, the temporary facilities shall be demolished, hauled-out and disposed properly
- k. Adequate construction safety and health protection shall be provided at all times during the execution of work to both workers and property.
- i. A fully trained Medical Aide shall be employed permanently on the site who shall be engaged solely from medical duties.
 - ii. The medical room shall be provided in waterproof; it could be a building or room designated and used exclusively for the purpose and have a floor area of at least 15 square meters and a glazed window area of at least 2 square meters.
 - iii. The location of the medical room and any other arrangements shall be made known to all employees by posting on prominent locations suitable notices in the site.
 - iv. Additional safety precautions shall be provided in the observance of pandemic Protocols set-forth by the government shall be strictly followed
- l. Necessary protections to the adjacent property shall be provided to avoid untoward incidents / accidents
- m. Final cleaning of the work shall be employed prior to the final inspection for certification of final acceptance. Final cleaning shall be applied on each surface or unit of work and shall be of condition expected for a building cleaning and maintenance program.

II. SITE WORKS

- A. All grades, lines, levels and dimensions shall be verified as indicated on the plans and details. Any discrepancies or inconsistencies shall be reported before commencing to work.
- B. Removal / demolition of existing structures shall be done in accordance to safety procedures.
- C. All excavations shall be made to grade as indicated in the plans. Whenever water is encountered in the excavation process, it shall be removed by pumping, care being taken that the surrounding soil particles are not disturbed or removed.
- D. All backfills shall be placed in layers not exceeding to 150mm in thickness and each layer shall be thoroughly compacted wetting, tamping and rolling.

III. CIVIL / STRUCTURAL WORKS

A. CONCRETE WORK

- a. Delivery, Storage, and Handling: All materials shall be so delivered, stored, and handled as to prevent the inclusion of foreign materials and the damage of materials by water or breakage. Package materials shall be delivered and stored in original packages until ready to be used. Packages or materials showing evidence of water or other damage shall be rejected.

- b. Unless otherwise specified herein, concrete works shall conform to the requirements of the ACI Building Code. Full cooperation shall be given on trades to install embedded items. Provisions shall be made for setting items not placed in the forms. Before concrete is placed, embedded items shall have been inspected and tested for concrete aggregates and other materials shall have been done.

c. **Materials**

- i. Cement for concrete shall conform to the requirements of specifications for Portland Cement (ASTM C - 150)
- ii. Water used in mixing concrete shall be clean and free from other injurious amounts of oils, acids, alkaline, organic materials or other substances that may be deleterious to concrete or steel.
- iii. Fine aggregates shall be beach or river sand conforming to ASTM C33, "Specification for Concrete Aggregates" Sand particle shall be coarse, sharp, clean free from salt, dust, loam, dirt and all foreign matters
- iv. Coarse aggregates shall be either natural gravel or crushed rock conforming to the "Specifications for Concrete Aggregates (ASTM C33). The minimum size of aggregates shall be larger than one fifth (1/5) of the narrowest dimensions between sides of the forms within which the concrete is to be cast nor larger than three fourths (3/4) of the minimum clear spacing between reinforcing bars or between reinforcing bars and forms.

d. **Proportioning and Mixing**

- i. Proportioning and mixing of concrete shall conform to the requirements for Item 405 of the standard specification with the following proportions:

Cement . Sand . Gravel

- Class 'A' - 1 : 2 . 3
- Class 'B' - 1 : 2 . 4
- Class 'C' - 1 : 2 ¼

- ii. Concrete mixture to be used for concrete shall conform with the structural requirements.
- iii. Mixing - concrete shall be machine mixed. Mixing shall begin within 30 minutes after the cement has been added to the aggregates.

e. **Forms**

- i. General - Forms shall be used whatever necessary to confine the concrete and shape it to the required lines, or to insure the concrete of contamination with materials caving from adjacent, excavated surfaces. Forms shall have sufficient strength to withstand the pressure resulting from placement and vibration of the concrete, and shall be maintained rigidly in correct position. Forms shall be sufficiently tight to prevent loss of mortar from the concrete. Forms shall be ¼" waterproof plywood and form lumber
- ii. Cleaning of Forms - before placing the concrete, the contact surfaces of the formed shall be cleaned of encrustations of mortar, the grout or other foreign material.
- iii. Removal of Forms - forms shall be removed in a manner which will prevent damage to the concrete. Forms shall not be removed without approval. Any repairs of surface imperfections shall be formed at once and airing shall be started as soon as the surface is sufficiently hard to permit it without further damage.

f. **Placing Reinforcement:**

Steel reinforcement shall be provided as indicated, together with all necessary wire ties, chairs, spacer supported and other devices necessary to install and secure the reinforcement properly. All reinforcement, when placed, shall be free from loose, flaky

rust and scale, oil grease, clay and other coating and foreign substances that would reduce or destroy its bond with concrete. Reinforcement shall be placed accurately and secured in place by use of metal or concrete supports, spacers and ties. Such supports shall be used in such manner that they will not be exposed or contribute in any way, to the discoloration or deterioration of the concrete

g. Conveying and Placing Concrete:

- i. Conveying – concrete shall be conveyed from mixer to forms as rapidly as applicable, by methods which will prevent segregation, or loss of ingredients. There will be no vertical drop greater than 1.5 meters except where suitable equipment is provided to prevent segregation and where specifically authorized.
- ii. Placing – concrete shall be worked readily into the corners and angles of the forms and around all reinforcement and imbedded items without permitting the material to segregate, concrete shall be deposited as close as possible to its final position in the forms so that flow within the mass does not exceed two (2) meters and consequently segregation is reduced to a minimum near forms or embedded items. or elsewhere as directed, the discharge shall be so controlled that the concrete may be effectively compacted into horizontal layers not exceeding 30 centimeters in depth within the maximum lateral movement specified.
- iii. Time interval between mixing and placing. Concrete shall be placed before initial set has occurred and before it has contained its water content for more than 45 minutes. No concrete mix shall be placed before 60 complete revolution of the machine mixer.
- iv. Consolidation of Concrete – concrete shall be consolidated with the aid of mechanical vibrating equipment and supplemented by the hand spading and tamping. Vibrators shall not be inserted into lower courses that have commenced initial set; and reinforcement embedded in concrete beginning to set or already set shall not be disturbed by vibrators. Consolidation around major embedded parts shall be by hand spading and tamping and vibrators shall not be used.
- v. Placing Concrete through reinforcement – In placing concrete through reinforcement, care shall be taken that no segregation of the coarse aggregate occurs. On the bottom of beams and slabs, where the congestion of steel near the forms makes placing difficult, a layer of mortar of the same cement-sand ratios as used in concrete shall be first deposited to cover the surfaces.

h. Curing

- i. General – All concrete shall be moist cured for a period not less than seven (7) consecutive days by an approved method or combination applicable to local conditions.
- ii. Moist Curing – The surface of the concrete shall be kept continuously wet by covering with burlap plastic or other approved materials thoroughly saturated with water and keeping the covering spraying or intermittent hosing

r. Finishing

- i. Concrete surfaces shall not be plastered unless otherwise indicated. Exposed concrete surfaces shall be formed with plywood, and after removal of forms, the surfaces shall be smooth, true to line and shall present a finished appearance except for minor defects which can be easily repaired with patching with cement mortar, or can be ground to a smooth surface to remove all joint marks of the form works.
- ii. Concrete Slabs on Fill. The concrete slabs on fill shall be laid on a prepared foundation consisting of sub grade and granular fill with thickness equal to the thickness of the overlaying slab except when indicated

B. MASONRY WORKS

- a. **Masonry Units (CHB):**
100mm thick for all interior walls and 150mm thick for all exterior walls unless otherwise indicated

Use 400 psi for non-load bearing blocks and 700 psi for load bearing blocks where required.

Where full height walls are constructed with concrete hollow blocks, these shall extend up to the bottom of beam or slab unless otherwise indicated on plans. Provide stiffener columns & lintel beams as specified in the structural drawings or as specified or as deemed required to assure a stabilized wall due to height & other considerations.

- b. **Sand:**
S-1 washed, clean and greenish in color

- c. **Mortar:**
One part "Portland" cement and two parts sand and water but not more than three parts sand and water

- d. **Plaster bond.**
Apply plaster bond to all wall area.

C. METAL WORKS

- a. **Description**
Metal works shall conform to the approved plans and to the Standard Specifications.

- b. **Reference Standards**
Comply with the latest edition of the following as applicable, unless otherwise specified or modified.

1. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) 1978 Specification for the Design, Fabrication and Erection of Structural Steel for Buildings. Code of Standard Practice for Steel Buildings and Bridges. Specification for Architecturally Exposed Structural Steel.
2. AMERICAN WELDING SOCIETY (AWS): Standard Welding Symbols A2.068, Standard Welding Code D1 1-1973 (Rev 1-73 & 2-74) (To govern if in conflict with AISC)
3. RESEARCH COUNCIL ON RIVETED AND BOLTED JOINTS OF THE ENGINEERING FOUNDATION (RCRBJ): Specification for Structural Joists using ASTM A-325-76s Bolts.
4. STRUCTURAL STEEL PAINTING COUNCIL (SSPC): Painting Manual, Vol. 1; Good Painting Practice. Painting Manual Vol. 2; Systems and Specifications.

- c. **Source Quality Control**
Errors of Shop Drawings, fabrication, correct fitting and alignment of the various metal items or component members shall be the responsibility of the Contractor. However, the Contractor shall permit the Architect or an independent inspection agency, if engaged by the Owner, to inspect work in progress in his shop. Such inspections shall not relieve the Contractor of his

responsibility to furnish materials and workmanship in accordance with the Contract Documents.

d. **Product Delivery, Handling and Storage**

Handle and store in such manner as to prevent damage or disfigurement. Store finished items or components above ground on platforms, pallets or other supports and protect from harmful elements.

e. **Protection**

The Contractor shall protect any existing work subject to damage during the installation of the specified work and shall adequately protect specified work during installation.

f. **Field Quality Control**

Facilities shall be provided by the Contractor as needed for the proper inspection of the specified work, including temporary platforms, hoists, protective devices, electric current, etc. Improper workmanship, as determined by the Architect shall be corrected and replaced, at no additional cost to the Owner.

g. **Materials**

Products shall conform to the respective reference specifications and standards and to the requirements specified herein:

- a) **STEEL AND IRON:** If not specified otherwise, use standard mill-finished structural steel shapes or bar iron in compliance with AISC Specifications for Design, Fabrication and Erection of Structural Steel for Buildings.
- b) **BOLTS, NUTS, STUDS AND RIVETS:** ASTM A 307 & A 325
- c) **SCREWS:** Fed. Spec. FF-S-85, Fed. Spec. FF-S-92, and Fed. Spec. FF-S-111

h. **Fabrication**

By mechanics skilled in the trade and in accordance with the manufacturer's directions, Metalwork shall be fabricated to allow for expansion and contraction of materials. Provide welding and bracing of adequate strength and durability, with tight, flush joints, dressed smooth and clean. Complete with bolts and nuts.

i. **Measurements**

Before fabrication, provide necessary field measurements and verify all measurements.

j. **Metal Surfaces**

Shall be clean and free from all scale, flake, rust, and rust pitting; well-formed and finished to shape and size, with sharp lines, angles and smooth surface. Shearing and punching shall leave clean true lines and surfaces. Weld or rivet permanent connections. Weld and flush rivets shall be used and finished flush smooth on surfaces that will be exposed after installation. Do not use screws or bolts where they can be avoided; when used, heads shall be countersunk, screwed up tight and threads nicked to prevent loosening.

k. **Construction**

Thickness of metals and details of assembly and supports shall give ample strength and stiffness for the minimum loads specified or indicated. Joints exposed to weather shall be formed to exclude water.

l. **Shop Fabrication**

Fabrication and assembly shall be done in the shop to the greatest extent possible.

m. **Submittals**

Shop Drawings. Submit along with catalogue, cuts, templates and erection and installation details, indicating thickness, type, grade, type of metal and dimensions. Show construction details, reinforcement, anchorage, and installation with relation to the construction.

n. **Delivery and Storage**

Protect from corrosion, deformation and other types of damage. Store items in an enclosed area free from contact with soil and weather. Contractor shall replace and removed damage items with new items.

o. **Welding**

Use welding electrode E70xx and perform welding, welding inspection and corrective welding in accordance with AWS D1.1. Weld in a manner to prevent permanent distortion of the connected parts. Weld continuously along the entire area of contact (except where lack welding is permitted. Do not lack weld exposed to connections.) Grind smooth visible weld in finished installation

p. **Metal Purlins**

Metal purlins shall be of high grade galvanized steel with minimum tensile strength of 275 MPA, 1.4mm in thickness.

D. ROOFING WORKS

- a. The roof shall be covered with Ga. 24 pre-painted G.I. rib-type roofing sheets as shown on the plans. The roofing shall be secured to the purlins with min. 2 ½" max. 3" long Tek screws. Ridge rolls, hip rolls and valleys to be used shall be those compatible with the Ga. 24 pre-painted G.I. rib-type roofing sheets. They shall lap the roofing sheets at least 250mm. The ridge rolls, hip rolls and valleys shall be riveted to the roofing sheets.
- b. All roofing sheets adjacent to concrete hollow block and other masonry walls such as property line fire walls, shall be provided with Gauge 26 pre-painted plain G.I. Flashing to extend to the top and over to the other side of the wall. All fasteners shall be placed at the top of the corrugations of the roofing sheets to prevent water from standing around the fasteners

IV. ARCHITECTURAL WORKS

A. WALLS AND FLOOR FINISHES

- a. 600mm x 600mm Honskid Homogeneous Tiles including tile adhesive
- b. 400mm x 400mm Honskid Homogeneous Tiles including tile adhesive
- c. 400mm x 400mm Homogeneous Wall Tiles

B. CEILING FINISHES

6mm thk Fiber Cement Board including framing and accessories

C. DOORS & WINDOWS

- a. Follow as per approved plan and specifications.

D. PAINTING WORKS

- a. All primers, thinners and putty, also waterproofing for internal and external application shall be the same brand as the specified material.
- b. Application shall be as per paint Manufacturer's specification and recommendation.
- c. Provide all drop cloth and other covering requisite for protection of floors, walls, aluminum, glass, finishes and other works.
- d. All applications and methods used shall strictly follow the Manufacturer's Instructions and Specifications.
- e. All surfaces including masonry wall shall be thoroughly cleaned, puttied, sandpapered, rubbed and polished; masonry wall shall be treated with Neutralizer.
- f. All exposed finish hardware, lighting fixtures and accessories, glass and the like shall be adequately protected so that these are not stained with paint and other painting materials prior to painting works.
- g. All other surfaces endangered by stains and paint marks should be taped and covered with craft paper.

V. SANITARY / PLUMBING WORKS

- A. Comply with the current applicable codes, ordinances, and regulations of the authority or authorities having jurisdiction, the rules, regulations and requirements of the utility companies (as applicable).
- B. Supply, installation and testing of the following:
 - B.1 Potable water supply system complete in all respects including but not limited to submittals, shop drawings, piping, water meters, valves, bibbs, insulation, all accessories required for complete and operational of the system.
 - B.2 Water service connections including but not limited to water meters, float valves. Any and all other works involve in providing the complete operation of the water supply system.
 - B.3 Soil waste and vent system complete in all respect including but not limited to connection to existing sewer, submittals, shop drawings pipes, fittings, valves, cleanout, drains, etc. Complete and operational.
 - B.4 Storm drainage system complete in all respect including but not limited to connection to existing storm drainage, submittals, shop drawings, pipes, fittings, valves, cleanout, drains, etc. Complete and operational.
- C. Workmanship and installation methods shall conform to the best modern practice. Employ skilled tradesmen to perform work under the direct supervision of fully qualified personnel.
- D. All equipment and installations shall meet or exceed minimum requirements of the Standards and Codes as specified in plans and program of work
- E. Install equipment in strict accordance with manufacturers written recommendations.
- F. Physical sizes of all plant and equipment are to be suitable for the space allocated for the accommodation of such plant and equipment, taking into account the requirement of access for maintenance purposes
- G. In selecting makes and types of equipment, the Contractor shall ascertain that facilities for proper maintenance, repair and replacement are provided.
- H. Where the Contractor proposes to use an item of equipment other than that specified or detailed in the drawing which requires any redesign of the system, drawings showing the layout of the equipment and such redesign as required therefore shall be prepared by the

Contractor at his own expenses. Where such approved deviation necessitates a different quantity and arrangement of materials and equipment's from that originally specified or indicated in the drawings, the Contractor shall furnish and install any such additional materials and equipment's required by the system at no additional cost.

- I. Equipment catalogue and manufacturer's specifications must be submitted for examination and details shall be submitted for approval before any equipment is to be ordered.
- J. This shall include all information necessary to ascertain the equipment comply with this specification and drawings. Data and sales catalogue of a general nature will not be accepted.
- K. All materials, equipment, components and accessories shall be delivered to the Site in a new condition, properly packed and protected against damage or contamination or distortion, breakage or structural weakening due to handling, adverse weather or other circumstances and, as far as practicable, they shall be kept in the packing cases or under approved protective coverings until required for use.
- L. Any items suffering from damage during manufacture, or in transit, or on site whilst in storage or during erection shall be rejected and replaced without extra cost.
- M. All sanitary fittings and pipework shall be cleaned after installation and keep them in a new condition.
- N. All installed pipelines shall be flushed through with water, rodded when necessary to ensure clearance of debris.
- O. Cleaning and flushing shall be carried out in sections as the installation becomes completed.
- P. The Contractor shall carry out hydraulic test on the complete plumbing systems and the drainage system to show that it is functioning satisfactorily within the requirements of this Specification and local regulations.
- Q. The Contractor shall provide suitable test pumps and arrange for a supply of water required in connection with testing of pipework. The test pump shall be fitted with pressure gauges which shall be of suitable range for the pressure being applied.
- R. Hydraulic tests shall be carried out as the pipework is installed and shall be completed before chases in walls and ducts are closed. Also test shall be carried out prior to false ceilings and other finishes are installed.
- S. Testing apparatus shall be provided by the Contractor. Where any section of pipework or equipment is unable to withstand the maximum pipework test pressure, it shall be isolated during the pipework test then that section of pipework or equipment shall be re-tested at the appropriate test pressure.
- T. The Sanitary Contractor must carry out any additional tests required by the end-user and/or approving agency.
- U. Drainage pipe shall be tested by filling the pipe with 3m. of water higher than the test section and wait for 15 min, then check for leakage at every joints.
- V. Testing of drainage systems shall be carried out in sections by dividing the system horizontally. Each section shall comprise pipework and fitting for three floors/storeys required for testing.
- W. Drainage pressure pipe shall be hydraulic tested at minimum pressure 50 psi.
- X. Hangers and supports for plumbing piping and equipment shall withstand the effects of gravity loads and stresses within limits and under conditions indicated according to ASCE/SEI 7.
- Y. Install hangers and supports to allow controlled thermal and seismic movement of piping systems to permit freedom of movement between pipe anchors, and to facilitate action of expansion joints, expansion loops, expansion bends, and similar units.
- Z. Install lateral bracing with pipe hangers and supports to prevent swaying.

- AA Install building attachments within concrete slabs or attach to structural steel. Install additional attachments at concentrated loads, including valves, flanges, and strainers, NPS 2-1/2 (DN 65) and larger and at changes in direction of piping. Install concrete inserts before concrete is placed. Fasten inserts to forms and install reinforcing bars through openings at top of inserts.
- BB Install hangers and supports so that piping live and dead loads and stresses from movement will not be transmitted to connected equipment.
- CC Install hangers and supports to provide indicated pipe slopes and to not exceed maximum pipe deflections allowed by ASME B31.9 for building services piping.

VI. ELECTRICAL WORKS

- A. Comply with the current applicable codes, ordinances, and regulations of the authority or authorities having jurisdiction, the rules, regulations and requirements of the utility companies (as applicable).
- B. Drawings, specifications, codes and standards are minimum requirements. Where requirements differ, the more stringent apply.
- C. All equipment and installations shall meet or exceed minimum requirements of the Standards and Codes.
- D. Execute work in strict accordance with the best practices of the trades in a thorough, substantial, workmanlike manner by competent workmen.
- E. When the tests and inspections have been completed, a label shall be attached to all devices tested. The label shall provide the name of the testing company, the date the tests were completed, and the initials of the person who performed the tests.

F. PANELBOARDS

- F.1 Fabricate and test panel boards according to IEEE 344 to withstand seismic forces defined in Division 16 Sections 16073 and 16074 "Hangers and Supports for Electrical Systems and Vibration and Seismic controls for Electrical Systems" respectively.
- F.2 Enclosures: Flush, Surface, Flush- and surface-mounted cabinets.
 - F.2.1 Rated for environmental conditions at installed location.
 - i. Indoor Dry and Clean Locations: NEMA 250, Type 1.
 - ii. Outdoor Locations: NEMA 250 Type 3R.
 - iii. Kitchen and Wash-Down Areas: NEMA 250, Type 4X, stainless steel.
 - iv. Other Wet or Damp Indoor Locations: NEMA 250, Type 4.
 - v. Indoor Locations Subject to Dust, Falling Dirt, and Dropping Noncorrosive Liquids: NEMA 250, Type 5 or Type 12.
 - F.2.2 Front. Secured to box with concealed trim clamps. For surface-mounted fronts, match box dimensions; for flush-mounted fronts, overlap box.
 - F.2.3 Hinged Front Cover. Entire front trim hinged to box and with standard door within hinged trim cover.
 - F.2.4 Skirt for Surface-Mounted Panel boards. Same gage and finish as panel board front with flanges for attachment to panel board, wall, and ceiling or floor.
 - F.2.5 Gutter Extension and Barrier. Same gage and finish as panel board enclosure, integral with enclosure body. Arrange to isolate individual panel sections.
 - F.2.6 Finishes.

- i. Panels and Trim: Steel and galvanized steel, factory finished immediately after cleaning and pretreating with manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat.
 - ii. Back Boxes: Galvanized steel Same finish as panels and trim.
 - iii. Fungus Proofing: Permanent fungicidal treatment for overcurrent protective devices and other components.
- F.2.7 Directory Card: inside panel board door, mounted in transparent card holder metal frame with transparent protective cover.
- F.3 Incoming Mains Location: Top or Bottom.
- F.4 Phase, Neutral, and Ground Buses:
- F.4.1 Material: Hard-drawn copper, 98 percent conductivity.
 - F.4.2 Equipment Ground Bus: Adequate for feeder and branch-circuit equipment grounding conductors, bonded to box.
 - F.4.3 Neutral Bus: 100 percent of phase bus 4. Extra-Capacity Neutral Bus: Neutral bus rated 200 percent of phase bus and UL listed as suitable for nonlinear loads.

VII. MECHANICAL WORKS (IF APPLICABLE)

- A. Comply with the current applicable codes, ordinances, and regulations of the authority or authorities having jurisdiction, the rules, regulations and requirements of the utility companies (as applicable).
- B. Drawings, specifications, codes and standards are minimum requirements. Where requirements differ, the more stringent apply.
- C. All equipment and installations shall meet or exceed minimum requirements of the Standards and Codes.
- D. Execute work in strict accordance with the best practices of the trades in a thorough, substantial, workmanlike manner by competent workmen.
- E. When the tests and inspections have been completed, a label shall be attached to all devices tested. The label shall provide the name of the testing company, the date the tests were completed, and the initials of the person who performed the tests.


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PROJECT TITLE : PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF TALANAY DAY CARE CENTER
LOCATION : BRGY. BATASAN HILLS, DISTRICT 2, QUEZON CITY

TECHNICAL SPECIFICATIONS

I. GENERAL REQUIREMENTS

- A. Comply with the current and existing laws, ordinances and applicable codes, rules and regulations, and standards. Any works performed contrary to the existing laws, rules and regulations, ordinances and standards without notice shall bear all cost arising therefrom.
- B. Drawings, specifications, codes and standards are minimum requirements. Where requirements differ, the more stringent apply.
- C. Should there be any change(s) in drawings or specifications, it is required to comply with the governing regulations, notify the implementing agency.
- D. Photographs shall be taken as, when and where directed at intervals of not more than one month. The photographs shall be sufficient in number and location to record the exact progress of the works. The photographs shall be retained and will become the property of the Government.
- E. Site verification / inspection shall be conducted to validate the scope of works. No extra compensation and extension of time shall be given due to negligence or inadvertence.
- F. The quality of materials shall be of the best grade of their respective kinds for the purpose. The work shall also be performed in the best and most capable manner in strict accordance with requirements of the plans and details. All materials not conforming to the requirements of these specifications shall be considered as defective.
- G. All equipment and installations shall meet or exceed minimum requirements of the standards and codes.
- H. Mobilization and Demobilization (if applicable)
 1. Mobilization shall include all activities and related costs for transportation of personnel, equipment, and operating supplies to the site; establishment of offices, buildings, and other necessary general facilities for the operations at the site.
 2. Demobilization shall include all activities and costs for transportation of personnel, equipment, and supplies not anymore required within the construction site including the disassembly, removal and site clean-up of offices and other facilities assembled on the site specifically for this contract.
- I. Execute work in strict accordance with the best practices of the trades in a thorough, substantial, workmanlike manner by competent workmen. Provide a competent, experienced, full-time supervisor who is authorized to make decisions on behalf of the Contractor.
- J. Temporary Facilities and Utilities
 1. All facilities shall be near the job site, where necessary and shall conform to the best standard for the required types.
 2. Temporary facilities shall be provided and maintained including sanitary facilities and first aid stations.

3. Temporary utilities shall be sufficiently provided until the completion of the project such as water, power and communication
 4. Temporary enclosure shall be provided around the construction site with adequate guard lights, railings and proper signage
 5. Temporary roadways shall be constructed and maintained to sustain loads to be carried on them during the entire construction period.
 6. Upon completion of the work, the temporary facilities shall be demolished, hauled-out and disposed properly
- K. Adequate construction safety and health protection shall be provided at all times during the execution of work to both workers and property
1. A fully-trained Medical Aide shall be employed permanently on the site who shall be engaged solely to medical duties.
 2. The medical room shall be provided with waterproofing; it could be a building or room designated and used exclusively for the purpose and have a floor area of at least 15 square meters and a glazed window area of at least 2 square meters.
 3. The location of the medical room and any other arrangements shall be made known to all employees by posting on prominent locations and suitable notices in the site
 4. Additional safety precautions shall be provided in the event of a pandemic. Protocols set forth by the government shall be strictly followed.
 5. Personal Protective Equipment (PPE) shall consist of safety helmet/hard hat, safety reflectorized vest, safety insulated gloves, dust mask, safety shoes, safety goggles, and safety harness. Every skilled and unskilled worker, and the project foreman shall be provided PPE by the Contractor. Consideration of quantity shall be made for the Project Engineer, Materials Engineer, Safety Officer/Practitioner (as required) and project driver
 6. Construction safety materials shall consist of safety net, fire extinguisher and safety signage and posters.
- L. Necessary protections to the adjacent property shall be provided to avoid untoward incidents / accidents.
- M. Final cleaning of the work shall be employed prior to the final inspection for the certification of final acceptance. Final cleaning shall be applied on each surface or unit of work and shall be of condition expected for a building cleaning and maintenance program.

II. SITE WORKS

- A. All grades, lines, levels and dimensions shall be verified as indicated on the plans and details. Any discrepancies or inconsistencies shall be reported before commencing work.
- B. This item shall consist of the removal wholly or in part, and satisfactory disposal of all buildings, fences, structures, old pavements, abandoned pipe lines, and any other obstructions which are not designated or permitted to remain, except for the obstructions to be removed and disposed of under other items in the Contract.

Removal and/or demolition of existing structures shall be done in accordance to safety procedures.

III. CIVIL / STRUCTURAL WORKS

A. METAL FABRICATION

1. Materials.

- a. Steel and Iron. If not specified otherwise, use standard mill-finished structural steel shapes or bar iron in compliance with AISC Specifications for Design, Fabrication and Erection of Structural Steel for buildings.
- b. Bolts, Nuts, Studs and Rivets. ASTM A 307 and A 325.
- c. Screws. Fed. Spec FF-S-85, Fed. Spec FF-S-92, and Fed. Spec. FF-S-111.
- d. Metal Purlins. High grade galvanized steel with minimum tensile strength of 275 MPa, 1.4mm in thickness or approved equal

2. Fabrication:

By mechanics skilled in the trade and in accordance with the manufacturer's directions Metalwork shall be fabricated to allow for expansion and contraction of materials. Provide welding and bracing of adequate strength and durability, with tight, flush joints, dressed smooth and clean. Complete with bolts and nuts.

3. Metal Surfaces:

Surfaces shall be clean and free from all scale, flake, rust and rust pitting well-formed and finished to shape and size, with sharp lines, angle and smooth surface. Shearing and punching shall leave clean true lines and surfaces. Weld or rivet permanent connections. Weld and flush rivets shall be used and finished flush smooth on surfaces that will be exposed after installation. Do not use screws or bolts where they can be avoided; when used, heads shall be countersunk, screwed up tight and threads nicked to prevent loosening.

4. Construction:

Thickness of metals and details of assembly and supports shall give ample strength and stiffness for the minimum loads specified or indicated. Joints exposed to weather shall be formed to exclude water.

5. Welding:

Use welding electrode E70xx and perform welding, welding inspection and corrective welding in accordance with AWS D1 1. Weld in a manner to prevent permanent distortion of the connected parts. Weld continuously along the entire area of contact (except where tack welding is permitted. Do not tack weld exposed to connections). Grind smooth visible weld in finished installation

B. ROOFING WORKS

1. The roof shall be covered with Ga. 24 pre-painted G I rib-type roofing sheets as shown on the plans. The roofing shall be secured to the purlina with min. 2 1/2" max. 3" long Tek screws. Ridge rolls, hip rolls and valleys to be used shall be those compatible with the Ga. 24 pre-painted G.I. rib-type roofing sheets. They shall lap the roofing sheets at least 250mm. The ridge rolls, hip rolls and valleys shall be riveted to the roofing sheets.
2. The roof shall be covered with 6mm thick Rib-type polycarbonate sheets as shown on the plans. The roofing shall be secured to the purlins with min. 2 1/2" max. 3" long Tek screws. Ridge rolls, hip rolls and valleys to be used shall be those compatible with the 6mm thick solid polycarbonate sheets. They shall lap the roofing sheets at least 250mm. The ridge rolls, hip rolls and valleys shall be riveted to the roofing sheets.
3. All roofing sheets adjacent to concrete hollow block and other masonry walls such as property line firewalls, shall be provided with Gauge 26 pre-painted plain G.I. Flashing to extend to the top and over to the other side of the wall. All fasteners shall be placed

at the top of the corrugations of the roofing sheets to prevent water from standing around the fasteners.

IV. ARCHITECTURAL WORKS

A. WALL FINISHES AND PARTITIONING

- 1 **Double-Wall Fiber Cement Board Drywall on Metal Studs.** Wall panel shall be two (2) 6 mm thick fiber cement boards, properly cut and prepared for installation and shall conform to the requirements of the Plans.

Metal Studs. Wall framing shall consist of 0.6 mm thick aluminum metal studs and aluminum metal tracks.

Fasteners and Connection detail. All construction and connections shall be secured with rivets, screws and drive pins, and shall conform to local and standard codes. Connections shall also be secured with gypsum putty and gypsum tape.

B. FABRICATED MATERIALS

- 1 Follow the specifications as per plan.

V. SANITARY / PLUMBING WORKS

- A. Comply with the current applicable codes, ordinances, and regulations of the authority or authorities having jurisdiction, the rules, regulations and requirements of the utility companies (as applicable).
- B. Supply, installation and testing of the following
 1. Potable water supply system complete in all respects including but not limited to submittals, shop drawings, piping water meters, valves, bibbs, insulation, all accessories required for complete and operational of the system
 2. Water service connections including but not limited to water meters, float valves. Any and all other works involve in providing the complete operation of the water supply system.
 3. Soil waste and vent system complete in all respect including but not limited to connection to existing sewer, submittals, shop drawings, pipes, fittings, valves, cleanout, drains, etc. Complete and operational.
 4. Storm drainage system complete in all respect including but not limited to connection to existing storm drainage, submittals, shop drawings, pipes, fittings, valves, cleanout, drains, etc. Complete and operational.
- C. Workmanship and installation methods shall conform to the best modern practice. Employ skilled tradesmen to perform work under the direct supervision of fully qualified personnel
- D. All equipment and installations shall meet or exceed minimum requirements of the Standards and Codes as specified in plans and program of work.
- E. Install equipment in strict accordance with manufacturers written recommendations.
- F. Physical sizes of all plant and equipment are to be suitable for the space allocated for the accommodation of such plant and equipment, taking into account the requirement of access for maintenance purposes
- G. In selecting makes and types of equipment, the Contractor shall ascertain that facilities for proper maintenance, repair and replacement are provided
- H. Where the Contractor proposes to use an item of equipment other than that specified or detailed in the drawing, which requires any redesign of the system, drawings showing the layout of the equipment and such redesign as required therefore shall be prepared by the Contractor at his own expenses. Where such approved deviation necessitates a different quantity and arrangement of materials and equipment's from that originally specified or

indicated in the drawings, the Contractor shall furnish and install any such additional materials and equipment's required by the system at no additional cost.

- I. Equipment catalogue and manufacturer's specifications must be submitted for examination and details shall be submitted for approval before any equipment is to be ordered.
- J. This shall include all information necessary to ascertain the equipment comply with this specification and drawings. Data and sales catalogue of a general nature will not be accepted.
- K. All materials, equipment, components and accessories shall be delivered to the Site in a new condition, properly packed and protected against damage or contamination or distortion, breakage or structural weakening due to handling, adverse weather or other circumstances and, as far as practicable, they shall be kept in the packing cases or under approved protective coverings until required for use.
- L. Any items suffering from damage during manufacture, or in transit, or on site whilst in storage or during erection shall be rejected and replaced without extra cost.
- M. All sanitary fittings and pipework shall be cleaned after installation and keep them in a new condition.
- N. All installed pipelines shall be flushed through with water, rodded when necessary to ensure clearance of debris.
- O. Cleaning and flushing shall be carried out in sections as the installation becomes completed.
- P. The Contractor shall carry out hydraulic test on the complete plumbing systems and the drainage system to show that it is functioning satisfactorily within the requirements of this Specification and local regulations.
- Q. The Contractor shall provide suitable test pumps and arrange for a supply of water required in connection with testing of pipework. The test pump shall be fitted with pressure gauges which shall be of suitable range for the pressure being applied.
- R. Hydraulic tests shall be carried out as the pipework is installed and shall be completed before chases in walls and ducts are closed. Also test shall be carried out prior to false ceilings and other finishes are installed.
- S. Testing apparatus shall be provided by the Contractor. Where any section of pipework or equipment is unable to withstand the maximum pipework test pressure, it shall be isolated during the pipework test than that section of pipework or equipment shall be re-tested at the appropriate test pressure.
- T. The Sanitary Contractor must carry out any additional tests required by the end-user and/or approving agency.
- U. Drainage pipe shall be tested by filling the pipe with 3m of water higher than the test section and wait for 15 min, then check for leakage at every joints.
- V. Testing of drainage systems shall be carried out in sections by dividing the system horizontally. Each section shall comprise pipework and fitting for three floors/storeys required for testing.
- W. Drainage pressure pipe shall be hydraulic tested at minimum pressure 50 psi.
- X. Hangers and supports for plumbing piping and equipment shall withstand the effects of gravity loads and stresses within limits and under conditions indicated according to ASCE/SEI 7.
- Y. Install hangers and supports to allow controlled thermal and seismic movement of piping systems, to permit freedom of movement between pipe anchors, and to facilitate action of expansion joints, expansion loops, expansion bends, and similar units.
- Z. Install lateral bracing with pipe hangers and supports to prevent swaying.

- AA. Install building attachments within concrete slabs or attach to structural steel. Install additional attachments at concentrated loads, including valves, flanges, and strainers, NPS 2-1/2 (DN 65) and larger and at changes in direction of piping. Install concrete inserts before concrete is placed, fasten inserts to forms and install reinforcing bars through openings at top of inserts.
- BB. Install hangers and supports so that piping live and dead loads and stresses from movement will not be transmitted to connected equipment.
- CC. Install hangers and supports to provide indicated pipe slopes and to not exceed maximum pipe deflections allowed by ASME B31.9 for building services piping.

VI. ELECTRICAL WORKS

A. CONDUITS, BOXES AND FITTINGS

1. This item shall consist of the furnishing and installation of the complete conduit work, consisting of electrical conduits, conduit boxes such as junction boxes, pull boxes, utility boxes, octagonal and square boxes; conduit fittings, such as couplings, locknuts and bushings and other electrical materials needed to complete the conduit roughing-in work of this project.
2. All materials shall be brand new and shall be of the approved type meeting all the requirements of the Philippine Electrical Code and bearing the Philippine Standard Agency (PSA) mark.
3. All works throughout shall be executed in the best practice in a workmanlike manner by qualified and experienced electricians under the immediate supervision of a duly licensed Electrical Engineer.
4. The work to be done under this division of specifications consists of the fabrication, furnishing, delivery and installation, complete in all details of the electrical work, at the subject premises and all work materials incidental to the proper completion of the installation, except those portions of the work which are expressly stated to be done by other fields. All works shall be done in accordance with the rules and regulations and with the specifications.
5. All lighting fixtures and lamps are as specified and listed on lighting fixture schedule.
6. All grounding system installation shall be executed in accordance with the approved plans. Grounding system shall include building perimeter ground wires, ground rods, clamps, connectors, ground wells and ground wire taps as shown in the approved design.
7. All auxiliary systems such as telephone and intercom system, time clock system, fire alarm system and public address/nurse's call/paging system installations shall be done in accordance with the approved design.
8. Upon completion of the electrical construction work, the contractor shall provide all test equipment and personnel and to submit written copies of all test results.
9. The contractor shall guarantee the electrical installation are done and in accordance with the approved plans and specifications. The contractor shall guarantee that the electrical systems are free from all grounds and from all defective workmanship and materials and will remain so for a period of one year from date and acceptance of works. Any defect shall be remedied by the Contractor at his own expense.

B. WIRES AND WIRING DEVICES

1. This item shall consist of the furnishing and installation of all wires and wiring devices consisting of electric wires and cables, wall switches, convenience receptacles, heavy duty receptacles and other devices shown on the approved Plans but not mentioned in these specifications.
2. Wires and cables shall be of the approved type meeting all the requirements of the Philippine Electrical Code and bearing the Philippine Standard Agency (PSA) mark. Unless specified or indicated otherwise, all power and lighting conductors shall be

insulated for 600 volts. All wires shall be copper, soft drawn and annealed, smooth and of cylindrical form and shall be centrally located inside the insulation.

3. Conductors or wires shall not be drawn in conduits until after the cement plaster is dry and the conduits are thoroughly cleaned and free from dirt and moisture. In drawing wires into conduits, sufficient slack shall be allowed to permit easy connections for fixtures, switches, receptacles and other wiring devices without the use of additional splices.
4. All conductors of convenience outlets and lighting branch circuit homeruns shall be wired with a minimum of 3.5 mm in size. Circuit homeruns to panel boards shall not be smaller than 3.5 mm but all homeruns to panel board more than 30 meters shall not be smaller than 5.5 mm. No conductor shall be less than 2 mm in size.
5. All wires of 14mm and larger in size shall be connected to panels and apparatus by means of approved type lugs or connectors of the solderless type, sufficiently large enough to enclose all strands of the conductors and securely fastened. They shall not loosen under vibration or normal strain.
6. All joints, taps and splices on wires larger than 14 mm shall be made of suitable solderless connectors of the approved type and size. They shall be taped with rubber and PVC tapes providing insulation not less than that of the conductors.
7. No splices or joints shall be permitted in either feeder or branch conductors except within outlet boxes or accessible junction boxes or pull boxes. All joints in branch circuit wiring shall be made mechanically and electrically secured by approved splicing devices and taped with rubber and PVC tapes in a manner which will make their insulation as that of the conductor.
8. All wall switches and receptacles shall be fitted with standard Bakelite face plate covers. Device plates for flush mounting shall be installed with all four edges in continuous contact with finished wall surfaces without the use of coiled wire or similar devices. Plaster filling shall not be permitted. Plates installed in wet locations shall be gasketed.
9. When more than one switch or device is indicated in a single location, gang plate shall be used.

C. POWER LOAD CENTER, SWITCHGEAR AND PANEL BOARDS

1. This Item shall consist of the furnishing and installation of the power load center unit, substation or low voltage switchgear and distribution panel boards at the location shown on the approved Plans complete with transformer, circuit breakers, cabinets and all accessories, completely wired and ready for service.
2. All materials shall be brand new and shall be of the approved type meeting all the requirements of the Philippine Electrical Code and bearing the Philippine Standard Agency (PSA) mark.
3. Power Load Center Unit Substation. The Contractor shall furnish and install an indoor-type Power Load Center Unit Substation at the location shown on the approved Plans if required. It shall be totally metal-enclosed, dead front and shall consist of the following coordinated component parts:
 - a. High Voltage Primary Section. High voltage primary incoming line section consisting of the following parts and related accessories.
 - b. One (1) Air-filled Interrupter Switch, 2-position (open-close) installed in a suitable air-filled metal enclosure and shall have sufficient interrupting capacity to carry the electrical load. It shall be provided with key interlock with the cubicle for the power fuses to prevent access to the fuses unless the switch is open.
 - c. Three (3)-power fuses mounted in separate compartments within the switch housing and accessible by a hinged door.
 - d. One (1) set of high voltage potheads or 3-conductor cables or three single conductor cables.

e. Lightning arresters shall be installed at the high voltage cubicle if required.

Items (i) and (ii) above could be substituted with a power circuit breaker with the correct rating and capacity.

- b. **Transformer Section.** The transformer section shall consist of a power transformer with ratings and capacities as shown on the plans. It shall be oil liquid-filled non-flammable type and designed in accordance with the latest applicable standards.

The transformer shall be provided with four (4) approximately 2 1/2 % rated KVA taps on the primary winding in most cases one (1) above and three (3) below rated primary voltage and shall be changed by means of externally gang-operated manual tap changer only when the transformer is de-energized. Tap changing under load is acceptable if transformer has been so designed.

The following accessories shall be provided with the transformer, namely drain valve, sampling device, filling connection, oil liquid level gauge, ground pad, top filter press connection, lifting lugs, diagrammatic nameplate, relief valve, thermometer and other necessary related accessories.

The high-voltage and low-voltage bushings and transition flange shall be properly coordinated for field connection to the incoming line section and low voltage switchboard section, respectively.

- c. **Low Voltage Switchboard Section.** The low-voltage switchboard shall be standard modular-unitized units, metal-built, dead front, safety type construction and shall consist of the following:

a. **Switchboard Housing.** The housing shall be heavy gauge steel sheet, dead front type, gray enamel finish complete with frame supports, steel bracings, steel sheet panel boards, removable rear plates, copper busbars, and all other necessary accessories to insure sufficient mechanical strength and safety. It shall be provided with grounding bolts and clamps.

b. **Secondary Metering Section.** The secondary metering section shall consist of one (1) ammeter, AC, indicating type; one (1) voltmeter, AC, indicating type, one (1) ammeter transfer switch for 3-phase; one (1) voltmeter transfer switch for 3-phase; and current transformers of suitable rating and capacity.

The above-mentioned instruments shall be installed in one compartment above the main breaker and shall be complete with all necessary accessories completely wired, ready for use.

c. **Main Circuit Breaker.** The main circuit breaker shall be draw-out type, manually or electrically operated as required with ratings and capacity as shown on the approved Plans.

The main breaker shall include insulated control switch if electrically operated, manual trip button, magnetic tripping devices, adjustable time overcurrent protection and instantaneous short circuit trip and all necessary accessories to insure safe and efficient operation.

d. **Feeder Circuit Breakers.** There shall be as many feeder breakers as are shown on the single line diagram or schematic riser diagram and schedule of loads and computations on the plans. The circuit breakers shall be draw out or molded case as required. The circuit breakers shall each have sufficient interrupting capacity and shall be manually operated complete with trip devices and all necessary accessories to insure safe and efficient operation. The number, ratings, capacities of the feeder branch circuit breakers shall be as shown on the approved Plans.

Circuit breakers shall each be of the indicating type, providing 'ON' - 'OFF' and 'TRIP' positions of the operating handles and shall each be provided with nameplate for branch circuit designation. The circuit breaker shall be so designed that an overload or short on one pole automatically causes all poles to open.

- d. Low Voltage Switchgear (For projects requiring low-voltage switchgear only). The Contractor shall furnish and install a low-voltage switchgear at the location shown on the plans. It shall be metal-clad, dead front, free standing, safety type construction and shall have copper busbars of sufficient size, braced to resist allowable root mean square (RMS) symmetrical short circuit stresses, and all necessary accessories. The low-voltage switchgear shall consist of the switchgear housing, secondary metering, main breaker and feeder branch circuit.
- e. Grounding System. All non-current carrying metallic parts like conduits, cabinets and equipment frames shall be properly grounded in accordance with the Philippine Electrical Code, latest edition.

The size of the ground rods and ground wires shall be as shown on the approved Plans. The ground resistance shall not be more than 5 ohms.

- f. Panel boards and Cabinets. Panel boards shall conform to the schedule of panel boards as shown on the approved Plans with respect to supply characteristics, rating of main lugs or main circuit breaker, number and ratings and capacities of branch circuit breakers

Panel boards shall consist of a factory completed: dead front assembly mounted in an enclosing flush type cabinet consisting of code gauge galvanized sheet steel box with trim and door. Each door shall be provided with catch lock and two (2) keys. Panel boards shall be provided with directories and shall be prixed to indicate load served by each circuit.

Panel board cabinets and trims shall be suitable for the type of mounting shown on the approved Plans. The inside and outside of panel board cabinets and trims shall be factory painted with one rust-proofing primer coat and two finish shop coats of pearl gray enamel paint.

Main and branch circuit breakers for panel boards shall have the rating, capacity and number of poles as shown on the approved Plans. Breakers shall be thermal magnetic type. Multiple breaker shall be of the common trip type having a single operating handle. For 50-ampere breaker or less, it may consist of single-pole breaker permanently assembled at the factory into a multi-pole unit

- 4. The Contractor shall install the Power Load Center Unit Substation or Low-Voltage Switchgear and Panel boards at the locations shown on the approved Plans.

Standard panels and cabinets shall be used and assembled on the job. All panels shall be of dead front construction furnished with trims for flush or surface mounting as required.

- D. Comply with the current applicable codes, ordinances, and regulations of the authority or authorities having jurisdiction, the rules, regulations and requirements of the utility companies (as applicable).
- E. Drawings, specifications, codes and standards are minimum requirements. Where requirements differ, the more stringent apply.
- F. All equipment and installations shall meet or exceed minimum requirements of the Standards and Codes.
- G. Execute work in strict accordance with the best practices of the trades in a thorough, substantial, workmanlike manner by competent workmen.
- H. When the tests and inspections have been completed, a label shall be attached to all devices tested. The label shall provide the name of the testing company, the date the tests were completed, and the initials of the person who performed the tests.

1. PANEL BOARDS

- 1. Fabricate and test panel boards according to IEEE 344 to withstand seismic forces defined in Division 16 Sections 16073 and 16074 "Hangers and Supports for Electrical Systems and Vibration and Seismic controls for Electrical Systems" respectively.

2. Enclosures: Flush, Surface, Flush- and surface-mounted cabinets
 - a. Rated for environmental conditions at installed location.
 - i. Indoor Dry and Clean Locations: NEMA, Type 1.
 - ii. Outdoor Locations: NEMA, Type 3R.
 - iii. Kitchen and Wash-Down Areas: NEMA, Type 4X, stainless steel.
 - iv. Indoor Locations Subject to Dust, Falling Dirt, and Dripping Noncorrosive Liquids: NEMA, Type 12.
 - v. Outdoor Locations Subject to Dust, Falling Dirt, and Dripping Noncorrosive Liquids: NEMA, Type 5R.
 - b. Front: Secured to box with concealed trim clamps. For surface-mounted fronts, match box dimensions; for flush-mounted fronts, overlap box.
 - c. Hinged Front Cover: Entire front trim hinged to box and with standard door within hinged trim cover.
 - d. Skirt for Surface-Mounted Panel boards: Same gauge and finish as panel board front with flanges for attachment to panel board, wall, and ceiling or floor.
 - e. Gutter Extension and Barrier: Same gage and finish as panel board enclosure; integral with enclosure body. Arrange to isolate individual panel sections.
 - f. Finishes.
 - i. Panels and Trim: Steel and galvanized steel, factory finished immediately after cleaning and pretreating with manufacturer's standard two-coat baked-on finish consisting of prime coat and thermosetting topcoat.
 - ii. Back Boxes: Galvanized steel Same finish as panels and trim.
 - iii. Fungus Proofing: Permanent fungicidal treatment for overcurrent protective devices and other components.
 - g. Directory Card: Inside panel board door, mounted in transparent card holder metal frame with transparent protective cover.
3. Incoming Mains Location: Top or Bottom.
4. Phase, Neutral, and Ground Buses:
 - a. Material: Hard-drawn copper, 98 percent conductivity.
 - b. Equipment Ground Bus: Adequate for feeder and branch-circuit equipment grounding conductors; bonded to box.
 - c. Neutral Bus: 100 percent of phase bus 4 Extra-Capacity Neutral Bus: Neutral bus rated 200 percent of phase bus and UL listed as suitable for nonlinear loads.

VII. MECHANICAL WORKS

- A. Comply with the current applicable codes, ordinances, and regulations of the authority or authorities having jurisdiction, the rules, regulations and requirements of the utility companies (as applicable)
- B. Drawings, specifications, codes and standards are minimum requirements. Where requirements differ, the more stringent apply.
- C. All equipment and installations shall meet or exceed minimum requirements of the Standards and Codes

- D. Execute work in strict accordance with the best practices of the trades in a thorough, substantial, workmanlike manner by competent workmen.
- E. When the tests and inspections have been completed, a label shall be attached to all devices tested. The label shall provide the name of the testing company, the date the tests were completed, and the initials of the person who performed the tests.



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TECHNICAL SPECIFICATIONS QUEZON CITY INFRASTRUCTURE PROJECT

PROJECT TITLE: PROPOSED REHABILITATION OF FREEDOM PARK III & IV
DAY CARE CENTER ✓

LOCATION: BARANGAY BATASAN HILLS, DISTRICT 2, QUEZON CITY ✓

I. GENERAL REQUIREMENTS

- a. Comply with the current and existing laws, ordinances and applicable codes, rules and regulations and standards. Any works perform contrary to the existing laws, rules and regulations, ordinances and standards without notice shall bear all cost arising therefrom.
- b. Drawings, specifications, codes and standards are minimum requirements. Where requirements differ, the more stringent apply.
- c. Should there be any change(s) in drawings or specifications, it is required to comply with the governing regulations, notify the implementing agency.
- d. Photographs shall be taken as, when and where directed at intervals of not more than one month. The photographs shall be sufficient in number and location to record the exact progress of the works. The photographs shall be retained and will become the property of the Government.
- e. Site verification / inspection shall be conducted to validate the scope of works. No extra compensation and extension of time shall be given due to negligence or inadvertence.
- f. The quality of materials shall be of the best grade of their respective kinds for the purpose. The work shall also be performed in the best and most capable manner in strict accordance with requirements of the plans and details. All materials not conforming to the requirements of these specifications shall be considered as defective.
- g. All equipment and installations shall meet or exceed minimum requirements of the standards and codes.
- h. Mobilization and Demobilization (if applicable)
 - i. Mobilization shall include all activities and related costs for transportation of personnel, equipment, and operating supplies to the site; establishment of offices, buildings, and other necessary general facilities for the operations at the site.
 - ii. Demobilization shall include all activities and costs for transportation of personnel, equipment and supplies not anymore required within the construction site including the disassembly, removal and site clean-up of offices and other facilities assembled on the site specifically for this contract.
- i. Execute work in strict accordance with the best practices of the trades in a thorough, substantial, workmanlike manner by competent workmen. Provide a competent, experienced, full-time supervisor who is authorized to make decisions on behalf of the Contractor.
- j. Temporary Facilities and Utilities
 - i. All facilities shall be near the job site, where necessary and shall conform to the best standard for the required types.

- ii. Temporary facilities shall be provided and maintained including sanitary facilities and first aid stations.
 - iii. Temporary utilities shall be sufficiently provided until the completion of the project such as water, power and communication.
 - iv. Temporary enclosure shall be provided within the construction site with adequate guard lights, railings and proper signages
 - v. Temporary roadways shall be constructed and maintained to sustain loads to be carried on them during the entire construction period.
 - vi. Upon completion of the work, the temporary facilities shall be demolished, hauled-out and disposed properly.
- k. Adequate construction safety and health protection shall be provided at all times during the execution of work to both workers and property
- i. A fully trained Medical Aide shall be employed permanently on the site who shall be engaged solely from medical duties.
 - ii. The medical room shall be provided in waterproof; it could be a building or room designated and used exclusively for the purpose and have a floor area of at least 15 square meters and a glazed window area of at least 2 square meters.
 - iii. The location of the medical room and any other arrangements shall be made known to all employees by posting on prominent locations suitable notices in the site.
 - iv. Additional safety precautions shall be provided in the observance of pandemic. Protocols set-forth by the government shall be strictly followed.
- l. Necessary protections to the adjacent property shall be provided to avoid untoward incidents / accidents.
- m. Final cleaning of the work shall be employed prior to the final inspection for certification of final acceptance. Final cleaning shall be applied on each surface or unit of work and shall be of condition expected for a building cleaning and maintenance program.

II. SITE WORKS

- A. All grades, lines, levels and dimensions shall be verified as indicated on the plans and details. Any discrepancies or inconsistencies shall be reported before commencing to work.
- B. Removal / demolition of existing structures shall be done in accordance to safety procedures

III. CIVIL / STRUCTURAL WORKS

A. CONCRETE WORK

- a. **Delivery, Storage, and Handling:** All materials shall be so delivered, stored, and handled as to prevent the inclusion of foreign materials and the damage of materials by water or breakage. Package materials shall be delivered and stored in original packages until ready to be used. Packages or materials showing evidence of water or other damage shall be rejected
- b. Unless otherwise specified herein, concrete works shall conform to the requirements of the ACI Building Code. Full cooperation shall be given on trades to install embedded items. Provisions shall be made for setting items not placed in the forms. Before concrete is placed, embedded items shall have been inspected and tested for concrete aggregates and other materials shall have been done.
- c. **Materials**

- i. Cement for concrete shall conform to the requirements of specifications for Portland Cement (ASTM C – 150).
 - ii. Water used in mixing concrete shall be clean and free from other injurious amounts of oils, acids, alkaline, organic materials or other substances that may be deleterious to concrete or steel.
 - iii. Fine aggregates shall be beach or river sand conforming to ASTM C33. "Specification for Concrete Aggregates". Sand particle shall be coarse, sharp, clean free from salt, dust, loam, dirt and all foreign matters.
 - iv. Coarse aggregates shall be either natural gravel or crushed rock conforming to the "Specifications for Concrete Aggregates (ASTM C33). The minimum size of aggregates shall be larger than one fifth (1/5) of the narrowest dimensions between sides of the forms within which the concrete is to be cast nor larger than three fourths (3/4) of the minimum clear spacing between reinforcing bars or between reinforcing bars and forms.
- d. Proportioning and Mixing
- i. Proportioning and mixing of concrete shall conform to the requirements for Item 405 of the standard specification with the following proportions:
 Cement : Sand : Gravel
 - Class "A" - 1 : 2 : 3
 - Class "B" - 1 : 2 : 4
 - Class "C" - 1 : 2 ½
 - ii. Concrete mixture to be used for concrete shall conform with the structural requirements.
 - iii. Mixing – concrete shall be machine mixed. Mixing shall begin within 30 minutes after the cement has been added to the aggregates.
- e. Forms
- i. General – Forms shall be used whenever necessary to confine the concrete and shape it to the required lines, or to insure the concrete of contamination with materials caving from adjacent, excavated surfaces. Forms shall have sufficient strength to withstand the pressure resulting from placement and vibration of the concrete, and shall be maintained rigidly in correct position. Forms shall be sufficiently tight to prevent loss of mortar from the concrete. Forms shall be ½" waterproof plywood and form lumber.
 - ii. Cleaning of Forms – before placing the concrete, the contact surfaces of the forms shall be cleaned of encrustations of mortar, the grout or other foreign material.
 - iii. Removal of Forms – forms shall be removed in a manner which will prevent damage to the concrete. Forms shall not be removed without approval. Any repairs of surface imperfections shall be formed at once and airing shall be started as soon as the surface is sufficiently hard to permit it without further damage.
- f. Placing Reinforcement
- Steel reinforcement shall be provided as indicated, together with all necessary wire ties, chairs, spacer supported and other devices necessary to install and secure the reinforcement properly. All reinforcement, when placed, shall be free from loose, flaky rust and scale, oil grease, clay and other coating and foreign substances that would reduce or destroy its bond with concrete. Reinforcement shall be placed accurately and secured in place by use of metal or concrete supports, spacers and ties. Such supports shall be used in such manner that they will not be exposed or contribute in any way, to the discoloration or deterioration of the concrete.
- g. Conveying and Placing Concrete:

- i. Conveying – concrete shall be conveyed from mixer to forms as rapidly as applicable, by methods which will prevent segregation, or loss of ingredients. There will be no vertical drop greater than 1.5 meters except where suitable equipment is provided to prevent segregation and where specifically authorized.
 - ii. Placing – concrete shall be worked readily into the corners and angles of the forms and around all reinforcement and imbedded items without permitting the material to segregate, concrete shall be deposited as close as possible to its final position in the forms so that flow within the mass does not exceed two (2) meters and consequently segregation is reduced to a minimum near forms or embedded items, or elsewhere as directed, the discharge shall be so controlled that the concrete may be effectively compacted into horizontal layers not exceeding 30 centimeters in depth within the maximum lateral movement specified.
 - iii. Time interval between mixing and placing Concrete shall be placed before initial set has occurred and before it has contained its water content for more than 45 minutes. No concrete mix shall be placed before 60 complete revolution of the machine mixer.
 - iv. Consolidation of Concrete – concrete shall be consolidated with the aid of mechanical vibrating equipment and supplemented by the hand spading and tamping. Vibrators shall not be inserted into lower courses that have commenced initial set, and reinforcement embedded in concrete beginning to set or already set shall not be disturbed by vibrators. Consolidation around major embedded parts shall be hand spading and tamping and vibrators shall not be used.
 - v. Placing Concrete through reinforcement – In placing concrete through reinforcement, care shall be taken that no segregation of the coarse aggregate occurs. On the bottom of beams and slabs, where the congestion of steel near the forms makes placing difficult, a layer of mortar of the same cement-sand ratios as used in concrete shall be first deposited to cover the surfaces.
- h. Curing
- i. General – All concrete shall be moist cured for a period not less than seven (7) consecutive days by an approved method or combination applicable to local conditions.
 - ii. Moist Curing – The surface of the concrete shall be kept continuously wet by covering with burlap plastic or other approved materials thoroughly saturated with water and keeping the covering spraying or intermittent hosing.
- i. Finishing
- i. Concrete surfaces shall not be plastered unless otherwise indicated. Exposed concrete surfaces shall be formed with plywood, and after removal of forms, the surfaces shall be smooth, true to line and shall present a finished appearance except for minor defects which can be easily repaired with patching with cement mortar, or can be ground to a smooth surface to remove all joint marks of the form works.
 - ii. Concrete Slabs on Fill. The concrete slabs on fill shall be laid on a prepared foundation consisting of sub grade and granular fill with thickness equal to the thickness of the overlaying slab except when indicated.

B. MASONRY WORKS

- a. Masonry Units (CHB):
100mm thick for all interior walls and 150mm thick for all exterior walls unless otherwise indicated.

Use 400 psi for non-load bearing blocks and 700 psi for load bearing blocks where required.

Where full height walls are constructed with concrete hollow blocks, these shall extend up to the bottom of beam or slab unless otherwise indicated on plans. Provide stiffener columns & lintel beams as specified in the structural drawings or as specified or as deemed required to assure a stabilized wall due to height & other considerations.

b. Sand:

S-1, washed, clean and greenish in color.

c. Mortar:

One part "Portland" cement and two parts sand and water but not more than three parts sand and water.

d. Plaster bond:

Apply plaster bond to all wall area.

C. METAL WORKS

a. Description

Metal works shall conform to the approved plans and to the Standard Specifications.

b. Reference Standards

Comply with the latest edition of the following as applicable, unless otherwise specified or modified.

1. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC). 1978. Specification for the Design, Fabrication and Erection of Structural Steel for Buildings. Code of Standard Practice for Steel Buildings and Bridges. Specification for Architecturally Exposed Structural Steel.
2. AMERICAN WELDING SOCIETY (AWS): Standard Welding Symbols A2.06B; Standard Welding Code D1 1-1973 (Rev 1-73 & 2-74) (To govern if in conflict with AISC)
3. RESEARCH COUNCIL ON RIVETED AND BOLTED JOINTS OF THE ENGINEERING FOUNDATION (RCRBJ): Specification for Structural Joists using ASTM A-325-76s Bolts.
4. STRUCTURAL STEEL PAINTING COUNCIL (SSPC): Painting Manual, Vol. 1; Good Painting Practice, Painting Manual Vol. 2: Systems and Specifications.

c. Source Quality Control

Errors of Shop Drawings, fabrication, correct fitting and alignment of the various metal items or component members shall be the responsibility of the Contractor. However, the Contractor shall permit the Architect or an independent inspection agency, if engaged by the Owner, to inspect work in progress in his shop. Such inspections shall not relieve the Contractor of his responsibility to furnish materials and workmanship in accordance with the Contract Documents.

d. Product Delivery, Handling and Storage

Handle and store in such manner as to prevent damage or disfigurement. Store finished items or components above ground on platforms, pallets or other supports and protect from harmful elements.

e. Protection

The Contractor shall protect any existing work subject to damage during the installation of the specified work and shall adequately protect specified work during installation.

f. Field Quality Control

Facilities shall be provided by the Contractor as needed for the proper inspection of the specified work, including temporary platforms, hoists, protective devices, electric current, etc. Improper workmanship, as determined by the Architect shall be corrected and replaced, at no additional cost to the Owner.

g. Materials

Products shall conform to the respective reference specifications and standards and to the requirements specified herein:

- a) STEEL AND IRON: If not specified otherwise, use standard mill-finished structural steel shapes or bar iron in compliance with AISC Specifications for Design, Fabrication and Erection of Structural Steel for Buildings.
- b) BOLTS, NUTS, STUDS AND RIVETS: ASTM A 307 & A 325
- c) SCREWS: Fed. Spec. FF-S-85, Fed. Spec. FF-S-92, and Fed. Spec. FF-S-111

h. Fabrication

By mechanics skilled in the trade and in accordance with the manufacturer's directions, Metalwork shall be fabricated to allow for expansion and contraction of materials. Provide welding and bracing of adequate strength and durability, with tight, flush joints, dressed smooth and clean. Complete with bolts and nuts.

i. Measurements

Before fabrication, provide necessary field measurements and verify all measurements.

j. Metal Surfaces

Shall be clean and free from all scale, flake, rust, and rust pitting; well-formed and finished to shape and size, with sharp lines, angles and smooth surface. Shearing and punching shall leave clean true lines and surfaces. Weld or rivet permanent connections. Weld and flush rivets shall be used and finished flush smooth on surfaces that will be exposed after installation. Do not use screws or bolts where they can be avoided; when used, heads shall be countersunk, screwed up tight and threads nicked to prevent loosening.

k. Construction

Thickness of metals and details of assembly and supports shall give ample strength and stiffness for the minimum loads specified or indicated. Joints exposed to weather shall be formed to exclude water.

l. Shop Fabrication

Fabrication and assembly shall be done in the shop to the greatest extent possible.

- m. **Submittals**
Shop Drawings. Submit along with catalogue, cuts, templates and erection and installation details, indicating thickness, type, grade, type of metal and dimensions. Show construction details, reinforcement, anchorage, and installation with relation to the construction.
- n. **Delivery and Storage**

Protect from corrosion, deformation and other types of damage. Store items in an enclosed area free from contact with soil and weather. Contractor shall replace and removed damage items with new items.
- o. **Welding**

Use welding electrode E70xx and perform welding, welding inspection and corrective welding in accordance with AWS D1.1. Weld in a manner to prevent permanent distortion of the connected parts. Weld continuously along the entire area of contact (except where lack welding is permitted. Do not lack weld exposed to connections.) Grind smooth visible weld in finished installation.
- p. **Metal Purlins**
Metal purlins shall be of high grade galvanized steel with minimum tensile strength of 275 MPA, 1.4mm in thickness.

D. ROOFING WORKS

- a. The roof shall be covered with Ga. 24 pre-painted G.I. rib-type roofing sheets as shown on the plans. The roofing shall be secured to the purlins with min. 2 ½" max. 3" long Tek screws. Ridge rolls, hip rolls and valleys to be used shall be those compatible with the Ga. 24 pre-painted G.I. rib-type roofing sheets. They shall lap the roofing sheets at least 250mm. The ridge rolls, hip rolls and valleys shall be riveted to the roofing sheets.
- b. All roofing sheets adjacent to concrete hollow block and other masonry walls such as property line firewalls, shall be provided with Gauge 26 pre-painted plain G.I. Flashing to extend to the top and over to the other side of the wall. All fasteners shall be placed at the top of the corrugations of the roofing sheets to prevent water from standing around the fasteners.

IV. ARCHITECTURAL WORKS

A. WALLS AND FLOOR FINISHES

- a. 600mm x 600mm Nonskid Ceramic Tiles including tile adhesive
- b. 50mm concrete Topping with Plain Cement Finish
- c. 50mm Concrete Topping for Tiles
- d. 300mm x 600mm Ceramic Wall Tiles
- e. Urinal partition including stainless steel support and accessories
- f. Plastering Guide/ Grooves

B. CEILING FINISHES

- a. 12mm thk Gypsum Board including framing and accessories
- b. 12mm thk Moisture Resistant Gypsum Board on lightweight aluminum frames
- c. Rubbed Concrete

C. DOORS & WINDOWS

- a. Follow as per approved plan and specifications.

D. PAINTING WORKS

- a. All primers, thinners and putty, also waterproofing for internal and external application shall be the same brand as the specified material.
- b. Application shall be as per paint Manufacturer's specification and recommendation.
- c. Provide all drop cloth and other covering requisite for protection of floors, walls, aluminum, glass, finishes and other works.
- d. All applications and methods used shall strictly follow the Manufacturer's Instructions and Specifications.
- e. All surfaces including masonry wall shall be thoroughly cleaned, puttled, sandpapered, rubbed and polished: masonry wall shall be treated with Neutralizer.
- f. All exposed finish hardware, lighting fixtures and accessories, glass and the like shall be adequately protected so that these are not stained with paint and other painting materials prior to painting works.
- g. All other surfaces endangered by stains and paint marks should be taped and covered with craft paper.

V. SANITARY / PLUMBING WORKS

- A. Comply with the current applicable codes, ordinances, and regulations of the authority or authorities having jurisdiction, the rules, regulations and requirements of the utility companies (as applicable).
- B. Supply, installation and testing of the following:
 - B.1 Potable water supply system complete in all respects including but not limited to submittals, shop drawings, piping, water meters, valves, bibbs, insulation all accessories required for complete and operational of the system.
 - B.2 Water service connections including but not limited to water meters, float valves. Any and all other works involve in providing the complete operation of the water supply system
 - B.3 Soil waste and vent system complete in all respect including but not limited to connection to existing sewer, submittals, shop drawings, pipes, fittings, valves, cleanout, drains, etc. Complete and operational.
 - B.4 Storm drainage system complete in all respect including but not limited to connection to existing storm drainage, submittals, shop drawings, pipes, fittings, valves, cleanout, drains, etc. Complete and operational.
- C. Workmanship and installation methods shall conform to the best modern practice. Employ skilled tradesmen to perform work under the direct supervision of fully qualified personnel.
- D. All equipment and installations shall meet or exceed minimum requirements of the Standards and Codes as specified in plans and program of work
- E. Install equipment in strict accordance with manufacturers written recommendations.
- F. Physical sizes of all plant and equipment are to be suitable for the space allocated for the accommodation of such plant and equipment, taking into account the requirement of access for maintenance purposes
- G. In selecting makes and types of equipment, the Contractor shall ascertain that facilities for proper maintenance, repair and replacement are provided
- H. Where the Contractor proposes to use an item of equipment other than that specified or detailed in the drawing, which requires any redesign of the system, drawings showing the layout of the equipment and such redesign as required therefore shall be prepared by the Contractor at his own expenses. Where such approved deviation necessitates a different quantity and arrangement of materials and equipment's from that originally specified or

indicated in the drawings, the Contractor shall furnish and install any such additional materials and equipment's required by the system at no additional cost.

- I. Equipment catalogue and manufacturer's specifications must be submitted for examination and details shall be submitted for approval before any equipment is to be ordered.
- J. This shall include all information necessary to ascertain the equipment comply with this specification and drawings. Data and sales catalogue of a general nature will not be accepted.
- K. All materials, equipment components and accessories shall be delivered to the Site in a new condition, properly packed and protected against damage or contamination or distortion, breakage or structural weakening due to handling, adverse weather or other circumstances and, as far as practicable they shall be kept in the packing cases or under approved protective coverings until required for use.
- L. Any items suffering from damage during manufacture, or in transit, or on site whilst in storage or during erection shall be rejected and replaced without extra cost.
- M. All sanitary fittings and pipework shall be cleaned after installation and keep them in a new condition.
- N. All installed pipelines shall be flushed through with water, rodded when necessary to ensure clearance of debris.
- O. Cleaning and flushing shall be carried out in sections as the installation becomes completed.
- P. The Contractor shall carry out hydraulic test on the complete plumbing systems and the drainage system to show that it is functioning satisfactorily within the requirements of this Specification and local regulations.
- Q. The Contractor shall provide suitable test pumps and arrange for a supply of water required in connection with testing of pipework. The test pump shall be fitted with pressure gauges which shall be of suitable range for the pressure being applied.
- R. Hydraulic tests shall be carried out as the pipework is installed and shall be completed before chases in walls and ducts are closed. Also test shall be carried out prior to false ceilings and other finishes are installed.
- S. Testing apparatus shall be provided by the Contractor. Where any section of pipework or equipment is unable to withstand the maximum pipework test pressure, it shall be isolated during the pipework test then that section of pipework or equipment shall be re-tested at the appropriate test pressure.
- T. The Sanitary Contractor must carry out any additional tests required by the end-user and/or approving agency.
- U. Drainage pipe shall be tested by filling the pipe with 3m. of water higher than the test section and wait for 15 min. then check for leakage at every joints.
- V. Testing of drainage systems shall be carried out in sections by dividing the system horizontally. Each section shall comprise pipework and fitting for three floors/storeys required for testing.
- W. Drainage pressure pipe shall be hydraulic tested at minimum pressure 50 psi
- X. Hangers and supports for plumbing piping and equipment shall withstand the effects of gravity loads and stresses within limits and under conditions indicated according to ASCE/SEI 7.
- Y. Install hangers and supports to allow controlled thermal and seismic movement of piping systems, to permit freedom of movement between pipe anchors, and to facilitate action of expansion joints, expansion loops, expansion bends, and similar units.
- Z. Install lateral bracing with pipe hangers and supports to prevent swaying.
- AA. Install building attachments within concrete slabs or attach to structural steel. Install additional attachments at concentrated loads, including valves, flanges, and strainers, NPS

2-1/2 (DN 65) and larger and at changes in direction of piping. Install concrete inserts before concrete is placed; fasten inserts to forms and install reinforcing bars through openings at top of inserts.

- BB Install hangers and supports so that piping live and dead loads and stresses from movement will not be transmitted to connected equipment
- CC Install hangers and supports to provide indicated pipe slopes and to not exceed maximum pipe deflections allowed by ASME B31.9 for building services piping.

VI. ELECTRICAL WORKS

- A. Comply with the current applicable codes, ordinances, and regulations of the authority or authorities having jurisdiction, the rules, regulations and requirements of the utility companies (as applicable).
- B. Drawings, specifications, codes and standards are minimum requirements. Where requirements differ, the more stringent apply
- C. All equipment and installations shall meet or exceed minimum requirements of the Standards and Codes.
- D. Execute work in strict accordance with the best practices of the trades in a thorough, substantial workmanlike manner by competent workmen.
- E. When the tests and inspections have been completed, a label shall be attached to all devices tested. The label shall provide the name of the testing company, the date the tests were completed, and the initials of the person who performed the tests.

F. PANELBOARDS

- F.1 Fabricate and test panel boards according to IEEE 344 to withstand seismic forces defined in Division 16 Sections 16073 and 16074 "Hangers and Supports for Electrical Systems and Vibration and Seismic controls for Electrical Systems" respectively.
- F.2 Enclosures: Flush, Surface, Flush- and surface-mounted cabinets.
- F.2.1 Rated for environmental conditions at installed location
- i. Indoor Dry and Clean Locations: NEMA 250, Type 1.
 - ii. Outdoor Locations: NEMA 250, Type 3R.
 - iii. Kitchen and Wash-Down Areas: NEMA 250, Type 4X, stainless steel.
 - iv. Other Wet or Damp Indoor Locations: NEMA 250, Type 4.
 - v. Indoor Locations Subject to Dust, Falling Dirt, and Dripping Noncorrosive Liquids: NEMA 250, Type 5 or Type 12.
- F.2.2 Front: Secured to box with concealed trim clamps. For surface-mounted fronts, match box dimensions; for flush-mounted fronts, overlap box.
- F.2.3 Hinged Front Cover: Entire front trim hinged to box and with standard door within hinged trim cover.
- F.2.4 Skirt for Surface-Mounted Panel boards: Same gage and finish as panel board front with flanges for attachment to panel board, wall, and ceiling or floor.
- F.2.5 Gutter Extension and Barrier: Same gage and finish as panel board enclosure; integral with enclosure body. Arrange to isolate individual panel sections.
- F.2.6 Finishes:
- i. Panels and Trim: Steel and galvanized steel, factory finished immediately after cleaning and pretreating with manufacturer's

standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat.

- ii. **Back Boxes:** Galvanized steel Same finish as panels and trim.
- iii. **Fungus Proofing** Permanent fungicidal treatment for overcurrent protective devices and other components.

F.2.7 **Directory Card.** Inside panel board door, mounted in transparent card holder metal frame with transparent protective cover.

F.3 **Incoming Mains Location:** Top or Bottom.

F.4 **Phase, Neutral, and Ground Buses:**

F.4.1 **Material:** Hard-drawn copper, 98 percent conductivity.

F.4.2 **Equipment Ground Bus:** Adequate for feeder and branch-circuit equipment grounding conductors; bonded to box.

F.4.3 **Neutral Bus** 100 percent of phase bus 4 **Extra-Capacity Neutral Bus:** Neutral bus rated 200 percent of phase bus and UL listed as suitable for nonlinear loads.


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PROJECT TITLE : PROPOSED REHABILITATION OF CONSTITUTIONAL DAY CARE CENTER
LOCATION : BRGY. BATASAN HILLS, DISTRICT 2, QUEZON CITY

TECHNICAL SPECIFICATIONS

I. GENERAL REQUIREMENTS

- A. Comply with the current and existing laws, ordinances and applicable codes, rules and regulations, and standards. Any works performed contrary to the existing laws, rules and regulations, ordinances and standards without notice shall bear all cost arising therefrom.
- B. Drawings, specifications, codes and standards are minimum requirements. Where requirements differ, the more stringent apply.
- C. Should there be any change(s) in drawings or specifications, it is required to comply with the governing regulations, notify the implementing agency.
- D. Photographs shall be taken as, when and where directed at intervals of not more than one month. The photographs shall be sufficient in number and location, to record the exact progress of the works. The photographs shall be retained and will become the property of the Government.
- E. Site verification / inspection shall be conducted to validate the scope of works. No extra compensation and extension of time shall be given due to negligence or inadvertence.
- F. The quality of materials shall be of the best grade of their respective kinds for the purpose. The work shall also be performed in the best and most capable manner in strict accordance with requirements of the plans and details. All materials not conforming to the requirements of these specifications shall be considered as defective.
- G. All equipment and installations shall meet or exceed minimum requirements of the standards and codes.
- H. Mobilization and Demobilization (if applicable):
 1. Mobilization shall include all activities and related costs for transportation of personnel, equipment, and operating supplies to the site; establishment of offices, buildings, and other necessary general facilities for the operations at the site.
 2. Demobilization shall include all activities and costs for transportation of personnel, equipment, and supplies not anymore required within the construction site including the disassembly, removal and site clean-up of offices and other facilities assembled on the site specifically for this contract.
- I. Execute work in strict accordance with the best practices of the trades in a thorough, substantial, workmanlike manner by competent workmen. Provide a competent, experienced, full-time supervisor who is authorized to make decisions on behalf of the Contractor.
- J. Temporary Facilities and Utilities
 1. All facilities shall be near the job site where necessary and shall conform to the best standard for the required types.
 2. Temporary facilities shall be provided and maintained including sanitary facilities and first aid stations.

3. Temporary utilities shall be sufficiently provided until the completion of the project such as water, power and communication.
 4. Temporary enclosure shall be provided around the construction site with adequate guard lights, railings and proper signage.
 5. Temporary roadways shall be constructed and maintained to sustain loads to be carried on them during the entire construction period.
 6. Upon completion of the work, the temporary facilities shall be demolished, hauled-out and disposed properly.
- K. Adequate construction safety and health protection shall be provided at all times during the execution of work to both workers and property.**
1. A fully-trained Medical Aide shall be employed permanently on the site who shall be engaged solely to medical duties.
 2. The medical room shall be provided with waterproofing; it could be a building or room designated and used exclusively for the purpose and have a floor area of at least 15 square meters and a glazed window area of at least 2 square meters.
 3. The location of the medical room and any other arrangements shall be made known to all employees by posting on prominent locations and suitable notices on the site.
 4. Additional safety precautions shall be provided in the event of a pandemic. Protocols set forth by the government shall be strictly followed.
 5. Personal Protective Equipment (PPE) shall consist of safety helmet/hard hat, safety reflectorized vest, safety insulated gloves, dust mask, safety shoes, safety goggles, and safety harness. Every skilled and unskilled worker, and the project foreman shall be provided PPE by the Contractor. Consideration of quantity shall be made for the Project Engineer, Materials Engineer, Safety Officer/Practitioner (as required) and project driver.
 6. Construction safety materials shall consist of safety net, fire extinguisher and safety signage and posters.
- L. Necessary protections to the adjacent property shall be provided to avoid untoward incidents / accidents.**
- M. Final cleaning of the work shall be employed prior to the final inspection for the certification of final acceptance. Final cleaning shall be applied on each surface or unit of work and shall be of condition expected for a building cleaning and maintenance program.**

II. SITE WORKS

- A. All grades, lines, levels and dimensions shall be verified as indicated on the plans and details. Any discrepancies or inconsistencies shall be reported before commencing work.
- B. This item shall consist of the removal wholly or in part, and satisfactory disposal of all buildings, fences, structures, old pavements, abandoned pipe lines and any other obstructions which are not designated or permitted to remain, except for the obstructions to be removed and disposed of under other items in the Contract.

Removal and/or demolition of existing structures shall be done in accordance to safety procedures.
- C. All excavations shall be made to grade as indicated in the plans. Whenever water is encountered in the excavation process, it shall be removed by pumping, care being taken that the surrounding soil particles are not disturbed or removed.

The Contractor shall notify the Engineer sufficiently in advance of the beginning of any excavation so that cross-sectional elevations and measurements may be taken on the undisturbed ground. The natural ground adjacent to the structure shall not be disturbed without permission of the Engineer.

Trenches or foundation pits for structures or structure footings shall be excavated to the lines and grades or elevations shown on the Plans or as staked by the Engineer. They shall be of sufficient size to permit the placing of structures or structure footings of the full width and length shown. The elevations of the bottoms of footings, as shown on the Plans, shall be considered as approximate only and the Engineer may order, in writing, such changes in dimensions or elevations of footings as may be deemed necessary, to secure a satisfactory foundation.

Boulders, logs, and other objectionable materials encountered in excavation shall be removed.

After each excavation is completed, the Contractor shall notify the Engineer to that effect and no footing, bedding material or pipe culvert shall be placed until the Engineer has approved the depth of excavation and the character of the foundation material.

- D. All excavated materials, so far as suitable, shall be utilized as backfill. The surplus materials shall be disposed of in such manner as not to obstruct the stream or otherwise impair the efficiency or appearance of the structure. No excavated materials shall be deposited at any time so as to endanger the partly finished structure.

All backfills shall be placed in layers not exceeding to 150mm in thickness and each layer shall be thoroughly compacted by wetting, tamping and rolling.

- E. Soil Poisoning. There are two methods usually adopted in soil poisoning which are as follows:

1. Cordoning. This method is usually adopted when there is no visible evidence of termite infestation. Trenches in concentric circles, squares or rectangles are dug 150mm to 220mm wide and at least one meter apart and applied with Liquid Termicide Concentrate working solution at the rate of 8 liters per linear meter.
2. Drenching. When soil show termite infestation, this method shall be applied. The building area shall be thoroughly drenched with Liquid Termicide Concentrate working solution at the rate of 24 liters per square meter.

III. CML / STRUCTURAL WORKS

A. METAL FABRICATION

1. Materials:

- a. Steel and iron. If not specified otherwise, use standard mill-finished structural steel shapes or bar iron in compliance with AISC Specifications for Design, Fabrication and Erection of Structural Steel for buildings.
- b. Bolts, Nuts, Studs and Rivets. ASTM A 307 and A 325.
- c. Screws. Fed. Spec. FF-S-85, Fed. Spec. FF-S-92, and Fed. Spec. FF-S-111.
- d. Metal Purlins. High grade galvanized steel with minimum tensile strength of 275 MPa, 1.4mm in thickness or approved equal.

2. Fabrication:

By mechanics skilled in the trade and in accordance with the manufacturer's directions. Metalwork shall be fabricated to allow for expansion and contraction of materials. Provide welding and bracing of adequate strength and durability, with tight, flush joints, dressed smooth and clean. Complete with bolts and nuts.

3. Metal Surfaces

Surfaces shall be clean and free from all scale, flake, rust and rust pitting, well-formed and finished to shape and size, with sharp lines, angle and smooth surface. Shearing and punching shall leave clean true lines and surfaces. Weld or rivet permanent connections. Weld and flush rivets shall be used and finished flush smooth on surfaces that will be exposed after installation. Do not use screws or bolts.

where they can be avoided; when used, heads shall be countersunk, screwed up tight and threads nicked to prevent loosening

4. Construction:

Thickness of metals and details of assembly and supports shall give ample strength and stiffness for the minimum loads specified or indicated. Joints exposed to weather shall be formed to exclude water.

5. Welding:

Use welding electrode E70xx and perform welding, welding inspection and corrective welding in accordance with AWS D1.1. Weld in a manner to prevent permanent distortion of the connected parts. Weld continuously along the entire area of contact (except where tack welding is permitted. Do not tack weld exposed to connections). Grind smooth visible weld in finished installation.

B. ROOFING WORKS

1. The roof shall be covered with Ga. 24 pre-painted G.I rib-type roofing sheets as shown on the plans. The roofing shall be secured to the purlins with min. 2 ½" max. 3" long Tek screws. Ridge rolls, hip rolls and valleys to be used shall be those compatible with the Ga. 24 pre-painted G.I. rib-type roofing sheets. They shall lap the roofing sheets at least 250mm. The ridge rolls, hip rolls and valleys shall be riveted to the roofing sheets.
2. The roof shall be covered with 6mm thick Rib-type polycarbonate sheets as shown on the plans. The roofing shall be secured to the purlins with min. 2 ½" max. 3" long Tek screws. Ridge rolls, hip rolls and valleys to be used shall be those compatible with the 6mm thick solid polycarbonate sheets. They shall lap the roofing sheets at least 250mm. The ridge rolls, hip rolls and valleys shall be riveted to the roofing sheets.
3. All roofing sheets adjacent to concrete hollow block and other masonry walls such as property line firewalls, shall be provided with Gauge 26 pre-painted plain G.I. Flashing to extend to the top and over to the other side of the wall. All fasteners shall be placed at the top of the corrugations of the roofing sheets to prevent water from standing around the fasteners.

IV. ARCHITECTURAL WORKS

A. WALL FINISHES AND PARTITIONING

1. **Double-Wall Fiber Cement Board Drywall on Metal Studs.** Wall panel shall be two (2) 6 mm thick fiber cement boards, properly cut and prepared for installation and shall conform to the requirements of the Plans

Metal Studs. Wall framing shall consist of 0.6 mm thick aluminum metal studs and aluminum metal tracks

Fasteners and Connection detail. All construction and connections shall be secured with rivets, screws and drive pins, and shall conform to local and standard codes. Connections shall also be secured with gypsum putty and gypsum tape

B. FABRICATED MATERIALS

1. Follow the specifications as per plan.

V. SANITARY / PLUMBING WORKS

- A. Comply with the current applicable codes, ordinances, and regulations of the authority or authorities having jurisdiction, the rules, regulations and requirements of the utility companies (as applicable).
- B. Supply, installation and testing of the following:

1. Potable water supply system complete in all respects including but not limited to submittals, shop drawings, piping, water meters, valves, bibbs, insulation, all accessories required for complete and operational of the system.
 2. Water service connections including but not limited to water meters, float valves. Any and all other works involve in providing the complete operation of the water supply system.
 3. Soil waste and vent system complete in all respect including but not limited to connection to existing sewer, submittals, shop drawings, pipes, fittings, valves, cleanout, drains, etc. Complete and operational
 4. Storm drainage system complete in all respect including but not limited to connection to existing storm drainage, submittals, shop drawings, pipes, fittings, valves, cleanout, drains, etc. Complete and operational.
- C. Workmanship and installation methods shall conform to the best modern practice. Employ skilled tradesmen to perform work under the direct supervision of fully qualified personnel.
- D. All equipment and installations shall meet or exceed minimum requirements of the Standards and Codes as specified in plans and program of work.
- E. Install equipment in strict accordance with manufacturers written recommendations.
- F. Physical sizes of all plant and equipment are to be suitable for the space allocated for the accommodation of such plant and equipment, taking into account the requirement of access for maintenance purposes.
- G. In selecting makes and types of equipment, the Contractor shall ascertain that facilities for proper maintenance, repair and replacement are provided.
- H. Where the Contractor proposes to use an item of equipment other than that specified or detailed in the drawing which requires any redesign of the system, drawings showing the layout of the equipment and such redesign as required therefore shall be prepared by the Contractor at his own expenses. Where such approved deviation necessitates a different quantity and arrangement of materials and equipment's from that originally specified or indicated in the drawings, the Contractor shall furnish and install any such additional materials and equipment's required by the system at no additional cost.
- I. Equipment catalogue and manufacturer's specifications must be submitted for examination and details shall be submitted for approval before any equipment is to be ordered.
- J. This shall include all information necessary to ascertain the equipment comply with this specification and drawings. Data and sales catalogue of a general nature will not be accepted.
- K. All materials, equipment, components and accessories shall be delivered to the Site in a new condition, properly packed and protected against damage or contamination or distortion, breakage or structural weakening due to handling, adverse weather or other circumstances and, as far as practicable, they shall be kept in the packing cases or under approved protective coverings until required for use.
- L. Any items suffering from damage during manufacture, or in transit, or on site whilst in storage or during erection shall be rejected and replaced without extra cost.
- M. All sanitary fittings and pipework shall be cleaned after installation and keep them in a new condition.
- N. All installed pipelines shall be flushed through with water, rodded when necessary to ensure clearance of debris.
- O. Cleaning and flushing shall be carried out in sections as the installation becomes completed.
- P. The Contractor shall carry out hydraulic test on the complete plumbing systems and the drainage system to show that it is functioning satisfactorily within the requirements of this Specification and local regulations.

- Q. The Contractor shall provide suitable test pumps and arrange for a supply of water required in connection with testing of pipework. The test pump shall be fitted with pressure gauges which shall be of suitable range for the pressure being applied.
- R. Hydraulic tests shall be carried out as the pipework is installed and shall be completed before chases in walls and ducts are closed. Also test shall be carried out prior to false ceilings and other finishes are installed.
- S. Testing apparatus shall be provided by the Contractor. Where any section of pipework or equipment is unable to withstand the maximum pipework test pressure, it shall be isolated during the pipework test then that section of pipework or equipment shall be re-tested at the appropriate test pressure.
- T. The Sanitary Contractor must carry out any additional tests required by the end-user and/or approving agency.
- U. Drainage pipe shall be tested by filling the pipe with 3m. of water higher than the test section and wait for 15 min, then check for leakage at every joints.
- V. Testing of drainage systems shall be carried out in sections by dividing the system horizontally. Each section shall comprise pipework and fitting for three floors/storeys required for testing.
- W. Drainage pressure pipe shall be hydraulic tested at minimum pressure 50 psi.
- X. Hangers and supports for plumbing piping and equipment shall withstand the effects of gravity loads and stresses within limits and under conditions indicated according to ASCE/SEI 7.
- Y. Install hangers and supports to allow controlled thermal and seismic movement of piping systems, to permit freedom of movement between pipe anchors, and to facilitate action of expansion joints, expansion loops, expansion bends, and similar units.
- Z. Install lateral bracing with pipe hangers and supports to prevent swaying.
- AA. Install building attachments within concrete slabs or attach to structural steel. Install additional attachments at concentrated loads, including valves, flanges, and strainers, NPS 2-1/2 (DN 65) and larger and at changes in direction of piping. Install concrete inserts before concrete is placed, fasten inserts to forms and install reinforcing bars through openings at top of inserts.
- BB. Install hangers and supports so that piping live and dead loads and stresses from movement will not be transmitted to connected equipment.
- CC. Install hangers and supports to provide indicated pipe slopes and to not exceed maximum pipe deflections allowed by ASME B31.9 for building services piping.

VI. ELECTRICAL WORKS

A. CONDUITS, BOXES AND FITTINGS

1. This item shall consist of the furnishing and installation of the complete conduit work, consisting of electrical conduits, conduit boxes such as junction boxes, pull boxes, utility boxes, octagonal and square boxes; conduit fittings, such as couplings, locknuts and bushings and other electrical materials needed to complete the conduit roughing-in work of this project.
2. All materials shall be brand new and shall be of the approved type meeting all the requirements of the Philippine Electrical Code and bearing the Philippine Standard Agency (PSA) mark.
3. All works throughout shall be executed in the best practice in a workmanlike manner by qualified and experienced electricians under the immediate supervision of a duly licensed Electrical Engineer.
4. The work to be done under this division of specifications consists of the fabrication, furnishing, delivery and installation, complete in all details of the electrical work, at the

subject premises and all work materials incidental to the proper completion of the installation except those portions of the work which are expressly stated to be done by other fields. All works shall be done in accordance with the rules and regulations and with the specifications.

5. All lighting fixtures and lamps are as specified and listed on lighting fixture schedule
6. All grounding system installation shall be executed in accordance with the approved plans. Grounding system shall include building perimeter ground wires, ground rods, clamps, connectors, ground wells and ground wire taps as shown in the approved design.
7. All auxiliary systems such as telephone and intercom system, time clock system, fire alarm system and public address/nurse's call/paging system installations shall be done in accordance with the approved design.
8. Upon completion of the electrical construction work, the contractor shall provide all test equipment and personnel and to submit written copies of all test results.
9. The contractor shall guarantee the electrical installation are done and in accordance with the approved plans and specifications. The contractor shall guarantee that the electrical systems are free from all grounds and from all defective workmanship and materials and will remain so for a period of one year from date and acceptance of works. Any defect shall be remedied by the Contractor at his own expense.

B. WIRES AND WIRING DEVICES

1. This item shall consist of the furnishing and installation of all wires and wiring devices consisting of electric wires and cables, wall switches, convenience receptacles, heavy duty receptacles and other devices shown on the approved Plans but not mentioned in these specifications.
2. Wires and cables shall be of the approved type meeting all the requirements of the Philippine Electrical Code and bearing the Philippine Standard Agency (PSA) mark. Unless specified or indicated otherwise, all power and lighting conductors shall be insulated for 600 volts. All wires shall be copper, soft drawn and annealed, smooth and of cylindrical form and shall be centrally located inside the insulation.
3. Conductors or wires shall not be drawn in conduits until after the cement plaster is dry and the conduits are thoroughly cleaned and free from dirt and moisture. In drawing wires into conduits, sufficient slack shall be allowed to permit easy connections for fixtures, switches, receptacles and other wiring devices without the use of additional splices.
4. All conductors of convenience outlets and lighting branch circuit homeruns shall be wired with a minimum of 3.5 mm in size. Circuit homeruns to panel boards shall not be smaller than 3.5 mm but all homeruns to panel board more than 30 meters shall not be smaller than 5.5 mm. No conductor shall be less than 2 mm in size.
5. All wires of 14mm and larger in size shall be connected to panels and apparatus by means of approved type lugs or connectors of the solderless type, sufficiently large enough to enclose all strands of the conductors and securely fastened. They shall not loosen under vibration or normal strain.
6. All joints, taps and splices on wires larger than 14 mm shall be made of suitable solderless connectors of the approved type and size. They shall be taped with rubber and PVC tapes providing insulation not less than that of the conductors.
7. No splices or joints shall be permitted in either feeder or branch conductors except within outlet boxes or accessible junction boxes or pull boxes. All joints in branch circuit wiring shall be made mechanically and electrically secured by approved splicing devices and taped with rubber and PVC tapes in a manner which will make their insulation as that of the conductor.
8. All wall switches and receptacles shall be fitted with standard Bakelite face plate covers. Device plates for flush mounting shall be installed with all four edges in continuous contact with finished wall surfaces without the use of coded wire or similar

devices. Plaster filling shall not be permitted. Plates installed in wet locations shall be gasketed.

9. When more than one switch or device is indicated in a single location, gang plate shall be used.

C. POWER LOAD CENTER, SWITCHGEAR AND PANEL BOARDS

1. This item shall consist of the furnishing and installation of the power load center unit substation or low voltage switchgear and distribution panel boards at the location shown on the approved Plans complete with transformer, circuit breakers, cabinets and all accessories, completely wired and ready for service.
2. All materials shall be brand new and shall be of the approved type meeting all the requirements of the Philippine Electrical Code and bearing the Philippine Standard Agency (PSA) mark
3. Power Load Center Unit Substation. The Contractor shall furnish and install an indoor-type Power Load Center Unit Substation at the location shown on the approved Plans if required. It shall be totally metal-enclosed, dead front and shall consist of the following coordinated component parts.
 - a. High Voltage Primary Section. High voltage primary incoming line section consisting of the following parts and related accessories:
 - b. One (1) Air-filled Interrupter Switch, 2-position (open-close) installed in a suitable air filled metal enclosure and shall have sufficient interrupting capacity to carry the electrical load. It shall be provided with key interlock with the cubicle for the power fuses to prevent access to the fuses unless the switch is open.
 - c. Three (3)-power fuses mounted in separate compartments within the switch housing and accessible by a hinged door.
 - d. One (1) set of high voltage polheads or 3-conductor cables or three single conductor cables.
 - e. Lightning arresters shall be installed at the high voltage cubicle if required.

Items (i) and (ii) above could be substituted with a power circuit breaker with the correct rating and capacity.

- b. Transformer Section. The transformer section shall consist of a power transformer with ratings and capacities as shown on the plans. It shall be oil liquid-filled non-flammable type and designed in accordance with the latest applicable standards.

The transformer shall be provided with four (4) approximately 2 1/2 % rated KVA taps on the primary winding in most cases one (1) above and three (3) below rated primary voltage and shall be changed by means of externally gang-operated manual tap changer only when the transformer is de-energized. Tap changing under load is acceptable if transformer has been so designed.

The following accessories shall be provided with the transformer namely: drain valve, sampling device, filling connection, oil liquid level gauge, ground pad, top filter press connection, lifting lugs, diagrammatic nameplate, relief valve, thermometer and other necessary related accessories.

The high-voltage and low-voltage bushings and transition flange shall be properly coordinated for field connection to the incoming line section and low voltage switchboard section, respectively.

- c. Low Voltage Switchboard Section. The low-voltage switchboard shall be standard modular-unitized units, metal-built, dead front, safety type construction and shall consist of the following:
 - a. Switchboard Housing. The housing shall be heavy gauge steel sheet, dead front type, gray enamel finish complete with frame supports, steel bracings, steel sheet panel boards, removable rear plates, copper busbars, and all other

necessary accessories to insure sufficient mechanical strength and safety. It shall be provided with grounding bolts and clamps.

- b. **Secondary Metering Section** The secondary metering section shall consist of one (1) ammeter, AC, indicating type, one (1) voltmeter, AC, indicating type, one (1) ammeter transfer switch for 3-phase, one (1) voltmeter transfer switch for 3-phase; and current transformers of suitable rating and capacity

The above-mentioned instruments shall be installed in one compartment above the main breaker and shall be complete with all necessary accessories completely wired, ready for use.

- c. **Main Circuit Breaker.** The main circuit breaker shall be draw-out type, manually or electrically operated as required with ratings and capacity as shown on the approved Plans.

The main breaker shall include insulated control switch if electrically operated, manual trip button, magnetic tripping devices, adjustable time overcurrent protection and instantaneous short circuit trip and all necessary accessories to insure safe and efficient operation.

- d. **Feeder Circuit Breakers** There shall be as many feeder breakers as are shown on the single line diagram or schematic riser diagram and schedule of loads and computations on the plans. The circuit breakers shall be drawn out or molded case as required. The circuit breakers shall each have sufficient interrupting capacity and shall be manually operated complete with trip devices and all necessary accessories to insure safe and efficient operation. The number, ratings, capacities of the feeder branch circuit breakers shall be as shown on the approved Plans.

Circuit breakers shall each be of the indicating type, providing "ON" - "OFF" and "TRIP" positions of the operating handles and shall each be provided with nameplate for branch circuit designation. The circuit breaker shall be so designed that an overload or short on one pole automatically causes all poles to open

- d. **Low Voltage Switchgear** (For projects requiring low-voltage switchgear only). The Contractor shall furnish and install a low-voltage switchgear at the location shown on the plans. It shall be metal-clad, dead front, free standing, safety type construction and shall have copper busbars of sufficient size, braced to resist allowable root mean square (RMS) symmetrical short circuit stresses, and all necessary accessories. The low-voltage switchgear shall consist of the switchgear housing, secondary metering, main breaker and feeder branch circuit.
- e. **Grounding System.** All non-current carrying metallic parts like conduits, cabinets and equipment frames shall be properly grounded in accordance with the Philippine Electrical Code, latest edition.

The size of the ground rods and ground wires shall be as shown on the approved Plans. The ground resistance shall not be more than 5 ohms.

- f. **Panel boards and Cabinets.** Panel boards shall conform to the schedule of panel boards as shown on the approved Plans with respect to supply characteristics, rating of main lugs or main circuit breaker number and ratings and capacities of branch circuit breakers.

Panel boards shall consist of a factory completed, dead front assembly mounted in an enclosing flush type cabinet consisting of code gauge galvanized sheet steel box with trim and door. Each door shall be provided with catch lock and two (2) keys. Panel boards shall be provided with directories and shall be printed to indicate load served by each circuit.

Panel board cabinets and trims shall be suitable for the type of mounting shown on the approved Plans. The inside and outside of panel board cabinets and trims shall be factory painted with one rust-proofing primer coat and two finish shop coats of pearl gray enamel paint.

Main and branch circuit breakers for panel boards shall have the rating, capacity and number of poles as shown on the approved Plans. Breakers shall be thermal magnetic type. Multiple breaker shall be of the common trip type having a single operating handle. For 50-ampere breaker or less, it may consist of single-pole breaker permanently assembled at the factory into a multi-pole unit.

4. The Contractor shall install the Power Load Center Unit Substation or Low-Voltage Switchgear and Panel boards at the locations shown on the approved Plans.

Standard panels and cabinets shall be used and assembled on the job. All panels shall be of dead front construction furnished with trims for flush or surface mounting as required.

- D. Comply with the current applicable codes, ordinances, and regulations of the authority or authorities having jurisdiction, the rules, regulations and requirements of the utility companies (as applicable).
- E. Drawings, specifications, codes and standards are minimum requirements. Where requirements differ, the more stringent apply.
- F. All equipment and installations shall meet or exceed minimum requirements of the Standards and Codes.
- G. Execute work in strict accordance with the best practices of the trades in a thorough substantial workmanlike manner by competent workmen.
- H. When the tests and inspections have been completed, a label shall be attached to all devices tested. The label shall provide the name of the testing company, the date the tests were completed, and the initials of the person who performed the tests.

I. PANEL BOARDS


1. Fabricate and test panel boards according to IEEE 344 to withstand seismic forces defined in Division 16 Sections 16073 and 16074 "Hangers and Supports for Electrical Systems and Vibration and Seismic controls for Electrical Systems" respectively.
2. Enclosures: Flush, Surface, Flush- and surface-mounted cabinets.
 - a. Rated for environmental conditions at installed location.
 - i. Indoor Dry and Clean Locations: NEMA, Type 1
 - ii. Outdoor Locations: NEMA, Type 3R.
 - iii. Kitchen and Wash-Down Areas: NEMA, Type 4X, stainless steel.
 - iv. Indoor Locations Subject to Dust, Falling Dirt, and Dripping Noncorrosive Liquids: NEMA, Type 12
 - v. Outdoor Locations Subject to Dust, Falling Dirt, and Dripping Noncorrosive Liquids: NEMA, Type 5R.
 - b. Front: Secured to box with concealed trim clamps. For surface-mounted fronts, match box dimensions; for flush-mounted fronts, overlap box.
 - c. Hinged Front Cover: Entire front trim hinged to box and with standard door within hinged trim cover.
 - d. Skirt for Surface-Mounted Panel boards: Same gauge and finish as panel board front with flanges for attachment to panel board, wall, and ceiling or floor.
 - e. Gutter Extension and Barrier: Same gauge and finish as panel board enclosure; integral with enclosure body. Arrange to isolate individual panel sections.
 - f. Finishes:

- i. Panels and Trim: Steel and galvanized steel, factory finished immediately after cleaning and pretreating with manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat.
 - ii. Back Boxes: Galvanized steel. Same finish as panels and trim.
 - iii. Fungus Proofing: Permanent fungicidal treatment for overcurrent protective devices and other components.
- g. Directory Card: Inside panel board door, mounted in transparent card holder metal frame with transparent protective cover.
3. Incoming Mains Location: Top or Bottom.
4. Phase, Neutral, and Ground Buses.
- a. Material: Hard-drawn copper, 96 percent conductivity.
 - b. Equipment Ground Bus: Adequate for feeder and branch-circuit equipment grounding conductors; banded to box.
 - c. Neutral Bus: 100 percent of phase bus. 4. Extra-Capacity Neutral Bus: Neutral bus rated 200 percent of phase bus and UL listed as suitable for nonlinear loads.

VII. MECHANICAL WORKS

- A. Comply with the current applicable codes, ordinances, and regulations of the authority or authorities having jurisdiction, the rules, regulations and requirements of the utility companies (as applicable).
- B. Drawings, specifications, codes and standards are minimum requirements. Where requirements differ, the more stringent apply.
- C. All equipment and installations shall meet or exceed minimum requirements of the Standards and Codes.
- D. Execute work in strict accordance with the best practices of the trades in a thorough, substantial, workmanlike manner by competent workmen.
- E. When the tests and inspections have been completed, a label shall be attached to all devices tested. The label shall provide the name of the testing company, the date the tests were completed and the initials of the person who performed the tests.


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TECHNICAL SPECIFICATIONS QUEZON CITY INFRASTRUCTURE PROJECT

PROJECT TITLE: PROPOSED REHABILITATION OF JASMIN DAY CARE CENTER

LOCATION: BARANGAY BATASAN HILLS, DISTRICT 2, QUEZON CITY

I. GENERAL REQUIREMENTS

- a. Comply with the current and existing laws, ordinances and applicable codes, rules and regulations and standards. Any works perform contrary to the existing laws, rules and regulations, ordinances and standards without notice shall bear all cost arising therefrom.
- b. Drawings, specifications, codes and standards are minimum requirements. Where requirements differ, the more stringent apply.
- c. Should there be any change(s) in drawings or specifications, it is required to comply with the governing regulations, notify the implementing agency.
- d. Photographs shall be taken as, when and where directed at intervals of not more than one month. The photographs shall be sufficient in number and location to record the exact progress of the works. The photographs shall be retained and will become the property of the Government.
- e. Site verification / inspection shall be conducted to validate the scope of works. No extra compensation and extension of time shall be given due to negligence or inadvertence.
- f. The quality of materials shall be of the best grade of their respective kinds for the purpose. The work shall also be performed in the best and most capable manner in strict accordance with requirements of the plans and details. All materials not conforming to the requirements of these specifications shall be considered as defective.
- g. All equipment and installations shall meet or exceed minimum requirements of the standards and codes.
- h. Mobilization and Demobilization (if applicable)
 - i. Mobilization shall include all activities and related costs for transportation of personnel, equipment, and operating supplies to the site; establishment of offices, buildings, and other necessary general facilities for the operations at the site.
 - ii. Demobilization shall include all activities and costs for transportation of personnel, equipment, and supplies not anymore required within the construction site including the disassembly, removal and site clean-up of offices and other facilities assembled on the site specifically for this contract.
- i. Execute work in strict accordance with the best practices of the trades in a thorough, substantial, workmanlike manner by competent workmen. Provide a competent, experienced, full-time supervisor who is authorized to make decisions on behalf of the Contractor.
- j. Temporary Facilities and Utilities
 - i. All facilities shall be near the job site, where necessary and shall conform to the best standard for the required types.

- ii. Temporary facilities shall be provided and maintained including sanitary facilities and first aid stations
 - iii. Temporary utilities shall be sufficiently provided until the completion of the project such as water, power and communication.
 - iv. Temporary enclosure shall be provided within the construction site with adequate guard lights, railings and proper signages.
 - v. Temporary roadways shall be constructed and maintained to sustain loads to be carried on them during the entire construction period.
 - vi. Upon completion of the work, the temporary facilities shall be demolished, hauled-out and disposed properly.
- k. Adequate construction safety and health protection shall be provided at all times during the execution of work to both workers and property.
- i. A fully trained Medical Aide shall be employed permanently on the site who shall be engaged solely from medical duties.
 - ii. The medical room shall be provided in waterproof; it could be a building or room designated and used exclusively for the purpose and have a floor area of at least 15 square meters and a glazed window area of at least 2 square meters.
 - iii. The location of the medical room and any other arrangements shall be made known to all employees by posting on prominent locations suitable notices in the site
 - iv. Additional safety precautions shall be provided in the observance of pandemic. Protocols set-forth by the government shall be strictly followed.
- l. Necessary protections to the adjacent property shall be provided to avoid untoward incidents / accidents.
- m. Final cleaning of the work shall be employed prior to the final inspection for certification of final acceptance. Final cleaning shall be applied on each surface or unit of work and shall be of condition expected for a building cleaning and maintenance program.

II. SITE WORKS

- A. All grades, lines, levels and dimensions shall be verified as indicated on the plans and details. Any discrepancies or inconsistencies shall be reported before commencing to work.
- B. Removal / demolition of existing structures shall be done in accordance to safety procedures.

III. CIVIL / STRUCTURAL WORKS

A. CONCRETE WORK

- a. Delivery, Storage, and Handling: All materials shall be so delivered, stored, and handled as to prevent the inclusion of foreign materials and the damage of materials by water or breakage. Package materials shall be delivered and stored in original packages until ready to be used. Packages or materials showing evidence of water or other damage shall be rejected.
- b. Unless otherwise specified herein, concrete works shall conform to the requirements of the ACI Building Code. Full cooperation shall be given on trades to install embedded items. Provisions shall be made for setting items not placed in the forms. Before concrete is placed, embedded items shall have been inspected and tested for concrete aggregates and other materials shall have been done
- c. Materials

- i. Cement for concrete shall conform to the requirements of specifications for Portland Cement (ASTM C – 150).
 - ii. Water used in mixing concrete shall be clean and free from other injurious amounts of oils, acids, alkaline, organic materials or other substances that may be deleterious to concrete or steel.
 - iii. Fine aggregates shall be beach or river sand conforming to ASTM C33, "Specification for Concrete Aggregates". Sand particle shall be coarse, sharp, clean free from salt, dust, loam, dirt and all foreign matters.
 - iv. Coarse aggregates shall be either natural gravel or crushed rock conforming to the "Specifications for Concrete Aggregates (ASTM C33). The minimum size of aggregates shall be larger than one fifth (1/5) of the narrowest dimensions between sides of the forms within which the concrete is to be cast nor larger than three fourths (3/4) of the minimum clear spacing between reinforcing bars or between reinforcing bars and forms.
- d. Proportioning and Mixing
- i. Proportioning and mixing of concrete shall conform to the requirements for Item 405 of the standard specification with the following proportions:
 Cement : Sand : Gravel
 - Class "A" - 1 : 2 : 3
 - Class "B" - 1 : 2 : 4
 - Class "C" - 1 : 2 : ½
 - ii. Concrete mixture to be used for concrete shall conform with the structural requirements.
 - iii. Mixing – concrete shall be machine mixed. Mixing shall begin within 30 minutes after the cement has been added to the aggregates
- e. Forms
- i. General – Forms shall be used whenever necessary to confine the concrete and shape it to the required lines, or to insure the concrete of contamination with materials caving from adjacent, excavated surfaces. Forms shall have sufficient strength to withstand the pressure resulting from placement and vibration of the concrete, and shall be maintained rigidly in correct position. Forms shall be sufficiently tight to prevent loss of mortar from the concrete. Forms shall be ½" waterproof plywood and form lumber.
 - ii. Cleaning of Forms – before placing the concrete, the contact surfaces of the formed shall be cleaned of encrustations of mortar, the grout or other foreign material.
 - iii. Removal of Forms – forms shall be removed in a manner which will prevent damage to the concrete. Forms shall not be removed without approval. Any repairs of surface imperfections shall be formed at once and curing shall be started as soon as the surface is sufficiently hard to permit it without further damage
- f. Placing Reinforcement:
- Steel reinforcement shall be provided as indicated, together with all necessary wire ties, chairs, spacer supported and other devices necessary to install and secure the reinforcement properly. All reinforcement, when placed, shall be free from loose, flaky rust and scale, oil, grease, clay and other coating and foreign substances that would reduce or destroy its bond with concrete. Reinforcement shall be placed accurately and secured in place by use of metal or concrete supports, spacers and ties. Such supports shall be used in such manner that they will not be exposed or contribute in any way, to the discoloration or deterioration of the concrete.
- g. Conveying and Placing Concrete

- i. Conveying – concrete shall be conveyed from mixer to forms as rapidly as applicable, by methods which will prevent segregation, or loss of ingredients. There will be no vertical drop greater than 1.5 meters except where suitable equipment is provided to prevent segregation and where specifically authorized.
 - ii. Placing – concrete shall be worked readily into the corners and angles of the forms and around all reinforcement and imbedded items without permitting the material to segregate. concrete shall be deposited as close as possible to its final position in the forms so that flow within the mass does not exceed two (2) meters and consequently segregation is reduced to a minimum near forms or embedded items. or elsewhere as directed, the discharge shall be so controlled that the concrete may be effectively compacted into horizontal layers not exceeding 30 centimeters in depth within the maximum lateral movement specified.
 - iii. Time interval between mixing and placing. Concrete shall be placed before initial set has occurred and before it has contained its water content for more than 45 minutes. No concrete mix shall be placed before 60 complete revolution of the machine mixer.
 - iv. Consolidation of Concrete – concrete shall be consolidated with the aid of mechanical vibrating equipment and supplemented by the hand spading and tamping. Vibrators shall not be inserted into lower courses that have commenced initial set; and reinforcement embedded in concrete beginning to set or already set shall not be disturbed by vibrators. Consolidation around major embedded parts shall be by hand spading and tamping and vibrators shall not be used.
 - v. Placing Concrete through reinforcement. – In placing concrete through reinforcement, care shall be taken that no segregation of the coarse aggregate occurs. On the bottom of beams and slabs, where the congestion of steel near the forms makes placing difficult, a layer of mortar of the same cement-sand ratios as used in concrete shall be first deposited to cover the surfaces.
- h. Curing
- i. General – All concrete shall be moist cured for a period not less than seven (7) consecutive days by an approved method or combination applicable to local conditions.
 - ii. Moist Curing – The surface of the concrete shall be kept continuously wet by covering with burlap plastic or other approved materials thoroughly saturated with water and keeping the covering spraying or intermittent hosing.
- i. Finishing
- i. Concrete surfaces shall not be plastered unless otherwise indicated. Exposed concrete surfaces shall be formed with plywood, and after removal of forms, the surfaces shall be smooth, true to line and shall present a finished appearance except for minor defects which can be easily repaired with patching with cement mortar, or can be ground to a smooth surface to remove all joint marks of the form works.
 - ii. Concrete Slabs on Fill. The concrete slabs on fill shall be laid on a prepared foundation consisting of sub grade and granular fill with thickness equal to the thickness of the overlaying slab except when indicated.

B. MASONRY WORKS

- a. Masonry Units (CHB):
100mm thick for all interior walls and 150mm thick for all exterior walls unless otherwise indicated.

Use 400 psi for non-load bearing blocks and 700 psi for load bearing blocks where required.

Where full height walls are constructed with concrete hollow blocks, these shall extend up to the bottom of beam or slab unless otherwise indicated on plans. Provide stiffener columns & lintel beams as specified in the structural drawings or as specified or as deemed required to assure a stabilized wall due to height & other considerations.

b. Sand.

S-1, washed, clean and greenish in color.

c. Mortar:

One part 'Portland' cement and two parts sand and water but not more than three parts sand and water

d. Plaster bond:

Apply plaster bond to all wall area.

C. METAL WORKS

a. Description

Metal works shall conform to the approved plans and to the Standard Specifications

b. Reference Standards

Comply with the latest edition of the following as applicable, unless otherwise specified or modified.

1. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), 1978: Specification for the Design, Fabrication and Erection of Structural Steel for Buildings Code of Standard Practice for Steel Buildings and Bridges; Specification for Architecturally Exposed Structural Steel.
2. AMERICAN WELDING SOCIETY (AWS): Standard Welding Symbols A2.068; Standard Welding Code D1 1-1973 (Rev 1-73 & 2-74) (To govern if in conflict with AISC)
3. RESEARCH COUNCIL ON RIVETED AND BOLTED JOINTS OF THE ENGINEERING FOUNDATION (RCRBJ). Specification for Structural Joists using ASTM A-325-76s Bolts.
4. STRUCTURAL STEEL PAINTING COUNCIL (SSPC): Painting Manual, Vol 1: Good Painting Practice. Painting Manual, Vol 2: Systems and Specifications.

c. Source Quality Control

Errors of Shop Drawings, fabrication, correct fitting and alignment of the various metal items or component members shall be the responsibility of the Contractor. However, the Contractor shall permit the Architect or an independent inspection agency, if engaged by the Owner, to inspect work in progress in his shop. Such inspections shall not relieve the Contractor of his responsibility to furnish materials and workmanship in accordance with the Contract Documents.

d. Product Delivery, Handling and Storage

Handle and store in such manner as to prevent damage or disfigurement. Store finished items or components above ground on platforms, pallets or other supports and protect from harmful elements.

e. Protection

The Contractor shall protect any existing work subject to damage during the installation of the specified work and shall adequately protect specified work during installation.

f. Field Quality Control

Facilities shall be provided by the Contractor as needed for the proper inspection of the specified work, including temporary platforms, hoists, protective devices, electric current, etc. Improper workmanship, as determined by the Architect shall be corrected and replaced, at no additional cost to the Owner.

g. Materials

Products shall conform to the respective reference specifications and standards and to the requirements specified herein:

- a) STEEL AND IRON: If not specified otherwise, use standard mill-finished structural steel shapes or bar iron in compliance with AISC Specifications for Design, Fabrication and Erection of Structural Steel for Buildings.
- b) BOLTS, NUTS, STUDS AND RIVETS: ASTM A 307 & A 325
- c) SCREWS: Fed. Spec. FF-S-85, Fed. Spec. FF-S-92, and Fed. Spec. FF-S-111

h. Fabrication

By mechanics skilled in the trade and in accordance with the manufacturer's directions, Metalwork shall be fabricated to allow for expansion and contraction of materials. Provide welding and bracing of adequate strength and durability, with tight, flush joints, dressed smooth and clean. Complete with bolts and nuts

i. Measurements

Before fabrication, provide necessary field measurements and verify all measurements.

j. Metal Surfaces

Shall be clean and free from all scale, flake, rust, and rust pitting; well-formed and finished to shape and size, with sharp lines, angles and smooth surface. Shearing and punching shall leave clean true lines and surfaces. Weld or rivet permanent connections. Weld and flush rivets shall be used and finished flush smooth on surfaces that will be exposed after installation. Do not use screws or bolts where they can be avoided; when used, heads shall be countersunk, screwed up tight and threads nicked to prevent loosening.

k. Construction

Thickness of metals and details of assembly and supports shall give ample strength and stiffness for the minimum loads specified or indicated. Joints exposed to weather shall be formed to exclude water.

l. Shop Fabrication

Fabrication and assembly shall be done in the shop to the greatest extent possible.

m. **Submittals**

Shop Drawings. Submit along with catalogue, cuts, templates and erection and installation details, indicating thickness, type, grade, type of metal and dimensions. Show construction details, reinforcement, anchorage, and installation with relation to the construction.

n. **Delivery and Storage**

Protect from corrosion, deformation and other types of damage. Store items in an enclosed area free from contact with soil and weather. Contractor shall replace and removed damage items with new items.

o. **Welding**

Use welding electrode E70xx and perform welding, welding inspection and corrective welding in accordance with AWS D1.1. Weld in a manner to prevent permanent distortion of the connected parts. Weld continuously along the entire area of contact (except where tack welding is permitted. Do not tack weld exposed to connections.) Grind smooth visible weld in finished installation.

p. **Metal Purins**

Metal purins shall be of high grade galvanized steel with minimum tensile strength of 275 MPA, 1.4mm in thickness.

D. ROOFING WORKS

- a. The roof shall be covered with Ga. 24 pre-painted G.I. rib-type roofing sheets as shown on the plans. The roofing shall be secured to the purins with min. 2 1/2" max. 3" long Tek screws. Ridge rolls, hip rolls and valleys to be used shall be those compatible with the Ga. 24 pre-painted G.I. rib-type roofing sheets. They shall lap the roofing sheets at least 250mm. The ridge rolls, hip rolls and valleys shall be riveted to the roofing sheets.
- b. All roofing sheets adjacent to concrete hollow block and other masonry walls such as property line firewalls, shall be provided with Gauge 26 pre-painted plain G.I. Flashing to extend to the top and over to the other side of the wall. All fasteners shall be placed at the top of the corrugations of the roofing sheets to prevent water from standing around the fasteners.

IV. ARCHITECTURAL WORKS

A. WALLS AND FLOOR FINISHES

- a. 600mm x 600mm Nonskid Homogeneous Tiles including tile adhesive
- b. 50mm concrete Topping with Plain Cement Finish
- c. 50mm Concrete Topping for Tiles
- d. 400mm x 400mm Ceramic Wall Tiles
- e. Urinal partition including stainless steel support and accessories
- f. Plastering Guide/ Grooves

B. CEILING FINISHES

- a. 12mm thk Fiber Cement Board including framing and accessories

C. DOORS & WINDOWS

- a. Follow as per approved plan and specifications.

D. PAINTING WORKS

- a. All primers, thinners and putty, also waterproofing for internal and external application shall be the same brand as the specified material.
- b. Application shall be as per paint Manufacturer's specification and recommendation.
- c. Provide all drop cloth and other covering requisite for protection of floors, walls, aluminum, glass, finishes and other works.
- d. All applications and methods used shall strictly follow the Manufacturer's Instructions and Specifications
- e. All surfaces including masonry wall shall be thoroughly cleaned, puttied, sandpapered, rubbed and polished; masonry wall shall be treated with Neutralizer.
- f. All exposed finish hardware lighting fixtures and accessories, glass and the like shall be adequately protected so that these are not stained with paint and other painting materials prior to painting works
- g. All other surfaces endangered by stains and paint marks should be taped and covered with craft paper

V. SANITARY / PLUMBING WORKS

- A. Comply with the current applicable codes, ordinances, and regulations of the authority or authorities having jurisdiction, the rules, regulations and requirements of the utility companies (as applicable)
- B. Supply, installation and testing of the following:
 - B.1 Potable water supply system complete in all respects including but not limited to submittals, shop drawings, piping, water meters, valves, bibbs, insulation, all accessories required for complete and operational of the system.
 - B.2 Water service connections including but not limited to water meters, float valves. Any and all other works involve in providing the complete operation of the water supply system
 - B.3 Soil waste and vent system complete in all respect including but not limited to connection to existing sewer, submittals, shop drawings, pipes, fittings, valves, cleanout, drains, etc. Complete and operational.
 - B.4 Storm drainage system complete in all respect including but not limited to connection to existing storm drainage, submittals, shop drawings, pipes, fittings, valves, cleanout, drains, etc. Complete and operational
- C. Workmanship and installation methods shall conform to the best modern practice. Employ skilled tradesmen to perform work under the direct supervision of fully qualified personnel.
- D. All equipment and installations shall meet or exceed minimum requirements of the Standards and Codes as specified in plans and program of work.
- E. Install equipment in strict accordance with manufacturers written recommendations.
- F. Physical sizes of all plant and equipment are to be suitable for the space allocated for the accommodation of such plant and equipment, taking into account the requirement of access for maintenance purposes.
- G. In selecting makes and types of equipment, the Contractor shall ascertain that facilities for proper maintenance, repair and replacement are provided
- H. Where the Contractor proposes to use an item of equipment other than that specified or detailed in the drawing, which requires any redesign of the system, drawings showing the layout of the equipment and such redesign as required therefore shall be prepared by the Contractor at his own expenses. Where such approved deviation necessitates a different quantity and arrangement of materials and equipment's from that originally specified or

indicated in the drawings, the Contractor shall furnish and install any such additional materials and equipment's required by the system at no additional cost.

- I. Equipment catalogue and manufacturer's specifications must be submitted for examination and details shall be submitted for approval before any equipment is to be ordered
- J. This shall include all information necessary to ascertain the equipment comply with this specification and drawings. Data and sales catalogue of a general nature will not be accepted
- K. All materials, equipment, components and accessories shall be delivered to the Site in a new condition, properly packed and protected against damage or contamination or distortion, breakage or structural weakening due to handling, adverse weather or other circumstances and, as far as practicable, they shall be kept in the packing cases or under approved protective coverings until required for use.
- L. Any items suffering from damage during manufacture, or in transit, or on site whilst in storage or during erection shall be rejected and replaced without extra cost
- M. All sanitary fittings and pipework shall be cleaned after installation and keep them in a new condition.
- N. All installed pipelines shall be flushed through with water, rodded when necessary to ensure clearance of debris.
- O. Cleaning and flushing shall be carried out in sections as the installation becomes completed
- P. The Contractor shall carry out hydraulic test on the complete plumbing systems and the drainage system to show that it is functioning satisfactorily within the requirements of this Specification and local regulations.
- Q. The Contractor shall provide suitable test pumps and arrange for a supply of water required in connection with testing of pipework. The test pump shall be fitted with pressure gauges which shall be of suitable range for the pressure being applied
- R. Hydraulic tests shall be carried out as the pipework is installed and shall be completed before chases in walls and ducts are closed. Also test shall be carried out prior to false ceilings and other finishes are installed.
- S. Testing apparatus shall be provided by the Contractor. Where any section of pipework or equipment is unable to withstand the maximum pipework test pressure, it shall be isolated during the pipework test then that section of pipework or equipment shall be re-tested at the appropriate test pressure.
- T. The Sanitary Contractor must carry out any additional tests required by the end-user and/or approving agency.
- U. Drainage pipe shall be tested by filling the pipe with 3m of water higher than the test section and wait for 15 min. then check for leakage at every joints
- V. Testing of drainage systems shall be carried out in sections by dividing the system horizontally. Each section shall comprise pipework and fitting for three floors/storeys required for testing.
- W. Drainage pressure pipe shall be hydraulic tested at minimum pressure 50 psi
- X. Hangers and supports for plumbing piping and equipment shall withstand the effects of gravity loads and stresses within limits and under conditions indicated according to ASCE/SEI 7
- Y. Install hangers and supports to allow controlled thermal and seismic movement of piping systems, to permit freedom of movement between pipe anchors and to facilitate action of expansion joints, expansion loops, expansion bends, and similar units.
- Z. Install lateral bracing with pipe hangers and supports to prevent swaying.
- AA. Install building attachments within concrete slabs or attach to structural steel. Install additional attachments at concentrated loads, including valves, flanges, and strainers, NPS

2-1/2 (DN 65) and larger and at changes in direction of piping. Install concrete inserts before concrete is placed, fasten inserts to forms and install reinforcing bars through openings at top of inserts.

- BB. Install hangers and supports so that piping live and dead loads and stresses from movement will not be transmitted to connected equipment.
- CC. Install hangers and supports to provide indicated pipe slopes and to not exceed maximum pipe deflections allowed by ASME B31.9 for building services piping.

VI. ELECTRICAL WORKS

- A. Comply with the current applicable codes, ordinances, and regulations of the authority or authorities having jurisdiction, the rules, regulations and requirements of the utility companies (as applicable).
- B. Drawings, specifications, codes and standards are minimum requirements. Where requirements differ, the more stringent apply.
- C. All equipment and installations shall meet or exceed minimum requirements of the Standards and Codes.
- D. Execute work in strict accordance with the best practices of the trades in a thorough, substantial, workmanlike manner by competent workmen.
- E. When the tests and inspections have been completed, a label shall be attached to all devices tested. The label shall provide the name of the testing company, the date the tests were completed, and the initials of the person who performed the tests.

F. PANELBOARDS

- F.1 Fabricate and test panel boards according to IEEE 344 to withstand seismic forces defined in Division 16 Sections 16073 and 16074 "Hangers and Supports for Electrical Systems and Vibration and Seismic controls for Electrical Systems" respectively.
- F.2 Enclosures: Flush, Surface, Flush- and surface-mounted cabinets
 - F.2.1 Rated for environmental conditions at installed location.
 - i. Indoor Dry and Clean Locations: NEMA 250, Type 1.
 - ii. Outdoor Locations: NEMA 250, Type 3R.
 - iii. Kitchen and Wash-Down Areas: NEMA 250, Type 4X, stainless steel.
 - iv. Other Wet or Damp Indoor Locations: NEMA 250, Type 4.
 - v. Indoor Locations Subject to Dust, Falling Dirt, and Dripping Noncorrosive Liquids: NEMA 250, Type 5 or Type 12.
 - F.2.2 Front: Secured to box with concealed trim clamps. For surface-mounted fronts, match box dimensions; for flush-mounted fronts, overlap box.
 - F.2.3 Hinged Front Cover: Entire front trim hinged to box and with standard door within hinged trim cover.
 - F.2.4 Skirt for Surface-Mounted Panel boards: Same gage and finish as panel board front with flanges for attachment to panel board, wall, and ceiling or floor.
 - F.2.5 Gutter Extension and Barrier: Same gage and finish as panel board enclosure; integral with enclosure body. Arrange to isolate individual panel sections.
 - F.2.6 Finishes:
 - i. Panels and Trim: Steel and galvanized steel, factory finished immediately after cleaning and pretreating with manufacturer's

standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat.

- ii. Back Boxes: Galvanized steel Same finish as panels and trim.
- iii. Fungus Proofing: Permanent fungicidal treatment for overcurrent protective devices and other components.

F.2.7 Directory Card: Inside panel board door, mounted in transparent card holder metal frame with transparent protective cover

F.3 Incoming Mains Location: Top or Bottom.

F.4 Phase, Neutral, and Ground Buses.

F.4.1 Material: Hard-drawn copper, 98 percent conductivity.

F.4.2 Equipment Ground Bus: Adequate for feeder and branch-circuit equipment grounding conductors; bonded to box.

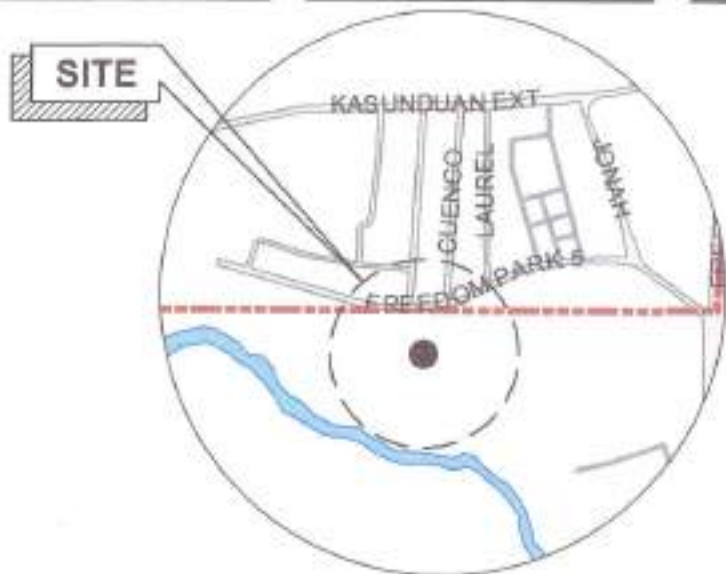
F.4.3 Neutral Bus: 100 percent of phase bus 4. Extra-Capacity Neutral Bus: Neutral bus rated 200 percent of phase bus and UL listed as suitable for nonlinear loads.


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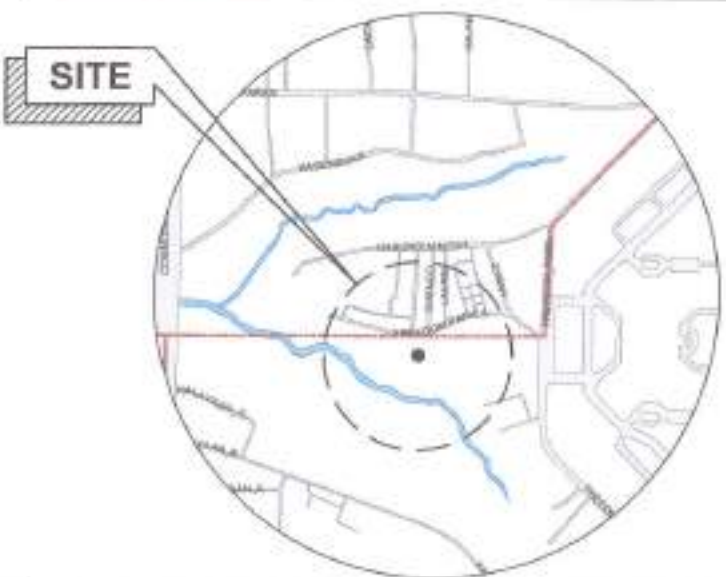
Section VII. Drawings

[Insert here a list of Drawings. The actual Drawings, including site plans, should be attached to this section, or annexed in a separate folder.]



1 LOCATION MAP

SCALE: NTS



2 VICINITY MAP

SCALE: NTS



3 PERSPECTIVE

SCALE: NTS

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Republic of the Philippines
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
**PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND
REHABILITATION OF FREEDOM PARK 5
DAY CARE CENTER**

LOCATION:
GRAND BAYANAN HILLS DISTRICT 2, QUEZON CITY

DESIGNED BY: *Jv*
DATE: 8.8.2021
CHECKED BY: *Jv*
REVISION NO:

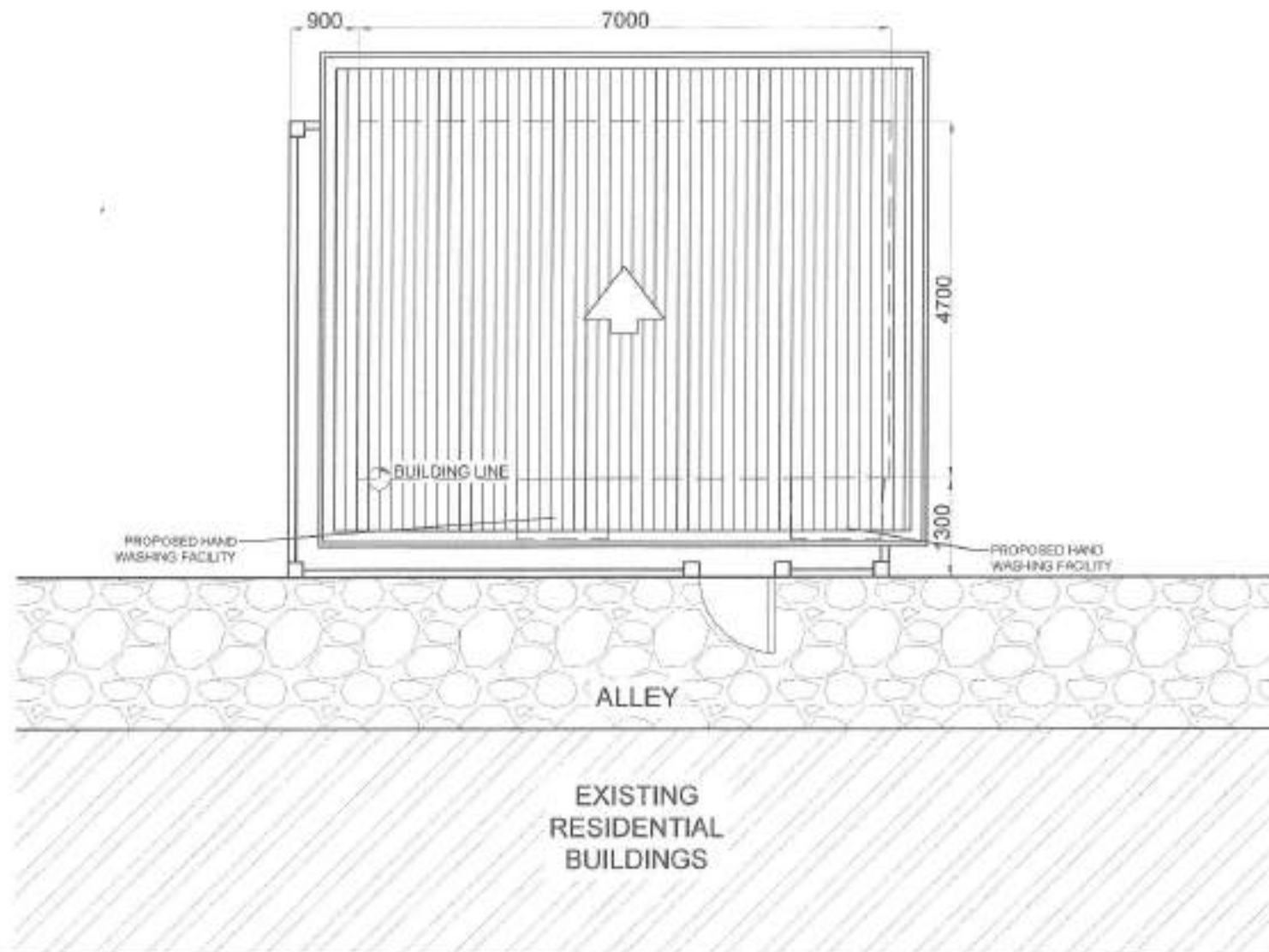
SUBMITTED BY:
[Signature]
ENGR. LEO S. DEL ROSARIO
HEAD - PLUMBING & ELECTRICAL DIVISION

RECOMMENDING APPROVAL:
[Signature]
ENGR. SADRAN R. VERZOSA, JR.
D.C. - CIVIL ENGINEERING DIVISION

APPROVED BY:
[Signature]
HON. MA. JOSEFINA G. BELMONTÉ
CITY ENGINEER - QUEZON CITY

SHEET CONTENT:
VICINITY MAP
LOCATION MAP
SITE DEVELOPMENT PLAN

SHEET NO:
AR-1
01/17



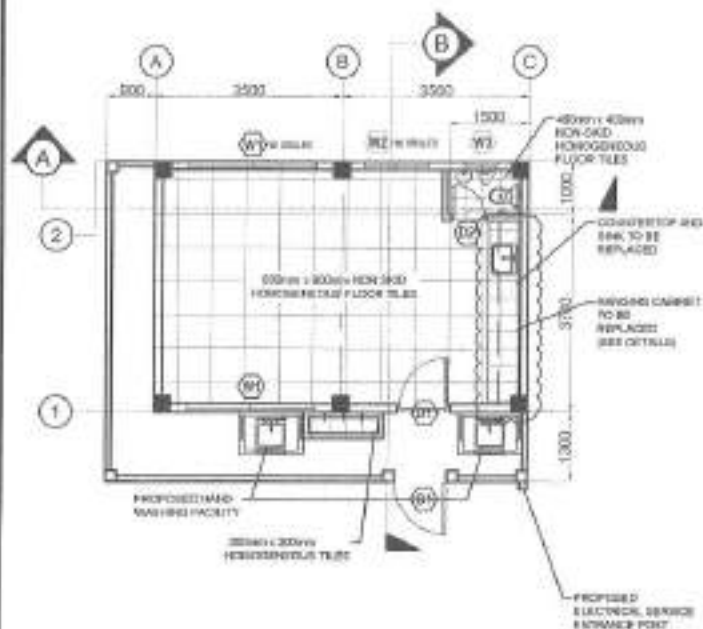
1 SITE DEVELOPMENT PLAN

SCALE: 1:800



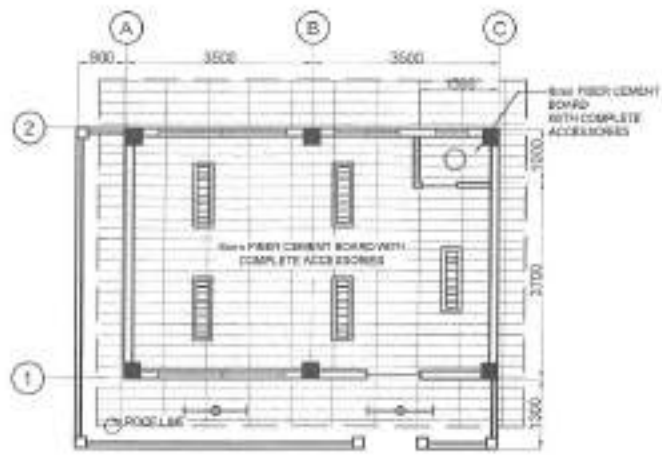
Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:	DRAWN BY:	ALIGNED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.:
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF FREEDOM PARK & DAY CARE CENTER	DATE: 03/2021 CHECKED BY: [Signature] NEW WORKING:	[Signature] ENGR. ED S. DEL ROSARIO HEAD, PLANNING & PROGRAMMING DIVISION	[Signature] ENGR. EDGAR W. R. VERZOSA, JR. CH. CIVIL ENGINEERING DEPARTMENT	[Signature] HON. MA. JOSEFINA G. BELMORTE CITY MGR., QUEZON CITY	SITE DEVELOPMENT PLAN	AR-2 02/17



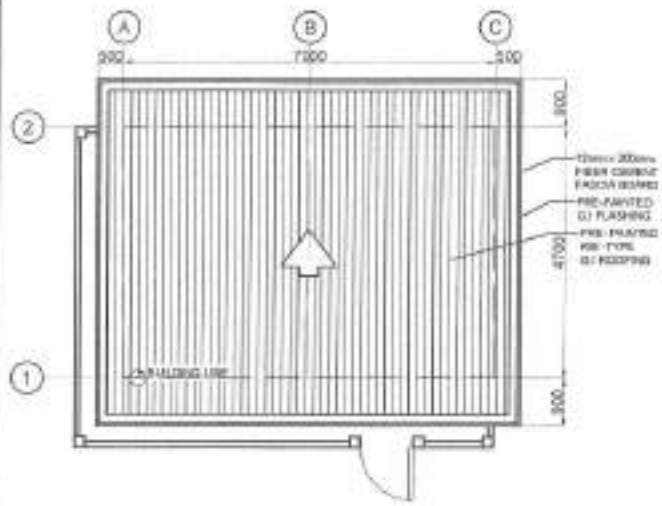
- NOTE:
- WHOLE STRUCTURE TO BE REPAINTED
 - DOORS AND WINDOWS TO BE REPLACED
 - GATE TO BE REPLACED
 - FENCE TO BE REHABILITATED
 - PLUMBING FIXTURES TO BE REPLACED
 - EXISTING FLOOR TILES TO BE REPLACED
 - EXISTING COUNTERTOP TILES TO BE REPLACED

1 GROUND FLOOR PLAN SCALE: 1:100M



- NOTE:
- CEILING TO BE REPLACED

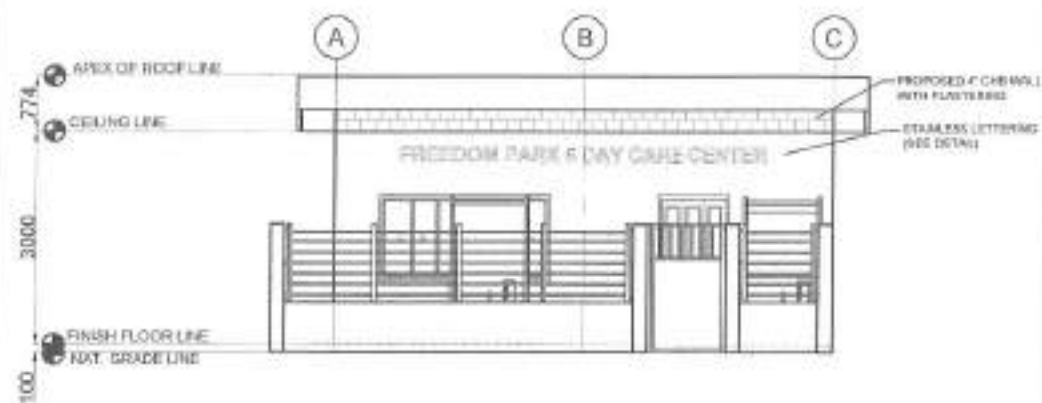
2 REFLECTED CEILING PLAN SCALE: 1:100M



- NOTE:
- ROOFING TO BE REPLACED

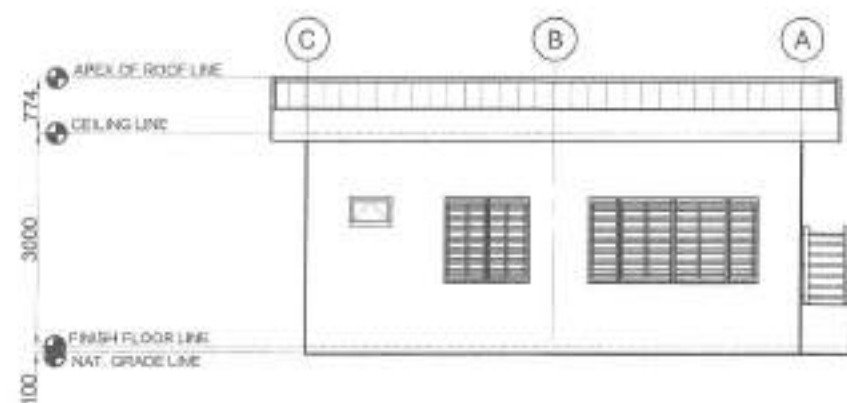
3 ROOF PLAN SCALE: 1:100M

<p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	<p>PROJECT TITLE: PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF FREEDOM PARK 5 DAY CARE CENTER</p>	<p>DRAWN BY: DATE: 03.08.21 CHECKED BY: REVISIONS:</p>	<p>SUBMITTED BY: ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAMMING DIVISION</p>	<p>RECOMMENDING APPROVAL: ENGR. BENJAMIN R. VERZOSA, JR. DEPUTY CHIEF, PLANNING & PROGRAMMING DIVISION</p>	<p>APPROVED BY: HON. RA. JOSEFINA G. BELMONTE CITY MANOR, QUEZON CITY</p>	<p>SHEET CONTENT: GROUND FLOOR PLAN REFLECTED CEILING PLAN ROOF PLAN</p>	<p>SHEET NO. AR-3 03/17</p>
	<p>PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF FREEDOM PARK 5 DAY CARE CENTER</p>						



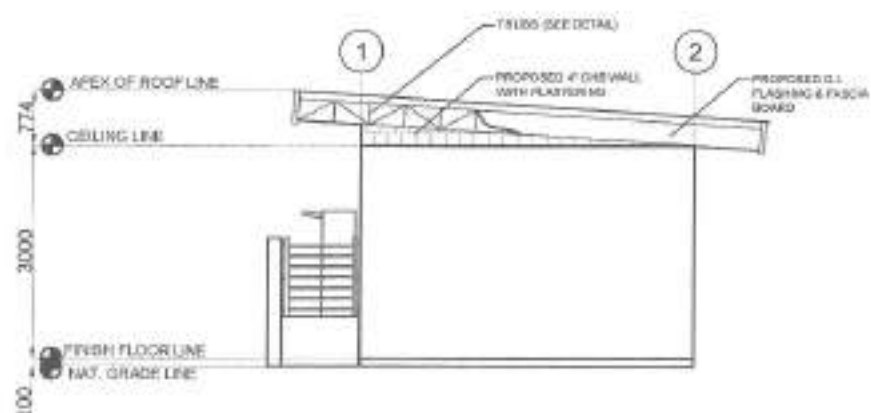
1 FRONT ELEVATION

SCALE: 1/75M



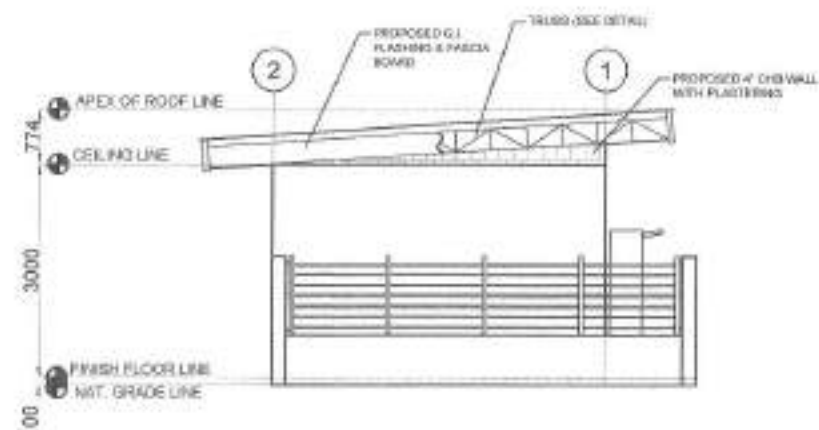
2 REAR ELEVATION

SCALE: 1/75M



3 RIGHT SIDE ELEVATION

SCALE: 1/75M



4 LEFT SIDE ELEVATION

SCALE: 1/75M

NOTE
 • WHOLE STRUCTURE TO BE REPAINTED



PROJECT TITLE:
**PROPOSED CONSTRUCTION OF HAND
 WASHING FACILITY AND
 REHABILITATION OF FREEDOM PARK 5
 DAY CARE CENTER**

LOCATION:
 BRGY. BACARAN HILLS, DISTRICT 2, QUEZON CITY

DRAWN BY: *[Signature]*
 DATE: 04.2021
 CHECKED BY: *[Signature]*
 REVISION NO:

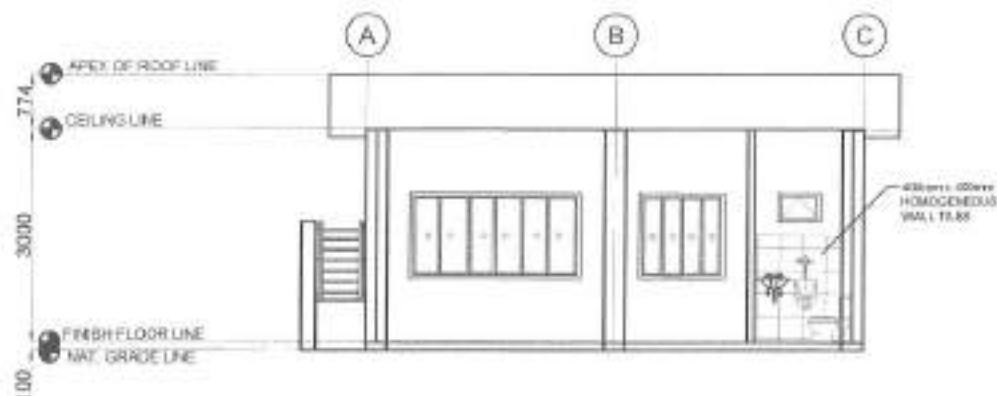
SUBMITTED BY:
[Signature]
ENGR. LEO S. DEL ROSARIO
 HEAD, PLANNING & PROGRAMMING DIVISION

RECOMMENDING OFFICIAL:
[Signature]
ENGR. ISAGANER VERZOSA, JR.
 CH. ENGINEER, CE & DEPARTMENT

APPROVED BY:
HON. MA. JOSEFINA G. BELMORTE
 CITY ENGINEER, QUEZON CITY

SHEET CONTENT:
 FRONT ELEVATION
 REAR ELEVATION
 RIGHT SIDE
 ELEVATION
 LEFT SIDE ELEVATION

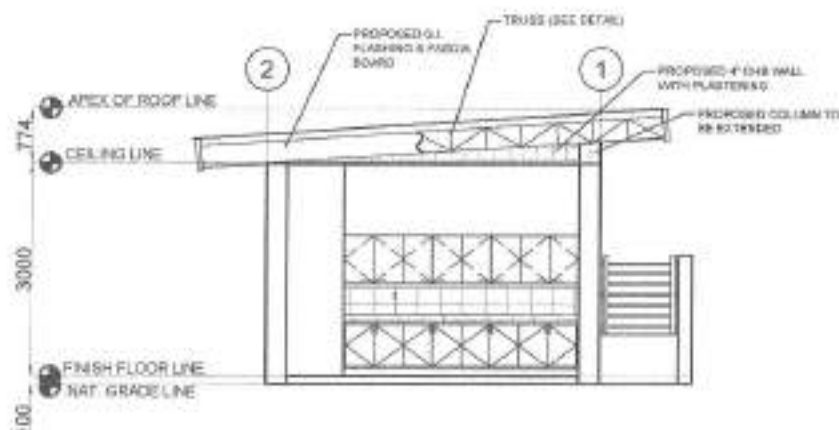
SHEET NO.:
AR-4
04/17



NOTE
 * EXISTING WALL TILES TO BE REPLACED WITH 400MM X 400MM HOMOGENEOUS WALL TILES

1 SECTION THRU "A"

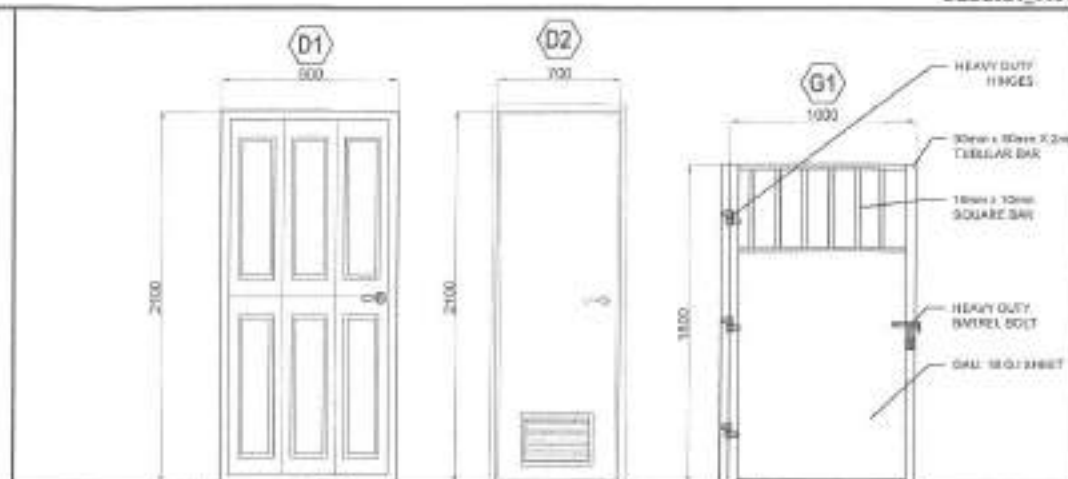
SCALE: 1/75M



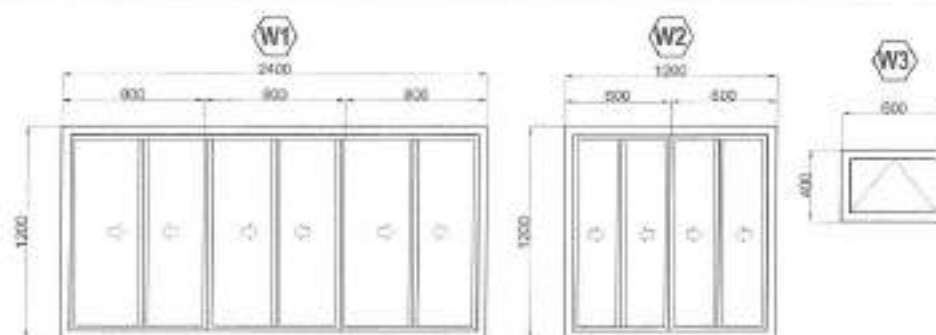
NOTE
 * WHOLE STRUCTURE TO BE REHABILITATED

2 SECTION THRU "B"

SCALE: 1/75M



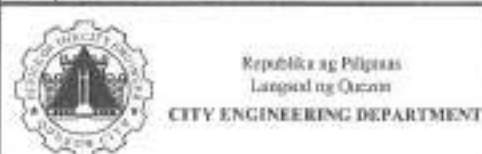
	D-1	D-2	G-1
LOCATION	FRONT DOOR	COMFORT ROOM	FRONT GATE
SPECIFICATIONS	PANEL DOOR	PVC DOOR WITH LOUVER	50mm x 50mm TUBULAR BAR WITH 10mm x 10mm SQUARE BAR AND G-1 SHEET GALV. TB AND 50mm x 5mm FLAT BAR
HARDWARE / GLAZING	COMPLETE ACCESSORIES	COMPLETE ACCESSORIES	HEAVY DUTY BARREL BOLT AND HINGES
NO. OF SETS	1	1	1



	W-1	W-2	W-3
LOCATION	DAY CARE	DAY CARE	COMFORT ROOM
SPECIFICATIONS	SLIDING WINDOW, 6mm THK CLEAR TEMPERED GLASS ON WHITE COLOR POWDER COATED ALUMINUM FRAMES	SLIDING WINDOW, 6mm THK CLEAR TEMPERED GLASS ON WHITE COLOR POWDER COATED ALUMINUM FRAMES	AWNING WINDOW, 6mm THK CLEAR TEMPERED GLASS ON WHITE COLOR POWDER COATED ALUMINUM FRAMES
HARDWARE / GLAZING	COMPLETE ACCESSORIES	COMPLETE ACCESSORIES	COMPLETE ACCESSORIES
NO. OF SETS	2	1	1

3 SCHEDULE OF DOORS AND WINDOWS

SCALE: 1/30M



Republika ng Pilipinas
 Lungsod ng Quezon

CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED CONSTRUCTION OF HAND
 WASHING FACILITY AND
 REHABILITATION OF FREEDOM PARK 5
 DAY CARE CENTER

LOCATION:

BRGY. BATAKASHILLA, DISTRICT 7, QUEZON CITY

DRAWN BY:

DATE: 03.2021

CHECKED BY:

REVISION NO:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
 HEAD, PLANNING & PROGRAMMING DIVISION

RECOMMENDED AFFIRMAL:

ENGR. MAGAMIR, VERZOSA, JR.
 D.C. DIVISION CHIEF

APPROVED BY:

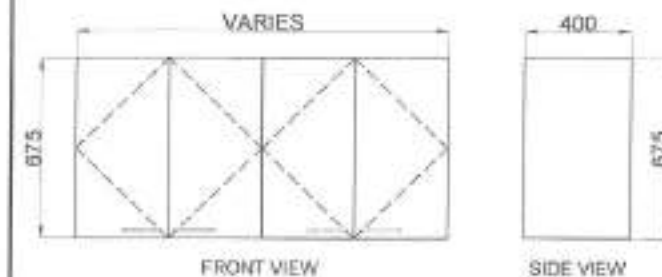
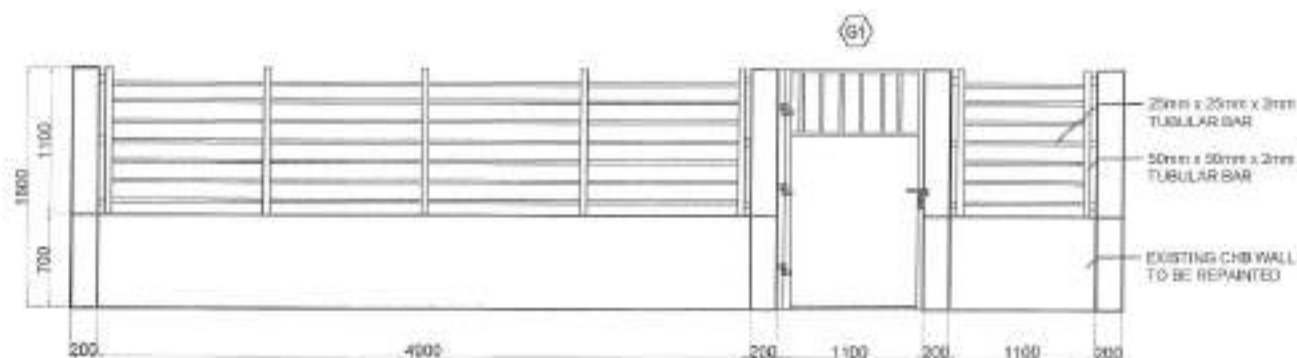
HON. MA. JOSEFINA G. BELMONT
 CITY MANAGER, QUEZON CITY

SHEET COMMENT:

SECTION THRU 'A'
 SECTION 'B'
 SCHEDULE OF DOORS
 AND WINDOWS

SHEET NO.:

AR-5
 05/17



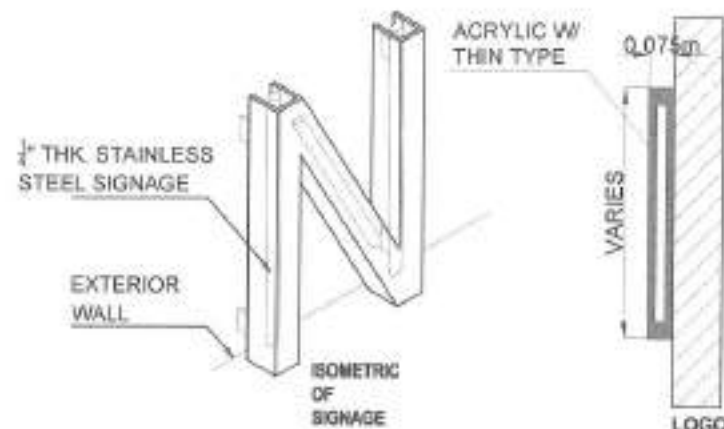
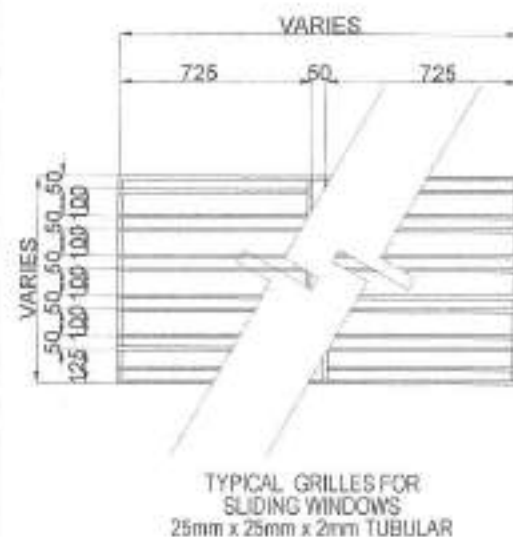
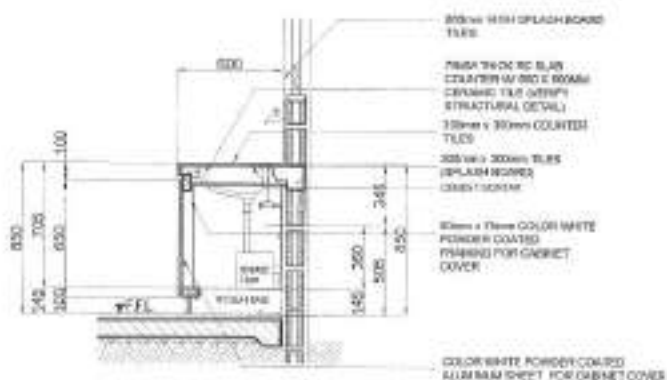
PROP HANGING CABINET
18mm THK ORDINARY PLYWOOD
PAINTED FINISH
W LOCKING MECHANISM

1 FENCE DETAILS

SCALE: 1:40M

2 HANGING CABINET DETAILS

SCALE: 1:20M



4 STANDARD COUNTERTOP WITH SINK DETAILS

SCALE: 1:20M

5 TYPICAL GRILLES FOR SLIDING WINDOWS

SCALE: 1:20M

5 STANDARD LOGO DETAILS

SCALE: 1:18M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND
REHABILITATION OF FREEDOM PARK 6
DAY CARE CENTER ✓

LOCATION:

ENIG, DATAMAN HILLS, DISTRICT 3, QUEZON CITY ✓

DRAWN BY:

DATE: 03.08.22

CHECKED BY:

REVISIONS:

SUBMITTED BY:

ENGR. GED S. DEL ROSARIO
HEAD, PLANNING AND DESIGN DIVISION

RECOMMENDED APPROVAL:

ENGR. GABRIEL R. VERZOSA, JR.
CH. ENGINEER, CITY ENGINEERING DEPARTMENT

APPROVED BY:

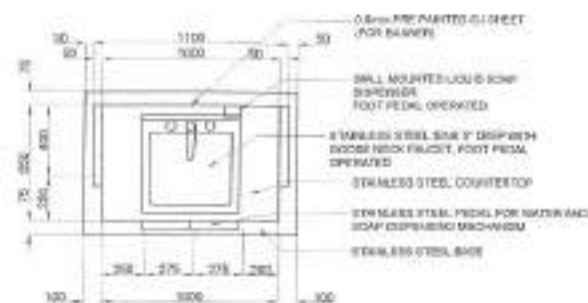
HON. MA. JOSEFINA G. BELMONTE
CITY MAJOR, QUEZON CITY

SHEET CONTENT:

FENCE DETAILS
HANGING CABINET
DETAILS
STANDARD
COUNTERTOP DETAILS
TYPICAL GRILLES
DETAILS
STANDARD LOGO
DETAILS

SHEET NO.:

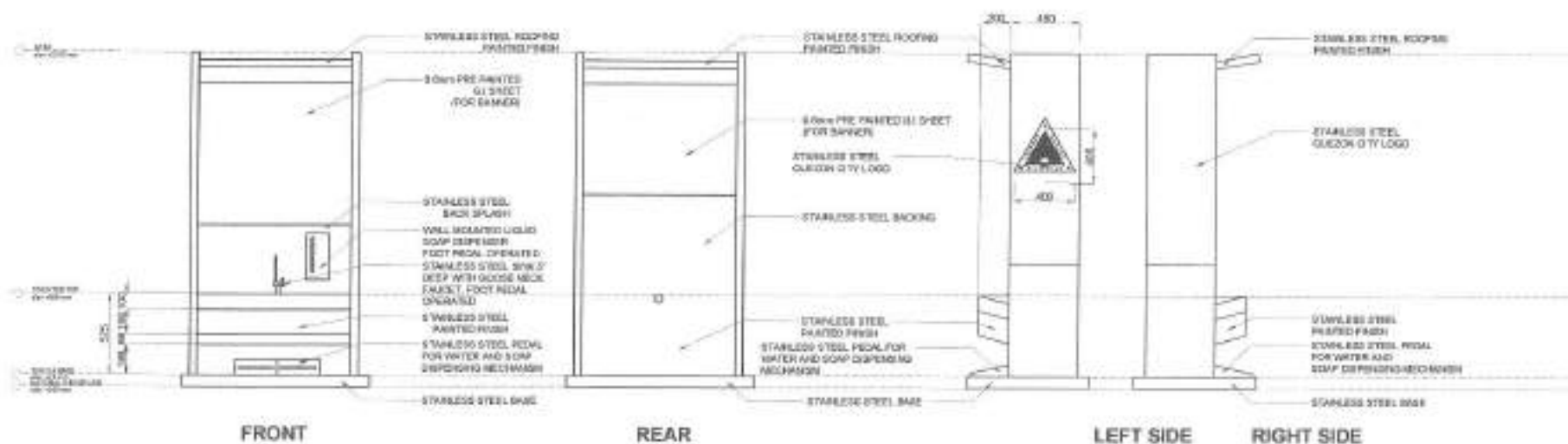
AR-6
06/17



PLAN

1 SINGLE SINK PORTABLE HAND WASHING STALL PLAN

SCALE: 1:30M



FRONT





REAR

LEFT SIDE

RIGHT SIDE

2 ELEVATIONS

SCALE: 1:30M

 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DRAWN BY: <i>LS</i>	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.
	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF FREEDOM PARK 5 DAY CARE CENTER LOCATION: BRDY, BATAAN HILLS, DISTRICT 2, QUEZON CITY	DATE: 04.2021	CHECKED BY: <i>MS</i>	 ENGR. LEO S. DEL ROSARIO HEAD, PLANNING AND PROGRAMMING DIVISION	 ENGR. R. VERZOSA, JR. C.E. CITY ENGINEERING DEPARTMENT	 HON. MA. JOSEFINA G. BELMONTE CITY ENGINEER, QUEZON CITY	SINGLE SINK PORTABLE HAND WASHING STALL PLAN ELEVATIONS

GENERAL

- CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE ALL WORKS TO BEGIN. IF DIMENSIONS ARE NOT AS SHOWN ON DRAWINGS, CONTRACTOR SHALL VERIFY DIMENSIONS TO MEET DESIGN LOADS.
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- CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE ALL WORKS TO BEGIN. IF DIMENSIONS ARE NOT AS SHOWN ON DRAWINGS, CONTRACTOR SHALL VERIFY DIMENSIONS TO MEET DESIGN LOADS.

CONCRETE & REINFORCEMENT

- ALL MATERIALS AND WORKMANSHIP SHALL CONFORM WITH THE LATEST EDITIONS OF THE CODE OF AMERICAN CONCRETE INSTITUTE (ACI 308).
- ALL CONCRETE SHALL DEVELOP A 28-DAY COMPRESSIVE STRENGTH OF THE DESIGN STRENGTH AS SPECIFIED IN THE CONTRACT DOCUMENTS.

LOCATION	STRENGTH	MAX. SIZE OF AGGREGATES	MAX. SLUMP
1. SLAB ON GROUND	3000 PSI (20.7 MPa)	1 1/2" (38mm)	4" (100mm)
2. BEAM, COLUMN	4000 PSI (27.6 MPa)	3/4" (19mm)	4" (100mm)
3. WALL	3000 PSI (20.7 MPa)	1 1/2" (38mm)	4" (100mm)

- ALL REINFORCEMENT SHALL CONFORM TO ASTM A615 GRADE 60 EPOXY COATED BARS AND SHALL BE 3/8" AND 1/2" DIA. REINFORCEMENT SHALL BE 3/8" DIA. UNLESS OTHERWISE SPECIFIED.
- IN GENERAL, THE LATEST EDITIONS OF ACI 308, ACI 309, AND ACI 318 SHALL APPLY TO ALL REINFORCED CONCRETE STRUCTURES UNLESS OTHERWISE SPECIFIED.

- MINIMUM REINFORCEMENT SHALL BE AS FOLLOWS:

CONCRETE SLAB ON GROUND	75 mm
SUSPENDED SLAB	20 mm
SLAB ON GROUND	20 mm
WALL	25 mm
BEAM & COLUMN	20 mm

- REINFORCEMENT SHALL BE TIED TOGETHER AND SHALL BE SPACED IN ACCORDANCE WITH THE LATEST EDITIONS OF ACI 308 AND ACI 318. REINFORCEMENT SHALL BE SPACED TO PROVIDE PROPER CURING AND PROTECTION FROM WEATHER.

- ALL REINFORCEMENT SHALL BE TIED TOGETHER AND SHALL BE SPACED IN ACCORDANCE WITH THE LATEST EDITIONS OF ACI 308 AND ACI 318. REINFORCEMENT SHALL BE SPACED TO PROVIDE PROPER CURING AND PROTECTION FROM WEATHER.

- CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IN WRITING OF ANY DISCREPANCIES OR OMISSIONS IN THE REINFORCEMENT, ELECTRICAL, AND MECHANICAL DRAWINGS.

- ALL CONCRETE SHALL BE CURED FOR A MINIMUM OF SEVEN (7) CONCRETE DAYS IMMEDIATELY AFTER POURING OF THE USE OF WATER-CURABLE FORMING OILS, MEMBRANES, OR OTHER APPROVED METHODS.

- DETAILS OF REINFORCEMENT SHALL BE AS FOLLOWS:

CONCRETE	CONCRETE
REINFORCEMENT	34 FRS
SPACED REINFORCEMENT	8 mm
REINFORCEMENT	10 mm
REINFORCEMENT	21 mm

- DEVELOPMENT LENGTH FOR ALL BARS SHALL BE AS SPECIFIED IN THE REINFORCEMENT SCHEDULE.

STRUCTURAL STEEL AND PLATES

- ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A36 UNLESS OTHERWISE SPECIFIED. ALL STEEL SHALL BE GALVANNEAL UNLESS OTHERWISE SPECIFIED.
- ALL STEEL SHALL BE GALVANNEAL UNLESS OTHERWISE SPECIFIED.
- ALL STEEL SHALL BE GALVANNEAL UNLESS OTHERWISE SPECIFIED.

FOUNDATION

- FOUNDATION SHALL BE DESIGNED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE INTERNATIONAL BUILDING CODE (IBC) AND THE CALIFORNIA FOUNDATION CODE.

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MASONRY WALLS

- ALL MASONRY WALLS SHALL BE DESIGNED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE INTERNATIONAL BUILDING CODE (IBC) AND THE CALIFORNIA FOUNDATION CODE.

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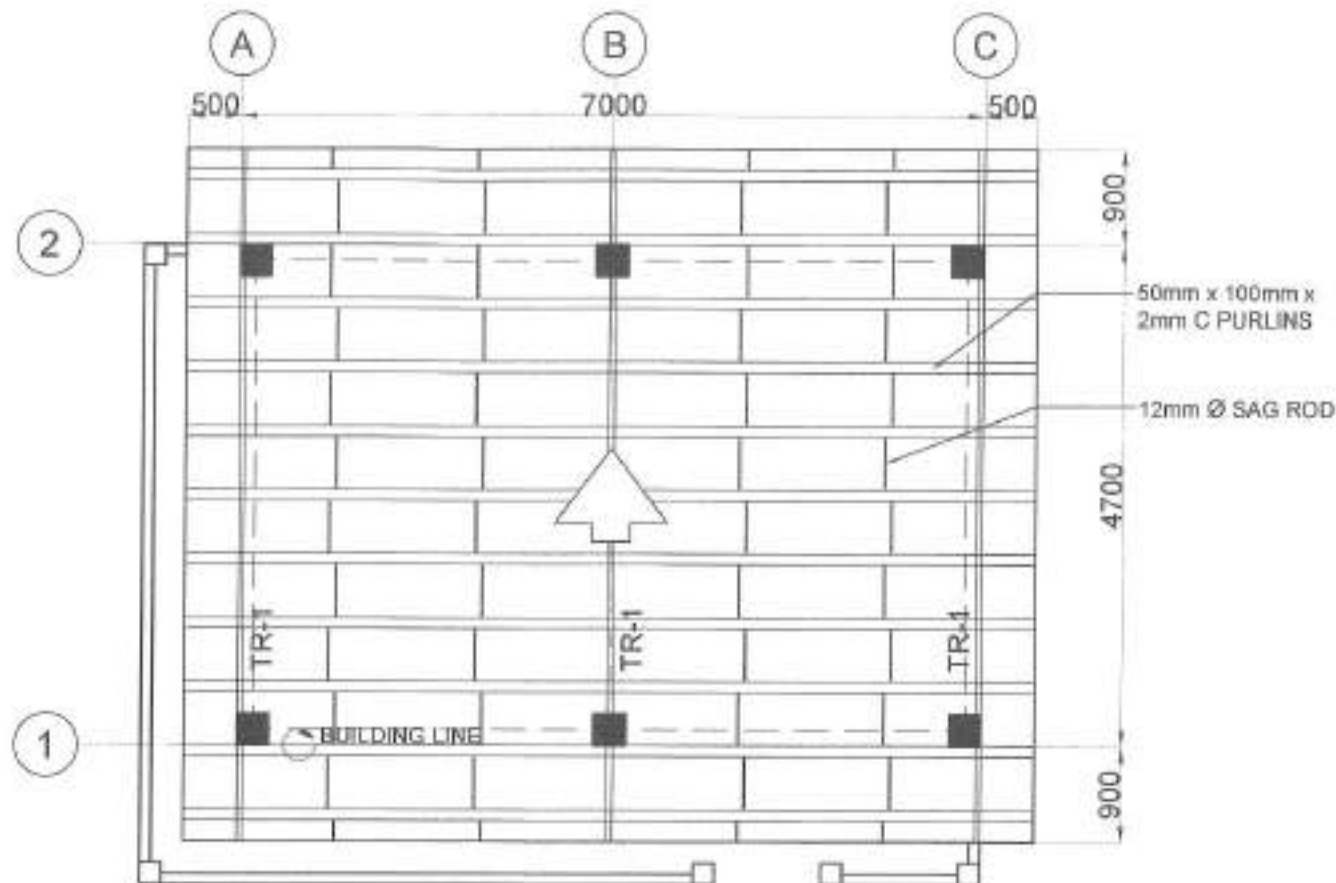
- ALL MASONRY WALLS SHALL BE DESIGNED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE INTERNATIONAL BUILDING CODE (IBC) AND THE CALIFORNIA FOUNDATION CODE.

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- ALL MASONRY WALLS SHALL BE DESIGNED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE INTERNATIONAL BUILDING CODE (IBC) AND THE CALIFORNIA FOUNDATION CODE.

NOTE:

- ROOF FRAMING TO BE REPLACED

**1 GENERAL NOTES**

SCALE: NTS

2 ROOF FRAMING PLAN

SCALE: 1/8"=1'-0"



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND
REHABILITATION OF FREEDOM PARK &
DAY CARE CENTER

LOCATION:

BRGY. BACANMILLS, DISTRICT 2, QUEZON CITY

DRAWN BY:

DATE: 04/2021

CHECKED BY:

REVISION NO.:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO

HEAD, PLANNING PROGRAMMING DIVISION

RECOMMENDING APPROVAL:

ENGR. RICHARD R. VERZOSA, JR.

CITY ENGINEERING DEPARTMENT

APPROVED BY:

HON. MA. JOSEFINA G. DELMORTE

CITY ENGINEER

SHEET CONTENT:

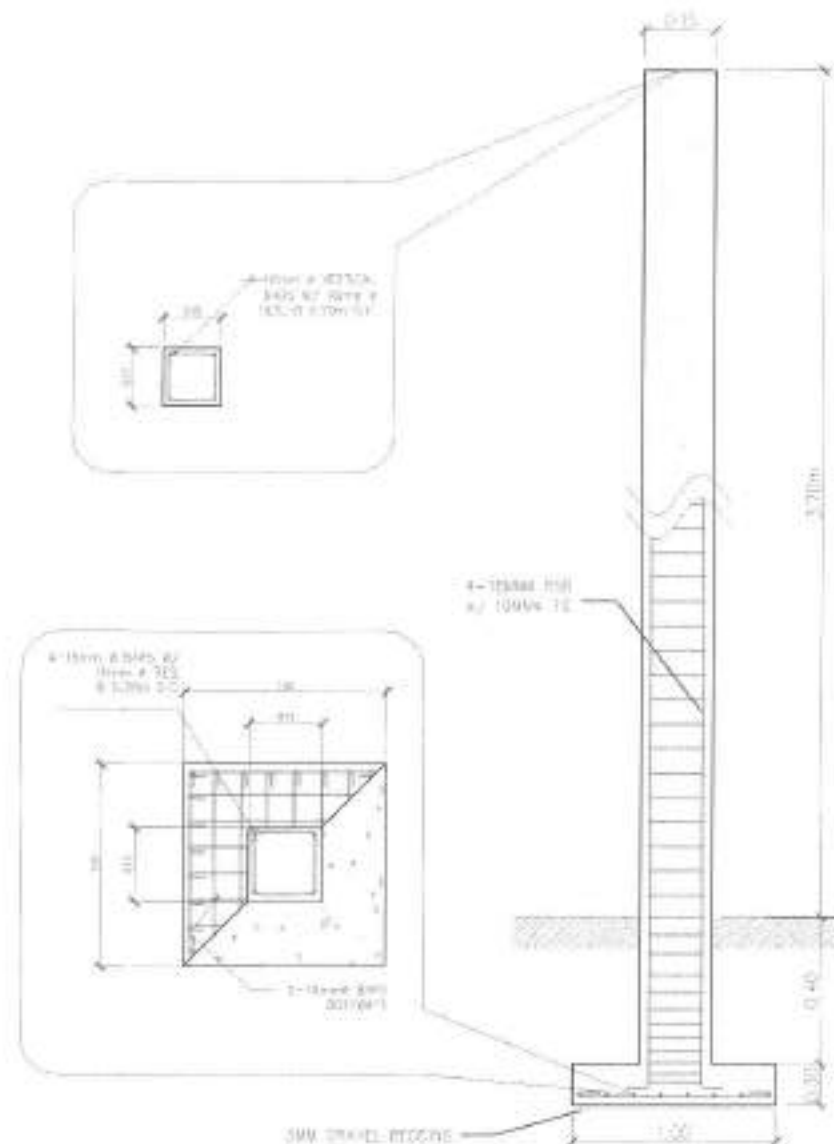
GENERAL NOTES

ROOF FRAMING PLAN

SHEET NO.:

ST-1

08/17



1 SERVICE ENTRANCE DETAILS

SCALE: NTS



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
**PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND
REHABILITATION OF FREEDOM PARK 5
DAY CARE CENTER**

LOCATION:
BRGY. SAKKAKINHELO, DISTRICT 7, QUEZON CITY

DRAWN BY: *[Signature]*
DATE: 9.8.2021
CHECKED BY: *[Signature]*
REVISION NO.:

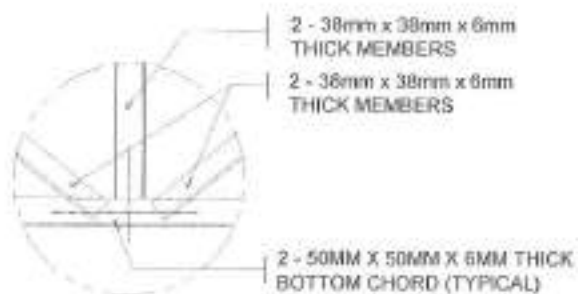
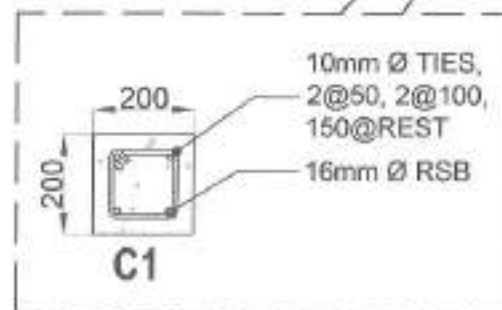
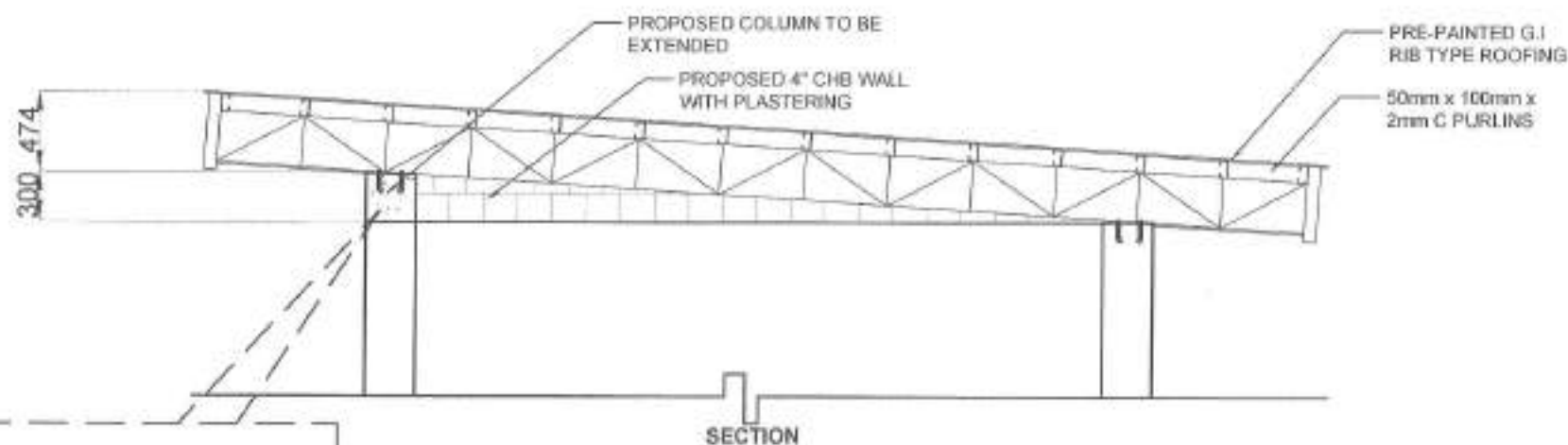
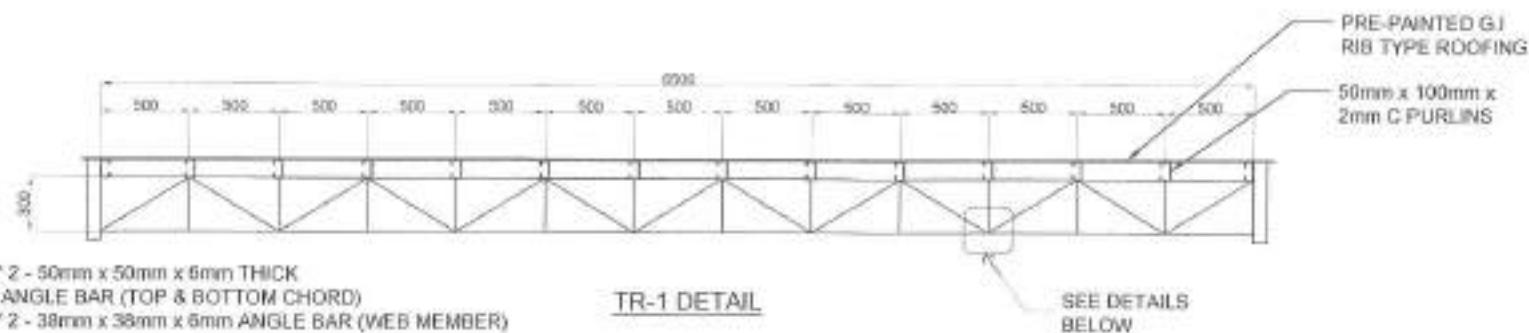
SUBMITTED BY:
[Signature]
ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING AND DESIGN DIVISION

RECOMMENDING APPROVAL:
[Signature]
ENGR. ISIDORO R. VERZOSA, JR.
DCL, CITY ENGINEERING DEPARTMENT

APPROVED BY:
[Signature]
HON. MA. JOSEFINA G. BELMONTÉ
CITY ENGINEER, QUEZON CITY

SHEET CONTENT:
SERVICE ENTRANCE
DETAIL

SHEET NO.:
ST-2
09/17



1 TRUSS DETAILS

SCALE: 1:200



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND
REHABILITATION OF FREEDOM PARK 5
DAY CARE CENTER ✓

LOCATION:
BPO, SANTANIL HILLS, DISTRICT 2, QUEZON CITY ✓

DRAWN BY: ✓
DATE: 4/3/2021
CHECKED BY: ✓
REVISIONS:

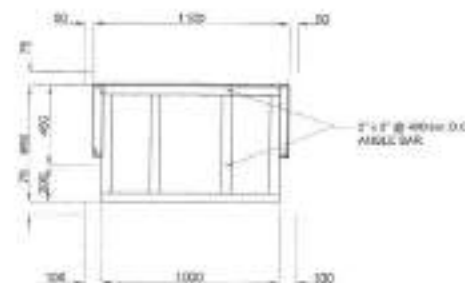
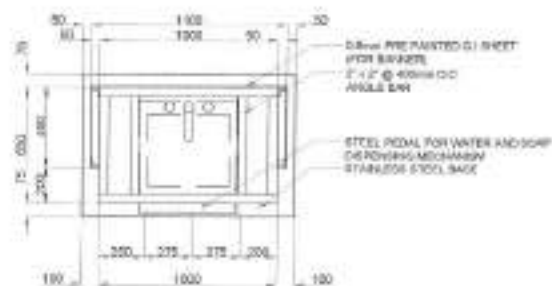
SUBMITTED BY:
ENGR. LEO S. DEL ROSARIO
1994 PLUMBING PROFESSIONAL REG. NO. 17550

RECOMMENDING APPROVAL:
ENGR. ISAG G. R. VERZOSA, JR.
DIL. CITY ENGINEERING DEPARTMENT

APPROVED BY:
HON. MA. JOSEFINA G. BELMONTE
CITY MAYOR, QUEZON CITY

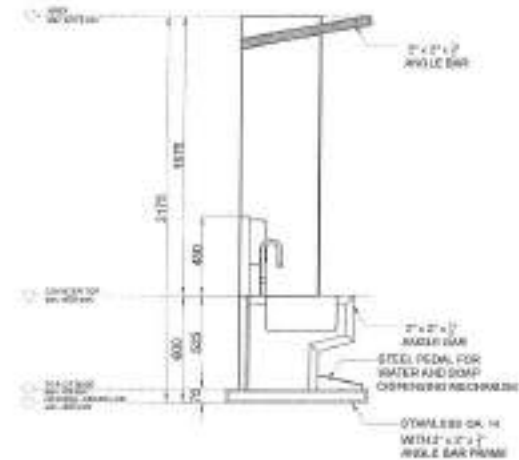
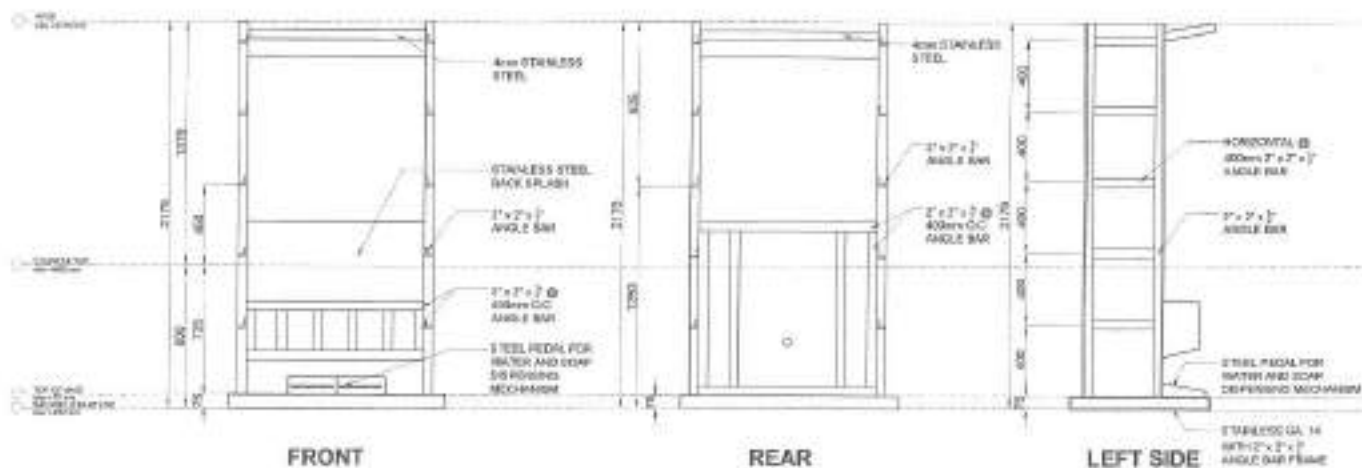
SHEET CONTENT:
TRUSS DETAILS

SHEET NO.:
ST-3
10/17



1 SINGLE SINK PORTABLE HAND WASHING STALL PLAN

SCALE: 1:300



2 ELEVATIONS

SCALE: 1:300

3 TYPICAL SECTION

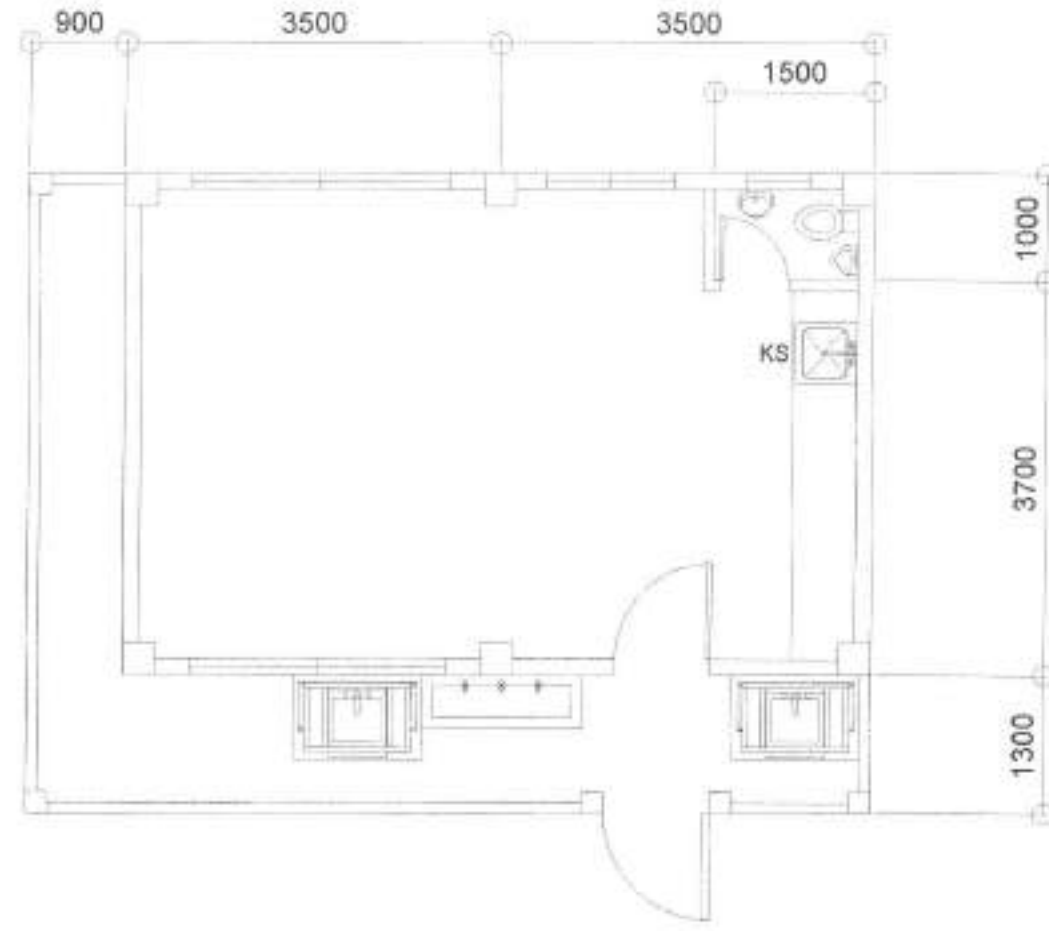
SCALE: 1:300

<p>Republic of the Philippines Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DRAWN BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	DIST. CONTENT:	SHEET NO.	
	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF FREEDOM PARK & DAY CARE CENTER	DATE: 03/2021	CHECKED BY:	ENR. LEO S. DEL ROSARIO HEAD PLANNING AND DESIGN DIVISION	ENR. BASIL M. VERZOSA, JR. D.C. CIVIL ENGINEERING DEPARTMENT	HON. MA. JOSEFINA G. BELMONTE CITY MAYOR, QUEZON CITY	SINGLE SINK PORTABLE HAND WASHING STALL PLAN ELEVATIONS TYPICAL SECTION	ST-4 11/17
	LOCATION: DRYD, BATAKIAN HILLS, DISTRICT 2, QUEZON CITY	REVISION NO.:						

- 1 All plumbing work and minor structural works shall be completed in the provision of the latest edition of National Plumbing Code, the rules and regulations of local authorities concerned, the rules and regulations of local utility companies and the provision of the local developer plan and where applicable.
- 2 The plumbing layout in only floor plan view, pipes, cleanouts and check valves shall be indicated as much as possible. It is recommended to show the actual diameter of the pipes and fittings in its drawing but if the pipe and fittings shall be installed as per what is indicated. Any alterations will require proper execution to include all other trades.
- 3 The plumbing contractor shall verify all existing utilities at the site and shall coordinate the work with other trades.
- 4 Pipes shall not be embedded in structural members unless otherwise specified or allowed.
- 5 Minimum slope for horizontal sewer lines shall be 1% and for drain lines shall be 1/4%.
- 6 Proposed plumbing utilities shall conform with the actual location, depth and invert elevation of all existing possibilities.
- 7 Connection of fixtures to pipes and fittings shall be according to manufacturer's specifications.
- 8 All floor drains shall be sealed immediately.
- 9 All clean out fixtures shall be flush mounted to wall and shall be provided with polished cover caps. Do not install floor drains except at area on grade and surface area not subject to traffic.
- 10 All underground (U) pipes in direct contact with soil shall be provided with two (2) coats of protective or coating and wrapped with pipe cloth thoroughly sealed in to or around.
- 11 Provide vent pipes and vent pipe through roof of said premises as follows:
- 12 All cast iron pipes shall be of approved quality and (U) pipes for water distribution less than Schedule 40 (U.S. standard weight).
- 13 Provide gate valves in all water supply lines to fixtures.
- 14 All hot water lines shall be provided with proper insulation where exposed.
- 15 All indicated branches to fixtures or group of fixtures and/or equipment shall be provided with air chambers or capped vertical pipe extensions of dimensions as follows:
- 16 = 4x4 nominal 10 min. Ø and larger
- 17 = 3/4" nominal 10 min. Ø and smaller
- 18 All hose bibbs shall be 1/2" nominal Ø (NPT) unless otherwise indicated.
- 19 Vent pipe of water tank is 60mm higher than the top of pipe which is 19 mm higher than the roof type.
- 20 All plumbing work and manner of construction shall be as per the direct supervision of an able and duly licensed Master Plumber or Registered Dairymen Engineer. Any discrepancies found in plan shall be notified to the commissioner.

I. FIXTURES AND UTILITIES LEGEND

FD	FLOOR DRAIN	SD	SOFFIT DRAIN	BK	BACKWATER VALVE
SD	SOFFIT DRAIN	SH	SHOWER	SS	STOP VALVE
WC	WATER CLOSET	SL	LAUNDRY	ST	SOFT TAP WATER VALVE
UB	URINAL	US	UTILITY	SV	STOP VALVE
SB	SHOWER BATH	VB	VENT PIPE	TR	TRAP
BD	BUILDING DRAIN	VW	VENT W/ WASTE	UC	UNDER SINK CUPBOARD
GD	GEAR DRAIN	W	WATER	UV	UNDER VENT
CD	CORNER CLEANOUT	WC	WATER CLOSET	VV	VENT VALVE
FD	FLOOR DRAIN	WD	WATER DRAIN	VW	VENT W/ WASTE
CD	CORNER CLEANOUT	WT	WATER TAP	VV	VENT VALVE
FD	FLOOR DRAIN	WT	WATER TAP	VV	VENT VALVE
CD	CORNER CLEANOUT	WT	WATER TAP	VV	VENT VALVE
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CD	CORNER CLEANOUT	WT	WATER TAP	VV	VENT VALVE
FD	FLOOR DRAIN	WT	WATER TAP	VV	VENT VALVE
CD	CORNER CLEANOUT	WT	WATER TAP	VV	VENT VALVE



1 GENERAL NOTES & LEGENDS

2 EXISTING GROUND FLOOR PLAN

SCALE: 1/8"=1'-0"



PROJECT TITLE:	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF FREEDOM PARK & DAY CARE CENTER
LOCATION:	GRD. DATARAN HILLS, DISTRICT 2, QUEZON CITY

DRAWN BY:	SUBMITTER:
DATE:	ENGR. LEO S. DEL ROSARIO
CHECKED BY:	HEAD, PLANNING & PROGRAMMING DIVISION
REVISION:	

RECOMMENDING APPROVAL:	ENGR. HANNA R. VERZOSA, JR. C.E. CITY ENGINEERING DEPARTMENT
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APPROVED BY:	HON. MA. JOSEFINA G. BELMONTE CITY MARCH, QUEZON CITY
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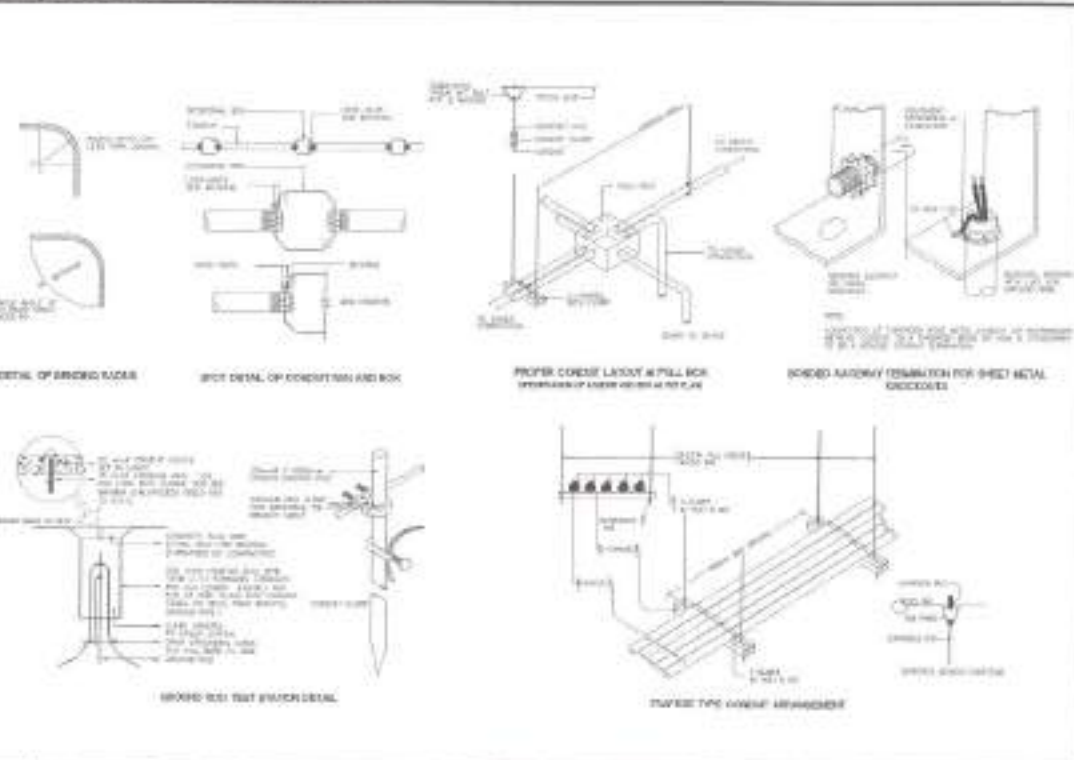
SHEET CONTENT:	EXISTING GROUND FLOOR PLAN
SHEET NO:	PL-01
DATE:	12/17

- ALL ELECTRICAL WORKS SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, THE LAWS AND ORDINANCES OF THE LOCAL CODE ENFORCING AUTHORITIES AND THE REQUIREMENTS OF THE LOCAL POWER AND TELEPHONE UTILITY COMPANY.
- THE CONTRACTOR SHALL SECURE ALL PERMITS AND PAY ALL FEES REQUIRED FOR THE WORK AND SHALL FURNISH THE OWNER THROUGH THE ENGINEER, FINAL CERTIFICATES OF ELECTRICAL INSPECTION AND APPROVAL FROM PROPER GOVERNMENT AUTHORITIES FOR COMPLETION OF WORK.
- ALL EMBEDDED BRANCH CIRCUITS SHALL BE PVC CONDUITS AND FOR CONDUIT INSTALLATION SHALL BE EMT (ORING SUPPORTED BY CONDUIT CLAMPS EVERY 900 MILLIMETERS)
- PULL BOXES SHALL BE PROVIDED BY THE CONTRACTOR WHENEVER NECESSARY TO FACILITATE WIRE PULLING EVEN IF THESE ARE NOT INDICATED ON THE PLANS. SIZES OF ALL PULLBOXES SHALL BE COMPUTED BASED ON THE CODE REQUIREMENTS. SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION. LOCATION OF PULLBOXES SHALL BE APPROVED BY THE ARCHITECT/ENGINEER AND MUST BE REFLECTED ON THE TASKBUILT PLAN.
- ALL POWER OUTLETS AND SWITCHES SHALL BE GROUNDING TYPE WITH PARALLEL SLOTS FOR 230V.
- PROVIDE GROUND FAULT CURRENT INTERRUPTER CIRCUIT BREAKERS FOR LOADS MARKED "GFCI" ON THE PLAN.
- ALL METALLIC CONDUITS, CABINETS AND EQUIPMENT SHALL BE PROPERLY GROUNDED AND BONDED.
- UNLESS OTHERWISE NOTED, MOUNTING HEIGHT FOR WALL MOUNTED DEVICES SHALL BE AS FOLLOWS:
 RECEPTACLE OUTLET - 380 MM AFF - 100MM ABOVE WORKING COUNTER
 LIGHTING SWITCH - 1400 MM AFF
 PANELBOARD - 1800 MM AFF
- REFER TO MECHANICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR RATINGS AND LOCATIONS OF EQUIPMENT AS WELL AS THEIR CONTROL SEQUENCES AS SPECIFIED AND OR SHOWN UNDER THEIR RESPECTIVE SECTIONS.
- ALL MATERIALS TO BE USED SHALL BE OF THE BEST QUALITY, BRAND NEW AS SPECIFIED.
- THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO PRESENT GENERAL LAYOUT AND BROAD OUTLINE DESCRIPTION OF THE PROJECT BUT DO NOT NECESSARILY INDICATE/DESCRIBE ACTUAL LOCATIONS, LEVELS AND DISTANCES OF THE EQUIPMENT. THE CONTRACTOR IS HEREBY REQUIRED TO MAKE SUCH ADJUSTMENT AT THE JOBSITE AS LOCATION, DISTANCES AND LEVELS ARE GOVERNED BY ACTUAL FIELD CONDITIONS.
- ANY DISCREPANCY BETWEEN THE PLANS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION/DECISION.
- ALL LIGHTING AND CONVENIENCE OUTLET CIRCUITS SHALL BE 2.5 SQ. MM. THIN-WALL COPPER WIRE UNLESS OTHERWISE NOTED. MINIMUM SIZE OF WIRE SHALL BE 2.5 SQ. MM. COPPER WIRE. ALL WIRES AND CABLES SHALL BE COLOR CODED AS FOLLOWS:

 LINE 1 - RED
 LINE 2 - YELLOW
 NEUTRAL - WHITE
 GROUND - GREEN
- BOXES, WIRE, BUTTERS ENCLOSURE SHALL BE FABRICATED FROM STEEL WITH THICKNESS AS FOLLOWS:
 MAXIMUM WIDTH OF THE WIDEST SURFACE STEEL:
 UP TO INCLUDING 152.40 MM GA 18 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
 OVER 152.40 MM BUT NOT OVER 407.30 GA 14 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
 OVER 407.30 MM BUT NOT OVER 762.00 GA 12 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
 OVER 762.00 GA 10 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
- ALL ELECTRICAL WORKS HEREIN SHALL BE EXECUTED BY EXPERIENCED MEN UNDER THE DIRECT SUPERVISION OF A FULL-TIME LICENSED ELECTRICAL ENGINEER AND A duly accredited ELECTRICAL CONTRACTOR, BY PCSA. WORKS SHALL BE NEATLY PLACED, SECURELY FASTENED AND PROPERLY FINISHED.
- TYPE OF SERVICE ENTRANCE SHALL BE SINGLE-PHASE, TWO-WIRE PLUS GROUND, 60 HERTZ, 230V AC, 60 KW/VA.
- CONDUITS IN RIG CASE SHALL THERE BE MORE THAN THE EQUIVALENT OF FOUR QUARTER BENDS IN ANY ONE PLAN. ALL CONDUIT BENDS SHALL BE FIELD MADE BY USING HYDRAULIC BENDERS. MINIMUM BENDING RADIUS MUST BE IN ACCORDANCE TO THE CODE REQUIREMENTS.
- UPON COMPLETION OF ELECTRICAL CONSTRUCTION WORK, INSULATION RESISTANCE TEST AND FUNCTIONALITY TEST SHALL BE PERFORMED BY THE CONTRACTOR INCLUSIVE OF THE INSTALLATION TO BE REPORTED IN DETAIL IN FORMS APPROVED BY THE QUEZON CITY ENGINEERING DEPARTMENT. REPRESENTATIVE OF THE GROUND RESISTANCE FOR ELECTRICAL SYSTEMS SHALL NOT BE MORE THAN 5 OHMS. COMMUNICATION (BY WIRING) RESISTANCE SHALL NOT EXCEED 2 OHMS.

	Duplex Convenience Outlet		Orbit Fan with Selector Switch
	Duplex Convenience Outlet (Elev. 0+002.2m)		Lighting/Power Panel
	150mmØ LED Fixture		Circuit Harmonic
	1200mm x 300mm LED tube in Troffer Fixture		Utility Service Meter
	1200mm x 300mm LED tube in Box Type Fixture		Circuit Breaker
	One Gang Switch		Grounding
	Two Gang Switch		100mm x 100mm Ceiling Mounted Exhaust Fan

2 LEGENDS AND SYMBOLS



GENERAL NOTES

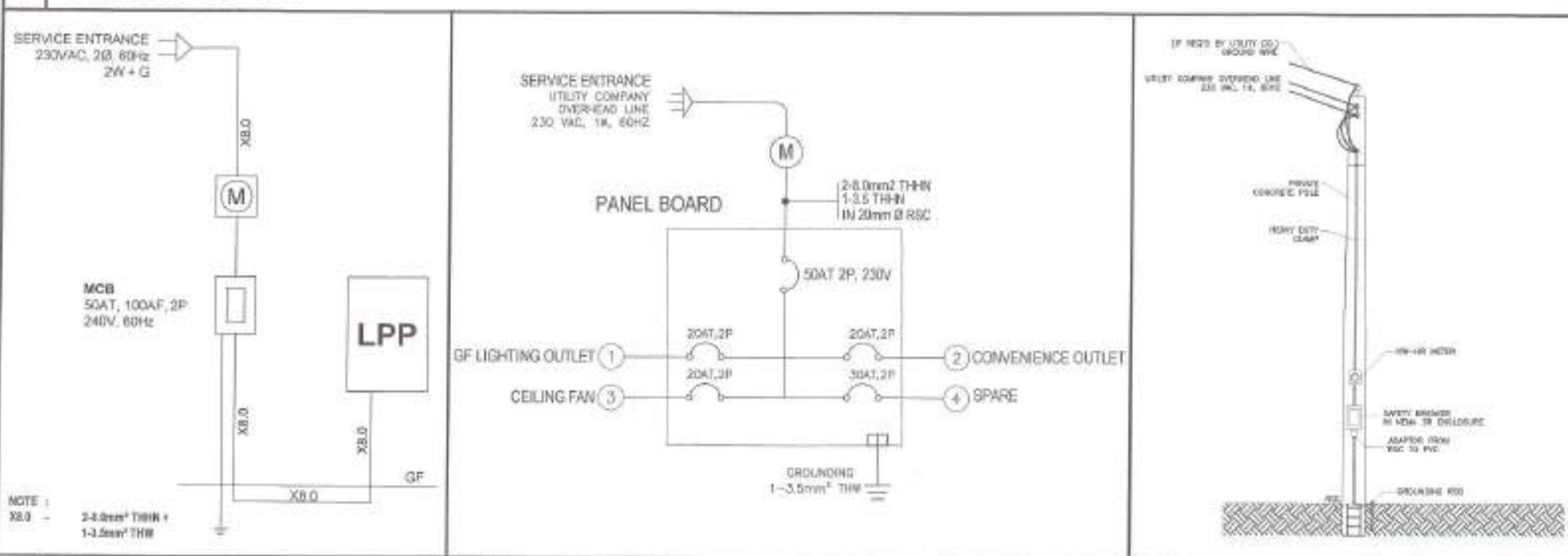
3 CONNECTION DETAIL

<p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DATE: <i>1/2021</i>	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF FREEDOM PARK 5 DAY CARE CENTER	DESIGN BY: <i>LD</i>	 ENGR. LEO S. DEL ROSARIO REG. ELECTRICAL ENGINEER	 ENGR. ISACANI R. VERZOSA, JR. REG. ELECTRICAL ENGINEER	 HON. MA. JOSEFINA G. BELMONTE CITY MGR	GENERAL NOTES LEGENDS AND SYMBOL CONNECTION DETAIL	 EL-01 14/17
	ADDRESS: BAYWISY BATASAN HILLS, DISTRICT 2, QUEZON CITY	REVISION NO.:					

PANEL NAME: LPP			MVA: 50AT, 100AF, 2P, 240V, 60Hz, 2W+G								
CIR. NO.	DESCRIPTION	RATING			OVER CURRENT PROTECTION				SIZE OF WIRE	CONDUIT	
		VA	V	A	RT	RI	R	TYPE		SIZE	TYPE
1	Lighting Outlet	1000	240	4.16	30	100	1	None	2-3.5mm ² THW + 1-2.0mm ² THW	20	PVC
2	Convenience Outlet	1200	240	5.23	30	100	1	None	2-3.5mm ² THW + 1-2.0mm ² THW	20	PVC
3	Spare	1500	240	6.25	30	100	1	None			
4	Spare	2000	240	8.33	30	100	1	None			
TOTAL		6000		23.97							

COMPUTATION $I_L = \frac{S_{Total}}{V}$ $I_L = \frac{6000}{240}$ $I_L = 25.00A$ $I_{Lc} = 25.00A \times 125\%$ $I_{Lc} = 31.25A = 50AT$	NOTE: MVA: 50AT, 100AF, 2P, 240V, 60Hz REFER TO: 2-3.5mm ² THW + 1-2.0mm ² THW IN 20mm Ø RSC
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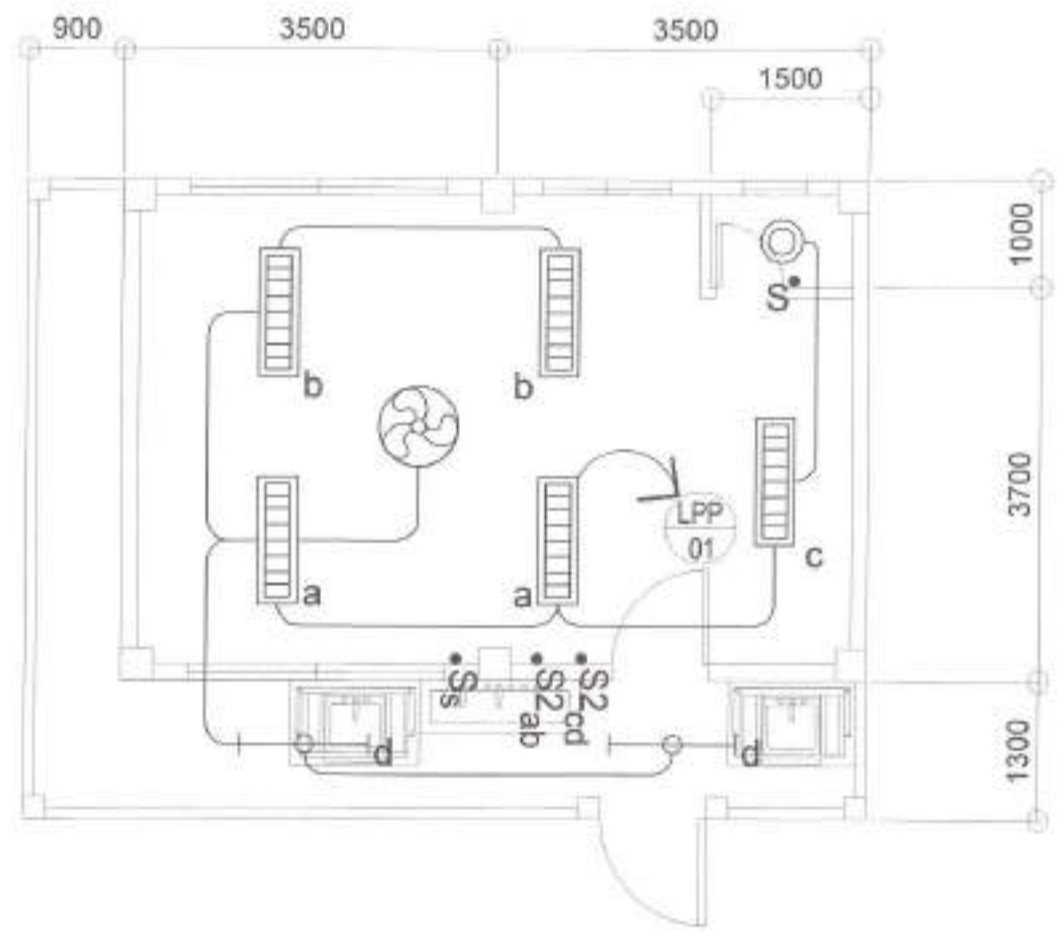
1 SCHEDULE OF LOADS



2 SINGLE LINE DIAGRAM SCALE: NTS **2 PANELBOARD DIAGRAM** SCALE: NTS **4 SERVICE ENTRANCE DETAIL** SCALE: NTS

<p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DESIGNED BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.:
	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF FREEDOM PARK 5 DAY CARE CENTER	DE1001-001	ENGR. LEO S. DEL ROSARIO LMD, PLANNING & REHABILITATION	ENGR. ISAGAN A. VERZOSA, JR. OC, CIVIL ENGINEERING	HON. MA JOSEFINA G. BELMONTE CITY ENGINEER	SCHEDULE OF LOADS SINGLE LINE DIAGRAM PANELBOARD DIAGRAM SERVICE ENTRANCE DETAIL	EL-02 15/17
	REVISION: BARANGAY: BATASAN HILLS, DISTRICT 2, QUEZON CITY	REVISION NO.:					

FREEDOM PARK 5
DED2021_0651

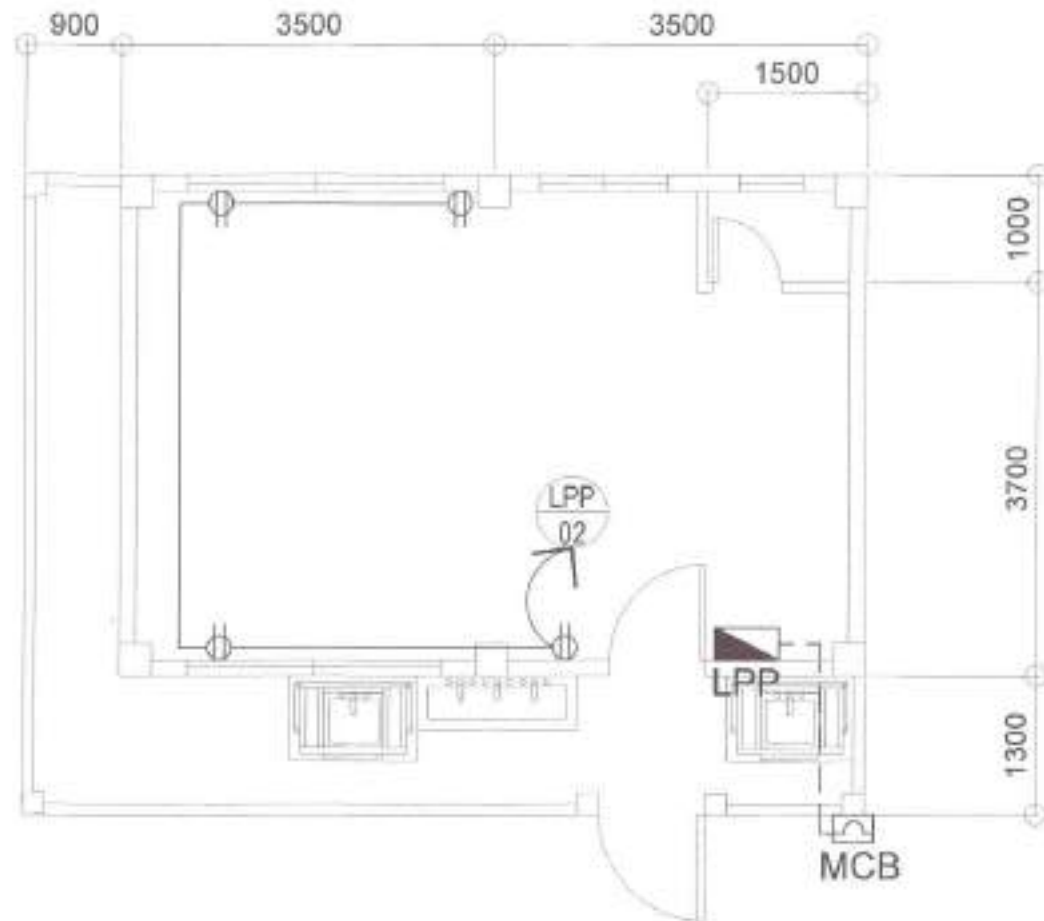


1 PROPOSED LIGHTING LAYOUT

SCALE: 1:50M

<p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DATE: <i>MA</i>	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.
	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF FREEDOM PARK 5 DAY CARE CENTER	DATE: <i>October 1, 2021</i>	<i>MA</i>	<i>MA</i>	<i>MA</i>	PROPOSED LIGHTING LAYOUT	EL-03
	SECTOR: <i>BANGKAY, BATASNAH HILLS, DISTRICT 2, QUEZON CITY</i>	REVISION NO.:	ENGR. LEO S. DEL ROSARIO <i>LEO S. DEL ROSARIO</i>	ENGR. ISAGANI R. VERZOSA, JR. <i>ISAGANI R. VERZOSA, JR.</i>	HON. MA. JOSEFINA G. BELMONTE <i>JOSEFINA G. BELMONTE</i>	16/17	

FREEDOM PARK 5
DED2021_0651



1 PROPOSED POWER LAYOUT

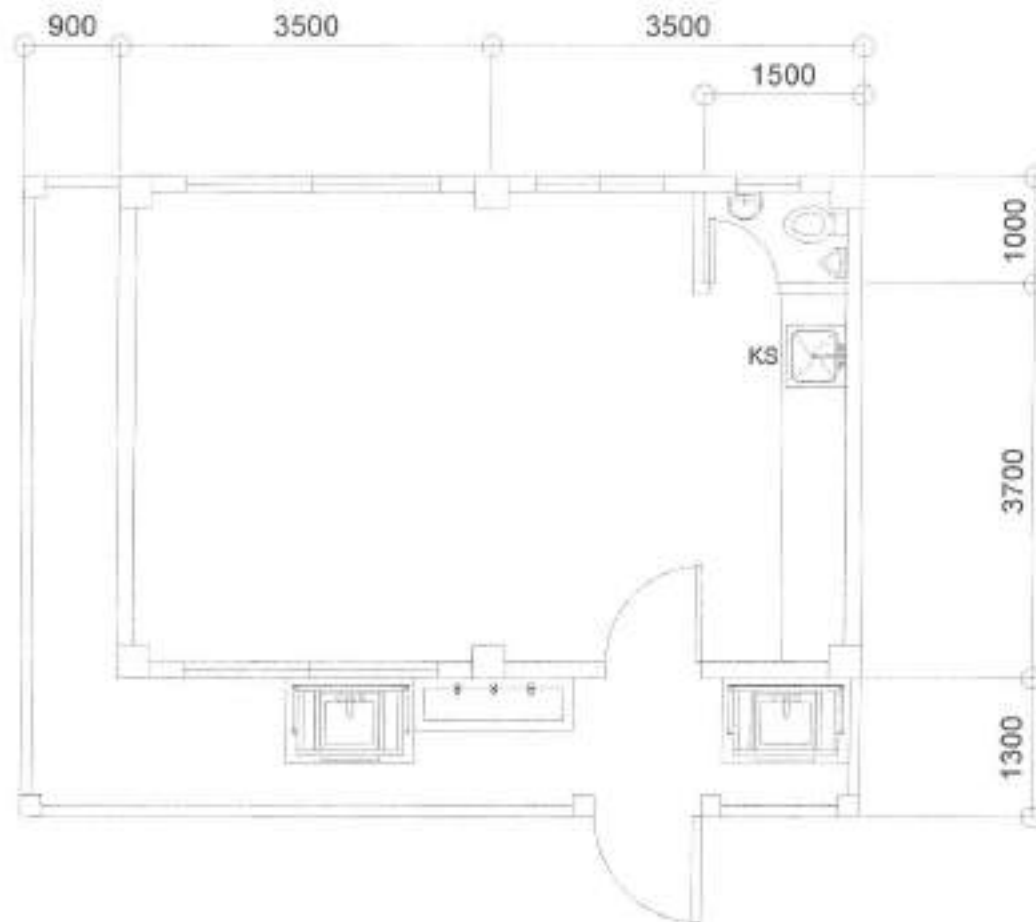
SCALE: 1:50M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

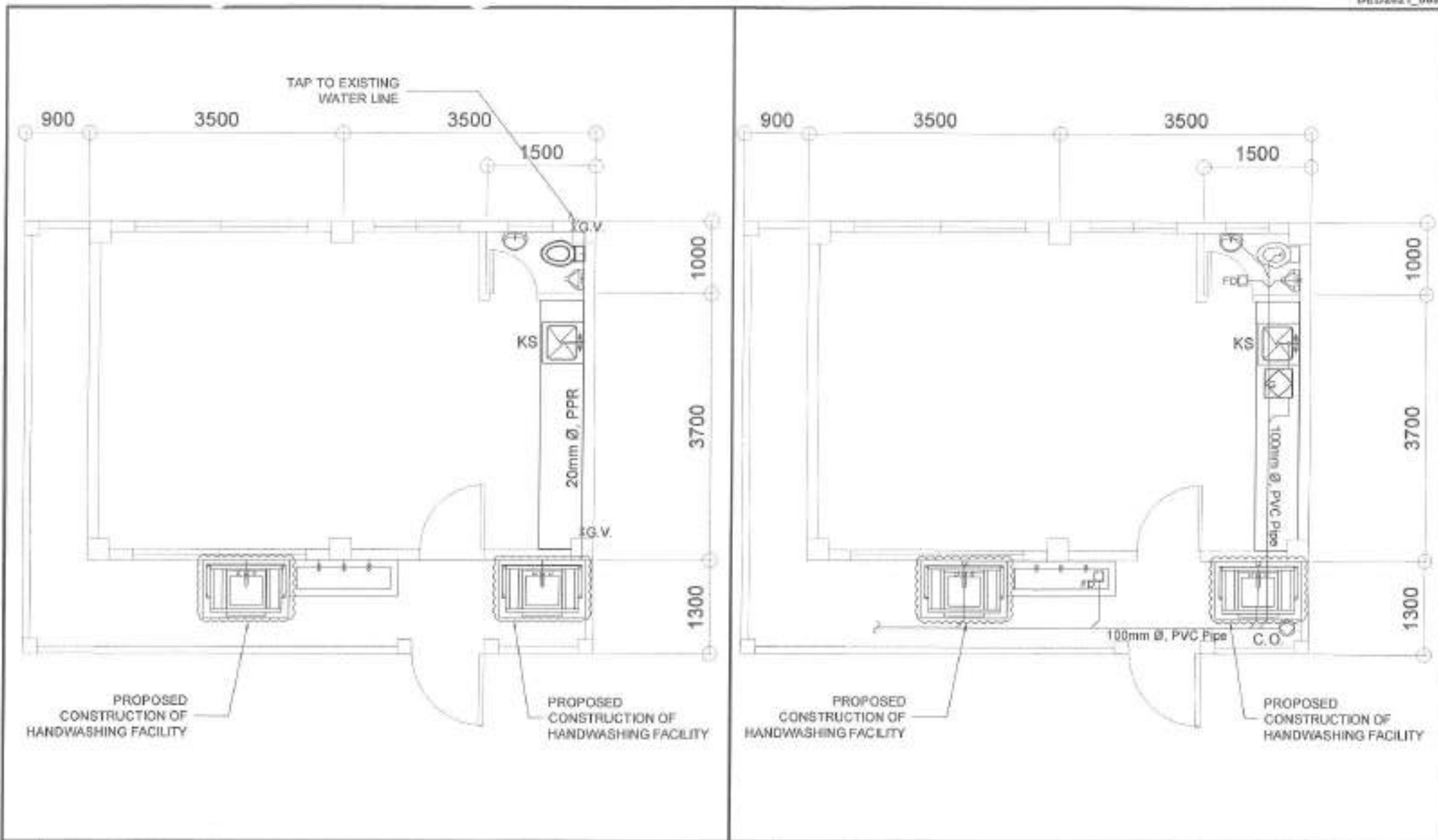
PROJECT TITLE:	DATE SUBMITTED:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF FREEDOM PARK 5 DAY CARE CENTER	2021 December 1, 2021	ENGR. LEO B. DEL ROSARIO REG. ELECTRICAL ENGINEER	ENGR. ISAGANI R. VERZOSA, JR. REG. ELECTRICAL ENGINEER	HON. MA. JOSEFINA G. BELMONTE DTY. MGR.	PROPOSED POWER LAYOUT	EL-04 17/17
LOCATION: BARANGAY BATASAN HILLS, DISTRICT 2, QUEZON CITY	PROJECT NO.:					

- 1 All plumbing work and materials installed herein shall be compliant to the provisions of the latest edition of Uniform Plumbing Code, the rules and regulations of local water law, government, the rules and regulations of local utility companies, and the provisions of the local developer when and where applicable.
- 2 The plumbing layout is only diagrammatic; pipes, elbows and valves shall be concealed as much as possible, if it is not intended to show the actual direction of the pipes and fixtures in the drawing for all fixtures and fixtures shall be installed as and where indicated. Any exception will require proper permission in relation with other trades.
- 3 The plumbing contractor shall verify all existing utilities at the site and shall coordinate the work with other trades.
- 4 Pipes shall not be embedded in structural members unless otherwise specified or allowed.
- 5 Minimum slope for horizontal sewer lines shall be 1% and for drain lines shall be 1/2%.
- 6 Proposed existing utilities shall conform with the actual location, depth and invert elevation that existing conditions.
- 7 Connection of fixtures to pipes and fittings shall be according to manufacturer's specifications.
- 8 All floor drains shall be sealed individually.
- 9 All steel cast borders shall be fast-mounted to wall and shall be provided with polished counter top. (In residential floor only except of less or grade and service areas not subject to traffic).
- 10 All underground G.I. pipes in direct contact with soil shall be provided with two (2) coats of protective for coating and wrapped with jute cloth thoroughly soaked in tar or asphalt.
- 11 Provide vent stacks and vent pipe this roof of cast iron service weight as required.
- 12 All cold water pipes shall be of approved quality and (1) pipes for water distribution lines shall be Schedule 40 US standard weight.
- 13 Provide gate valves in all water supply lines to fixtures.
- 14 All hot water lines shall be provided with proper insulation when exposed.
- 15 All attached fixtures to fixtures or groups of fixtures and/or equipments shall be provided with air conditioner capped vertical pipe unless otherwise indicated as shown.
- 16 H=40 mm for 10 mm Ø and larger.
- 17 H=30 mm for 12 mm Ø and smaller.
- 18 All floor drains shall be 75 mm Ø CIP (GI) unless otherwise indicated.
- 19 All pipes of supply shall be 20 mm higher than the drain pipe which is 20 mm higher than the subdrain.
- 20 All plumbing work and transfer of construction shall be under the direct supervision of an duly and duly licensed Master Plumber or Registered Sanitary Engineer. Any discrepancies found in plan shall be notified before any process.



1. KEYINGS AND OTHER LEGEND

FB	FLOOR FINISH
DC	DOCK DRAIN
SH	SHOWERS
WC	WATER CLOSET
LV	LAVATORY
UB	URINALS
ES	EXIT SIGNAGE
MS	MISCELLANEOUS
DD	DECK DRAIN
CO	COLD WATER
COO	COLD WATER CLOSING
COE	COLD WATER CLEANOUT
CR	COURTYARD
CH	CHIMNEY
WC	WATER CLOSING
WCW	WATER DRAIN
CB	CATCH BASIN
HW	WORKING
CH	CHIMNEY
CD	COLD WATER
CC	COLD WATER CLEANOUT
CR	COURTYARD
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WCW	WATER DRAIN
CB	CATCH BASIN
HW	WORKING
CH	CHIMNEY
CD	COLD WATER
COO	COLD WATER CLEANOUT
CR	COURTYARD
CH	CHIMNEY
WC	WATER CLOSING
WCW	WATER DRAIN
CB	CATCH BASIN
HW	WORKING
CH	CHIMNEY
CD	COLD WATER
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CH	CHIMNEY
WC	WATER CLOSING
WCW	WATER DRAIN
CB	CATCH BASIN
HW	WORKING
CH	CHIMNEY
CD	COLD WATER
COO	COLD WATER CLEANOUT
CR	COURTYARD



1

PROPOSED GROUND FLOOR WATER LINE LAYOUT

SCALE: 1:50M

2

PROPOSED GROUND FLOOR SANITARY LINE LAYOUT

SCALE: 1:50M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND
REHABILITATION OF FREEDOM PARK 5
DAY CARE CENTER

LOCATION:

9901, BATAAN HILLS, DISTRICT 2, QUEZON CITY

DRAWN BY:

DATE: 01-2021

CHECKED BY:

REVISION NO.:

SUBMITTANT:

ENGR. LEO S. DEL ROSARIO
RMC, PLANNING & PROGRAMS DIVISION

RECOMMENDING APPROVAL:

ENGR. SAGOR R. VERZOSA, JR.
DC, CITY ENGINEERING DEPARTMENT

APPROVED BY:

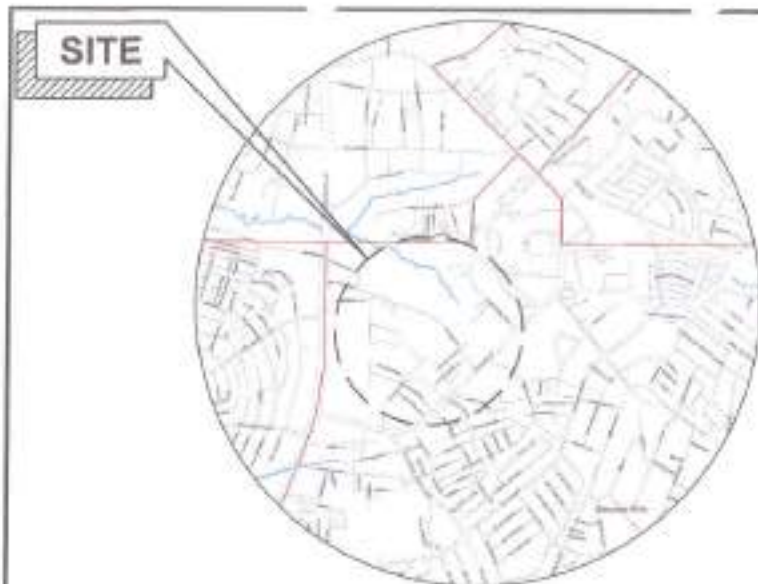
HON. RA. JOSEFINA G. BELMONTE
CITY MAYOR, QUEZON CITY

SHEET CONTENT:

PROPOSED GROUND FLOOR
SANITARY LINE LAYOUT
PROPOSED GROUND FLOOR
WATER LINE LAYOUT

SHEET NO.:

PL-02
13/17

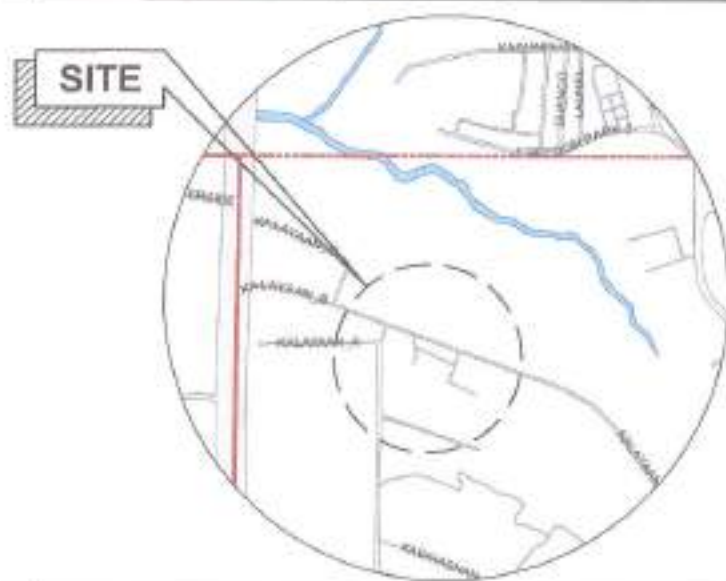


1 LOCATION MAP

SCALE: NTS



3 PERSPECTIVE



2 VICINITY MAP

SCALE: NTS



4 SITE DEVELOPMENT PLAN

SCALE: NTS

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	KALAYAAN B & B3 SECOND FLOOR POWER LAYOUT



PROJECT TITLE:
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF KALAYAAN B DAY CARE CENTER

LOCATION:
 BRGY. BATAAN HILLS, DISTRICT 7, BEEZON CITY

DESIGNED BY:
 DATE: 5/1/2021

CHECKED BY:
 DATE: July 5

REVISION NO.:

DESIGNED BY:
 ENGR. VEO S DEL ROSARIO
 TRAP. PLUMBING & REHABILITATION

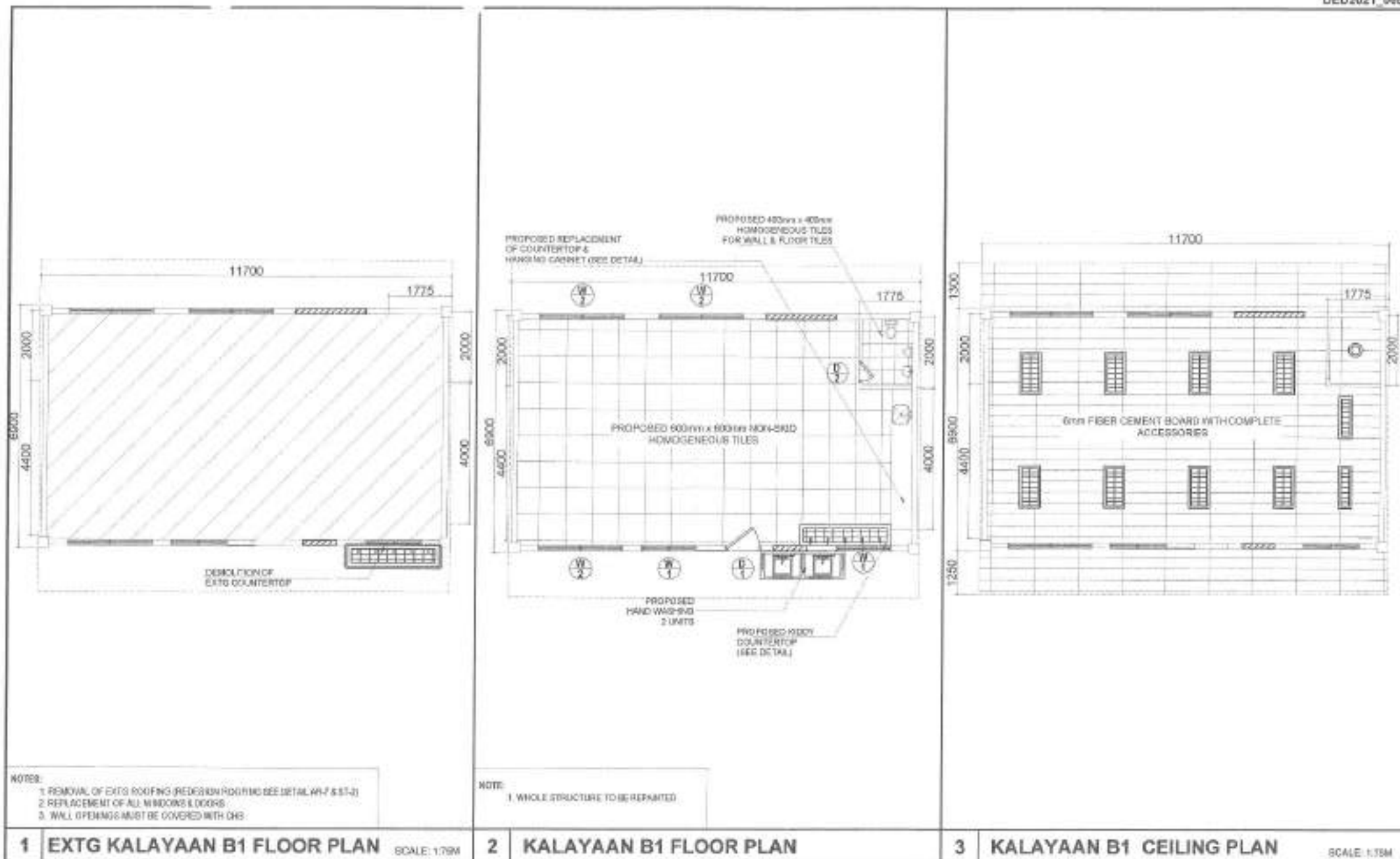
RECOMMENDING APPROVAL:
 ENGR. EDUARDO H. VERZOSA, JR.
 REG. CIVIL ENGINEER (RCEP) 018478

APPROVED BY:
 HON. NA. JOSEFINA G. BELMONTE
 CITY ENGINEER, QUEZON CITY

SHEET NO. 01
 SHEET TOTAL: 01

WOMNY MAP
 LOCATION MAP
 SITE DEVELOPMENT PLAN

AR-1
 01/24



1

EXTG KALAYAAN B1 FLOOR PLAN

SCALE: 1:75M

2

KALAYAAN B1 FLOOR PLAN

3

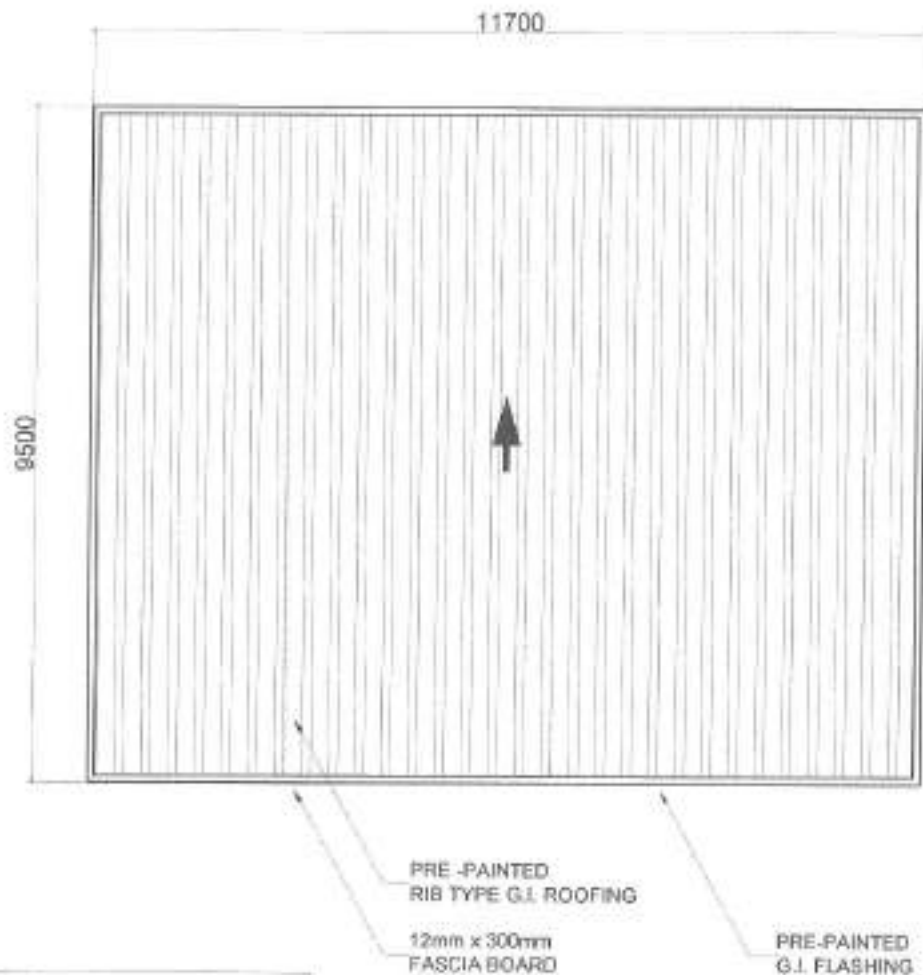
KALAYAAN B1 CEILING PLAN

SCALE: 1:75M



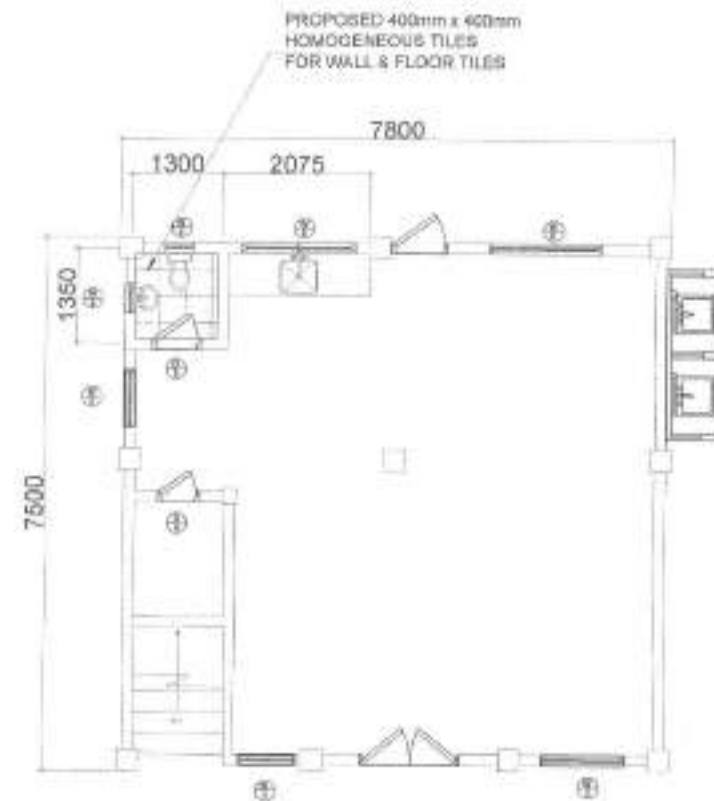
Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE: PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF KALAYAAN B DAY CARE CENTER	DATE: 6.1.2023	SUBMITTED BY: 	RECOMMENDING APPROVAL: 	APPROVED BY: 	SHEET CONTENT: EXISTING KALAYAAN B1 FLOOR PLAN KALAYAAN B1 FLOOR PLAN KALAYAAN B1 CEILING PLAN	SHEET NO: AR-2 02/24
LOCATION: BRGY. DATARAN HILLS, DISTRICT 2, QUEZON CITY	CHECKED BY: JAR	ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAMS DIVISION	ENGR. SALVADOR R. VERZOSA, JR. CH. OF CIVIL ENGINEERING DEPARTMENT	HON. NA. JOSEFINA G. BELMONTE CITY MAYOR, QUEZON CITY		



NOTE:

1. ROOFING TO BE REPLACED



1 KALAYAAN B1 ROOFING PLAN

SCALE: 1:75M

2 KALAYAAN B2 FLOOR PLAN

SCALE: 1:75M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND
REHABILITATION OF KALAYAAN B
DAY CARE CENTER

LOCATION:

BRGY. SAFARIHILLS, DISTRICT 2, QUEZON CITY

DRAWN BY:

DATE: 6/1/2021

CHECKED BY:

REVISION NO.:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING PROGRAM DIVISION

RECOMMENDING APPROVAL:

ENGR. ROSAMON R. YERZOSA, JR.
DE. CITY ENGINEERING DEPARTMENT

APPROVED BY:

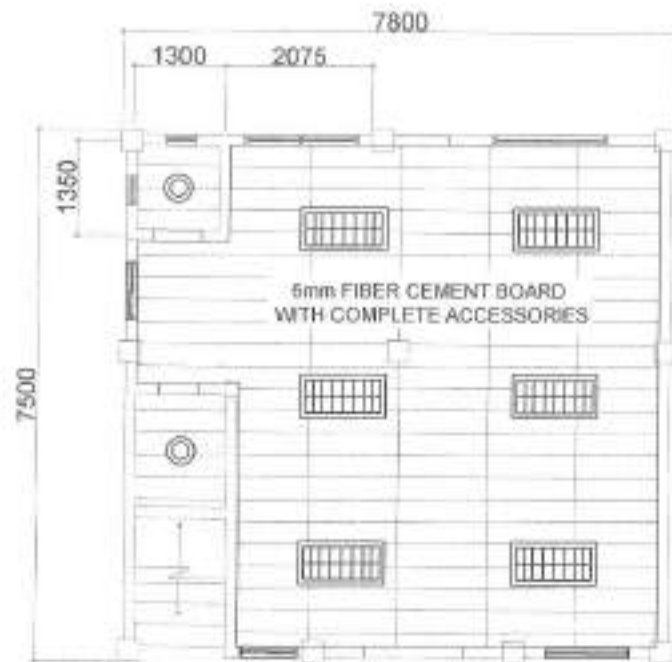
HON. MA. JOSEFINA S. BELMONTÉ
CITY MAJOR, QUEZON CITY

SHEET NO./TOT. SHEETS:

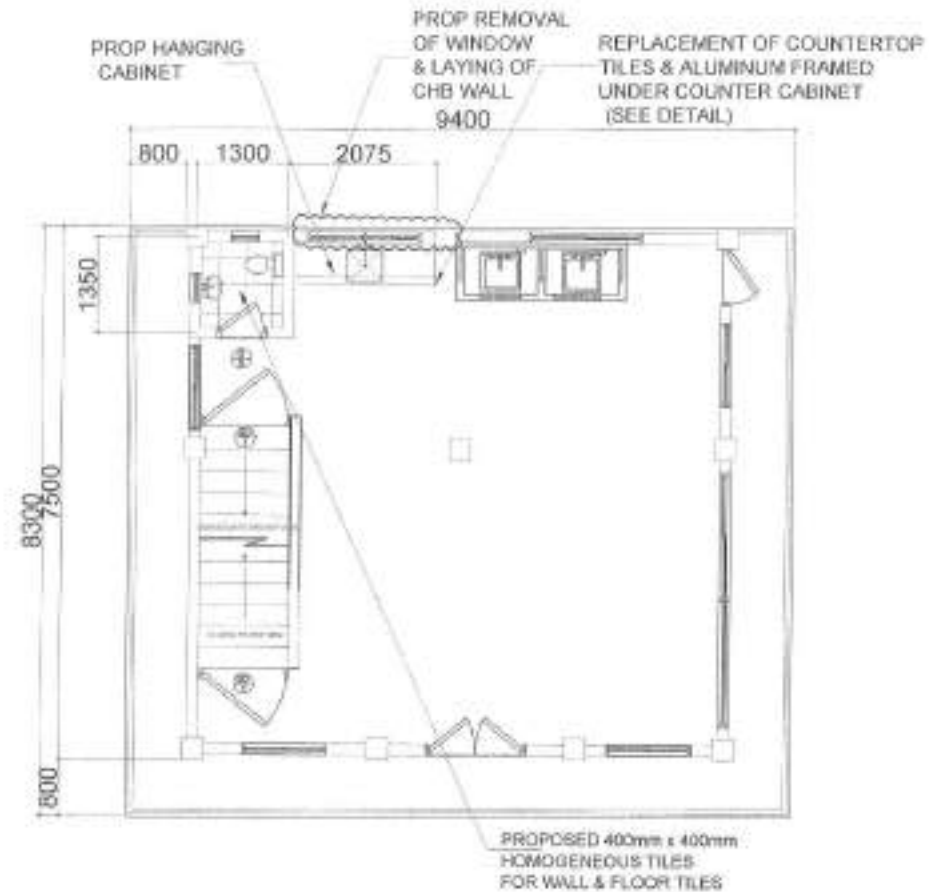
KALAYAAN B1
ROOFING PLAN
KALAYAAN B2
FLOOR PLAN

SHEET NO.:

AR-3
03/24



NOTE:
1. CEILING TO BE REPAINTED



1 KALAYAAN B2 REFLECTED CEILING PLAN

2 KALAYAAN B3 FLOOR PLAN

SCALE: 1:50M

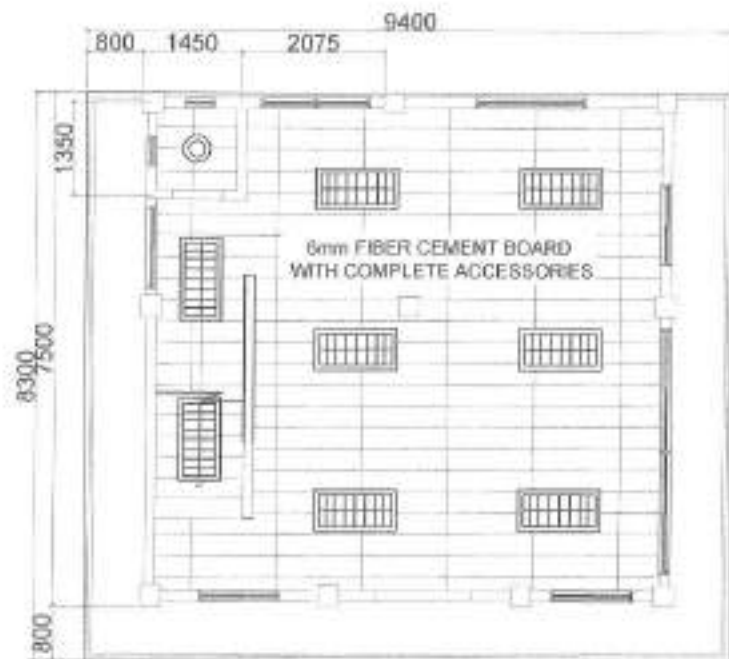


Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:	DESIGNED BY:	CHECKED BY:	REVISIONS:	DATE:	DATE:	DATE:	DATE:	DATE:	DATE:
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF KALAYAAN B DAY CARE CENTER	ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAM DIVISION	ENGR. MARVIN R. VERZOSA, JR. C.E. CITY ENGINEERING DEPARTMENT	HON. SA. JOSEFINA G. BELMONTÉ CITY MARCH - QUEZON CITY						
LOCATION: BRGY. BAKANGANHILLS, DISTRICT 2, QUEZON CITY									

KALAYAAN B3
REFLECTED CEILING
KALAYAAN B3
FLOOR PLAN

AR-4
04/24



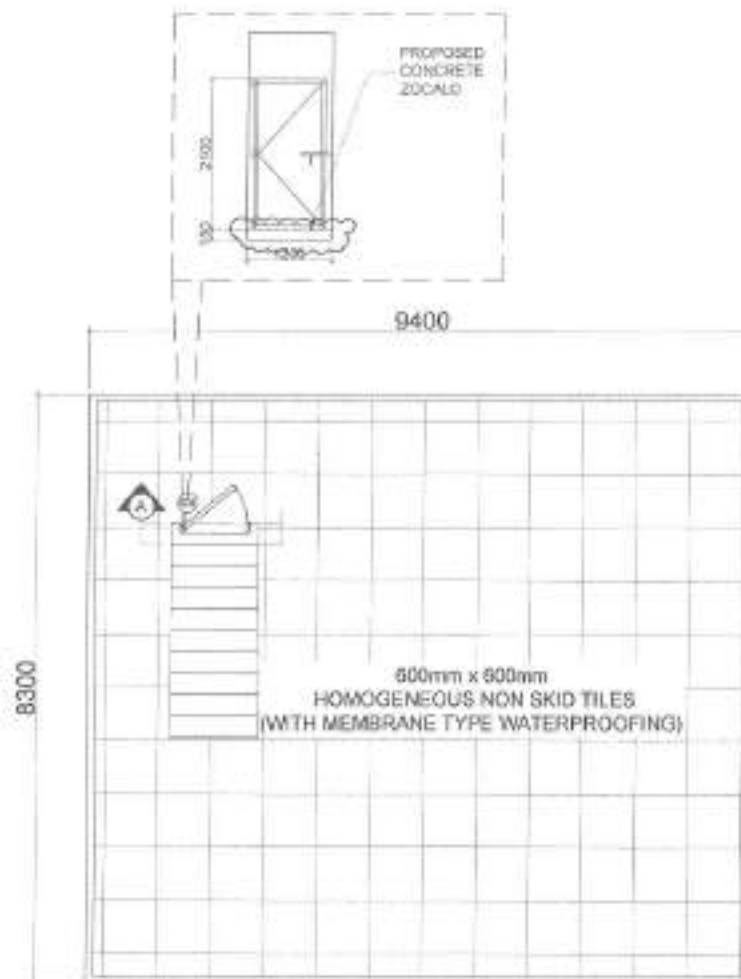
NOTE:
1. CEILING TO BE REPAIRED

1 KALAYAAN B3 REFLECTED CEILING PLAN

SCALE: 1:75M

2 KALAYAAN B3 ROOF DECK PLAN

SCALE: 1:50M



NOTE:
1. TILES TO BE REPLACED



Republika ng Pilipinas
Lungsod ng Davao
CITY ENGINEERING DEPARTMENT

PROJECT TITLE -
PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND
REHABILITATION OF KALAYAAN B
DAY CARE CENTER

LOCATION -
1917Y, BAYANAN HILLS, DISTRICT 2, DAVAO CITY

DRAWN BY: *JS*
DATE: 07.2021
CHECKED BY: *JS*
REVISION:

SUBMITTED BY:
[Signature]
ENGR. LEO S. DEL ROSARIO
HEAVY PLANNING & PROGRAMMING DIVISION

RECOMMENDING APPROVAL:
[Signature]
ENGR. WILFANI R. VERZOSA, JR.
DC, CITY ENGINEERING DEPARTMENT

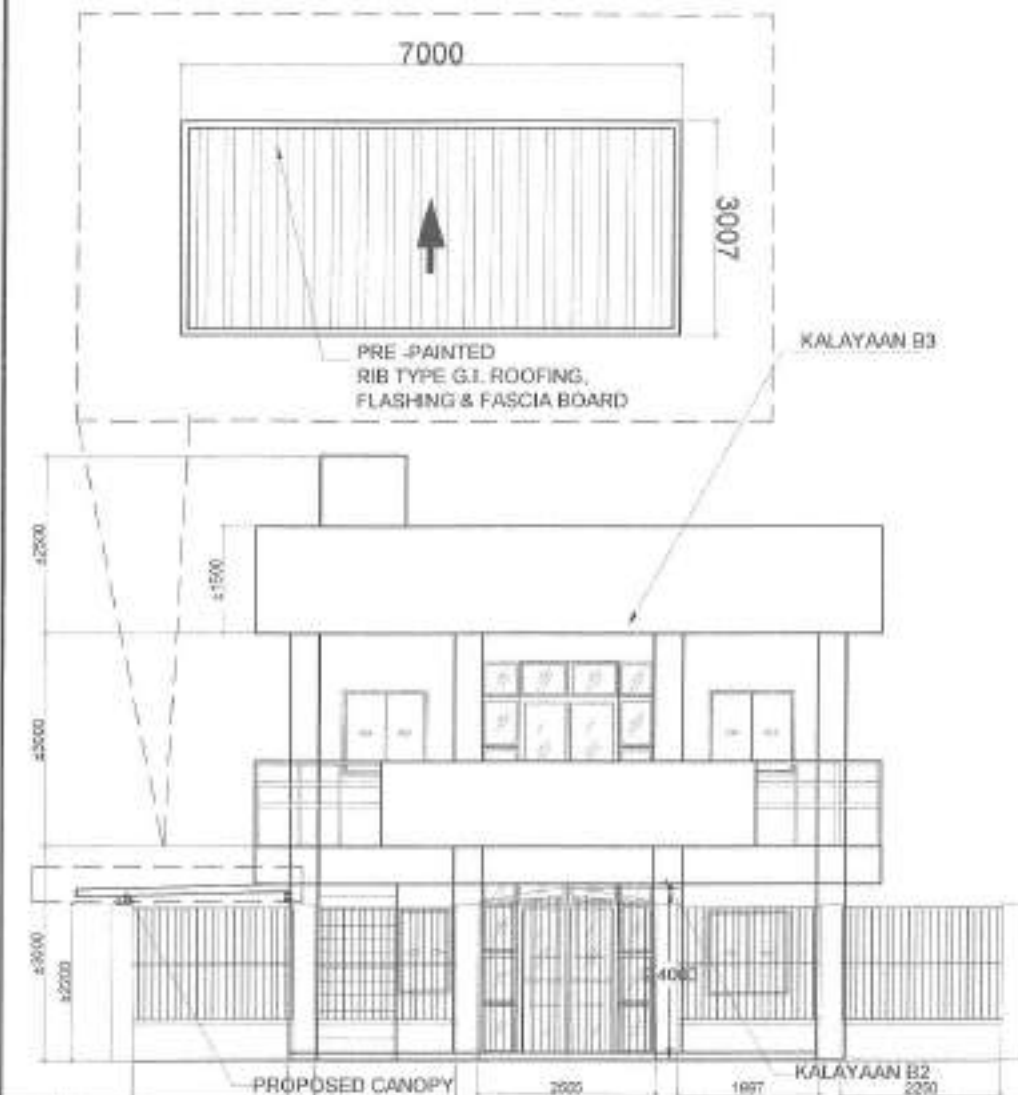
APPROVED BY:
[Signature]
HON. RA. JOSEFINA S. BELMONTE
CITY MANSR. DAVAO CITY

SHEET CONTENT
KALAYAAN B3 REFLECTED
CEILING PLAN
KALAYAAN B3 ROOF
DECK PLAN

SHEET NO.
AR-5
05/24

NOTES:

1. REPAINTING OF EXTC CHG FENCE
2. REPAINTING OF EXTC STEEL MEMBERS OF FENCE AND EXTC STEEL GATE

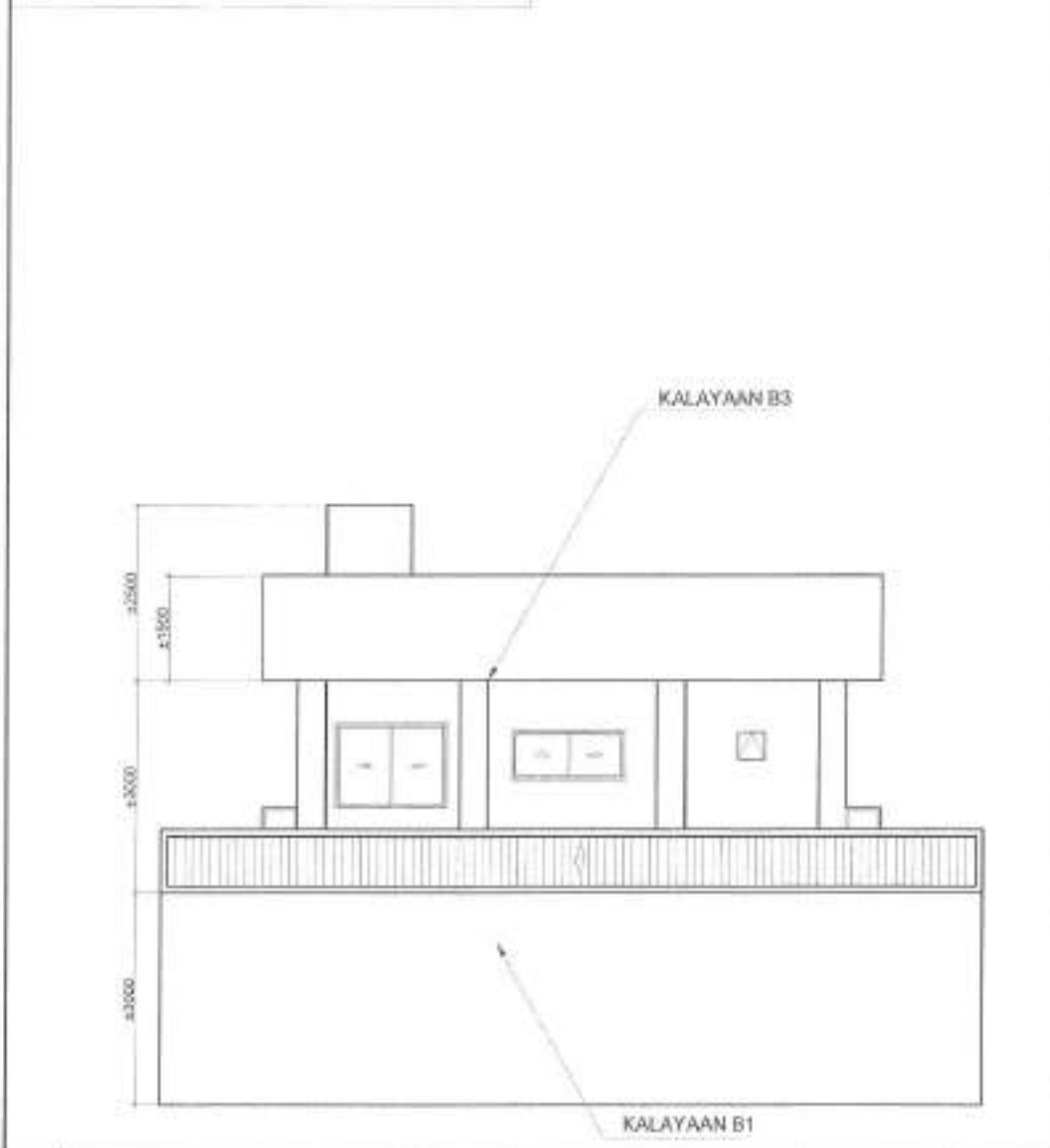


1 FRONT ELEVATION

SCALE: 1/75M

NOTES:

1. REPAINTING OF EXTERIOR AND INTERIOR CHG WALL (KALAYAAN B1 ONLY)
2. REPAINTING OF EXTC CHG FENCE
3. REPAINTING OF EXTC STEEL MEMBERS OF FENCE AND EXTC STEEL GATE



2 REAR ELEVATION

SCALE: 1/75M



Republic of the Philippines
 Lungsod ng Quezon
 CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED CONSTRUCTION OF HAND
 WASHING FACILITY AND
 REHABILITATION OF KALAYAAN B
 DAY CARE CENTER

LOCATION:
 BRGY. BATAWAN HILLS, DISTRICT 7, QUEZON CITY

DRAWN BY:

DATE: 07/2021

CHECKED BY:

RESPONSE NO.:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
 HEAD, PLANNING & PROGRAMMING DIVISION

RECOMMENDED APPROVAL:

ENGR. ISAAC R. VERZOSA, JR.
 CHIEF, PLANNING & PROGRAMMING DIVISION

APPROVED BY:

HON. MA. JOSEFINA G. BELMONTE
 CITY ENGINEER, QUEZON CITY

SHEET CONTENT:

FRONT ELEVATION
 REAR ELEVATION

SHEET NO.:

AR-6
 06/24

KALAYAAN B3

NOTES

1. REPAIRING OF EXTERIOR AND INTERIOR CHG WALL (KALAYAAN B1 ONLY)
2. REPAIRING OF EXISTING FENCE
3. REPAIRING OF EXISTING STEEL MEMBERS OF FENCE AND EXISTING STEEL GATE



1 RIGHT SIDE ELEVATION

SCALE: 1:100H

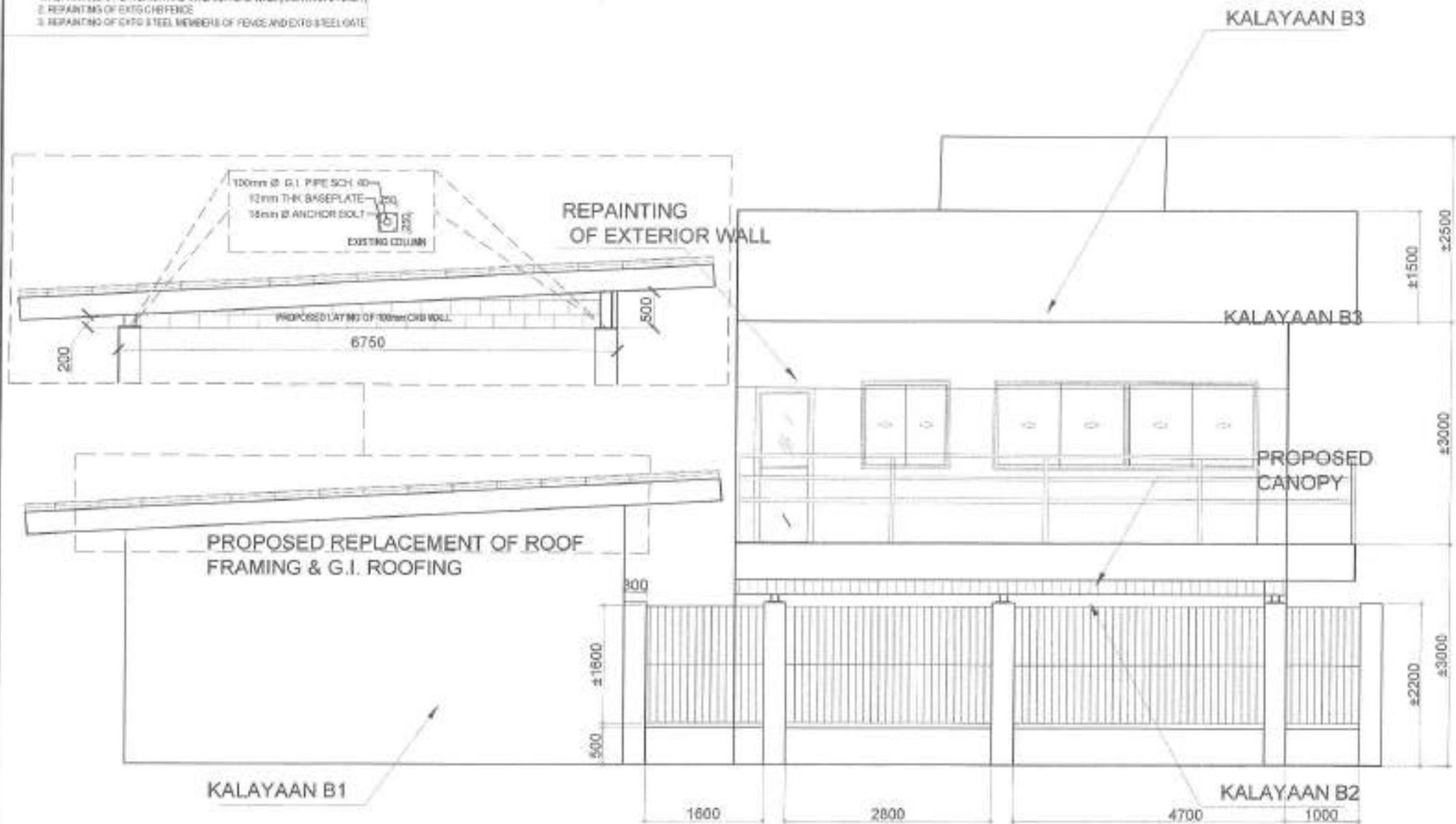


Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE	DRAWN BY	SUBMITTED BY	RECOMMENDING APPROVAL	APPROVED BY	DIST. CONTROL	DATE
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF KALAYAAN B DAY CARE CENTER	DATE: 6.7.2021 CHECKED BY: JAR REVISION:	ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAMMING DIVISION	ENGR. SAMAN R. VERZORA, JR. CITY ENGINEERING DEPARTMENT	HON. MA. JOSEFINA G. BELMONTE CITY ENGINEER - QUEZON CITY	RIGHT SIDE ELEVATION	AR-7 07/24

NOTES:

1. REPAINTING OF EXTERIOR AND INTERIOR CHB WALL (JALAYAN 510MLY)
2. REPAINTING OF EXISTING FENCE
3. REPAINTING OF EXISTING STEEL MEMBERS OF FENCE AND EXISTING STEEL GATE



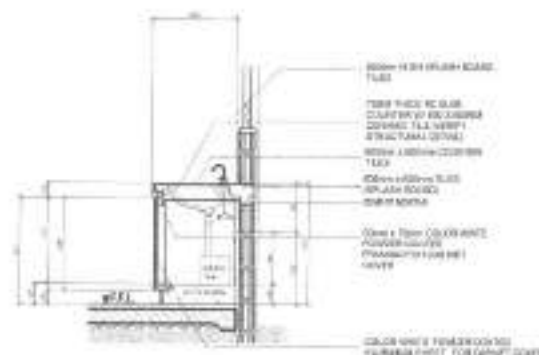
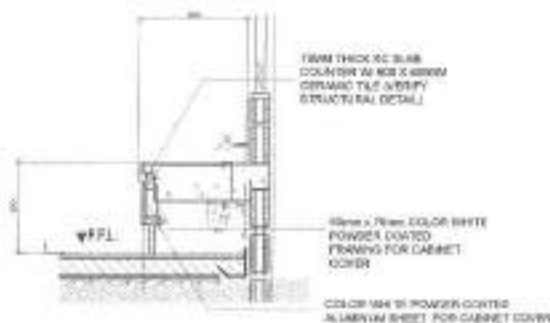
1 LEFT SIDE ELEVATION

SCALE: 1:10M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE: PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF KALAYAAN B DAY CARE CENTER	DRAWN BY: DATE: 5/7/2021	SUBMITTED BY: 	REVISIONS APPROVAL: 	APPROVED BY: HOW, MA. JOSEFINA G. BELMONTÉ CITY ENGINEER	SHEET CONTENT: LEFT SIDE ELEVATION	SHEET NO.: AR-8 08/24
LOCATION: NEW BATAVIA HILLS, DISTRICT 2, QUEZON CITY	CHECKED BY: JAN ✓	ENGR. LEO S. DEL ROSARIO HEAD, PLANNING PROGRAM DIVISION	ENGR. ISIDRO R. VERZOSA, JR. C.E. - CIVIL ENGINEERING DEPARTMENT			

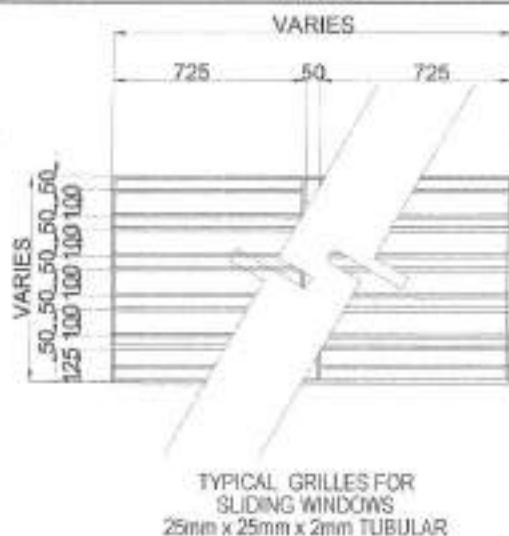


1 KIDDY COUNTERTOP
DETAILS

SCALE: 1:20M

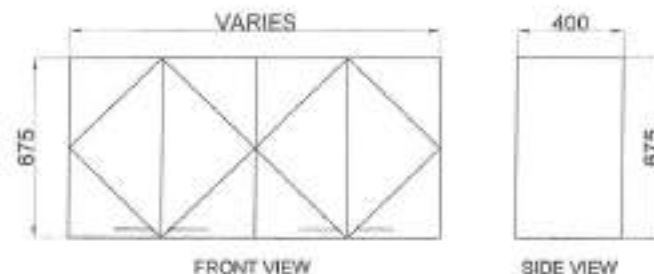
2 STANDARD COUNTERTOP
WITH SINK DETAILS

SCALE: 1:20M



3 TYPICAL GRILLES FOR
SLIDING WINDOWS

SCALE: 1:20M



PROP HANGING CABINET
18mm THK MARINE PLYWOOD
PAINTED FINISH
w/ LOCKING MECHANISM

4 HANGING CABINET DETAILS

SCALE: 1:20M



Republika ng Pilipinas
Lungsod ng Cebu
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
**PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND
REHABILITATION OF KALAYAAN B
DAY CARE CENTER**

LOCATION:
MAYOR NATASAHILLS, DISTRICT 2, CEBU CITY

DESIGNED BY:
DATE: 04.2021

CHECKED BY:
REVISION NO.:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
HEAD, CLASSICAL PROGRAMMING DIVISION

RECOMMENDED BY APPROVAL:

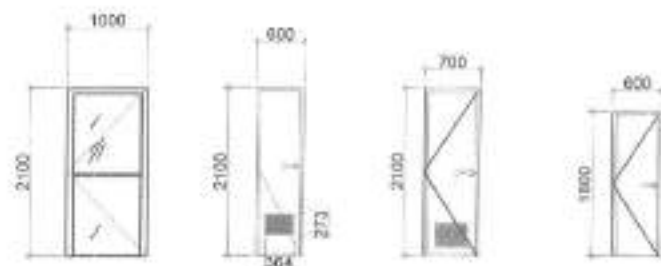
ENGR. ISAGANI R. VERZOSA, JR.
C.E. CITY ENGINEERING DEPARTMENT

APPROVED BY:

HON. MA. JOSEFINA G. BELMONTE
CITY MAYOR - CEBU CITY

SHEET CONTENT:
STANDARD
COUNTERTOP DETAILS
HANGING CABINET
DETAILS
TYPICAL GRILLES
DETAILS
STANDARD LEFTHAND
DETAILS

SHEET NO.:
AR-9
09/24

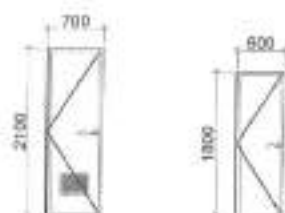


DESCRIPTION	⊕	⊕	⊕	⊕
DOOR	GLASS WINDOW with CLEAR TEMPLERED GLASS ON WHITE COLOR POWDER COATED ALUMINUM FRAMES	SLIDING TYPE PVC DOOR PAINTED PINK/WHITE (W/ST)	SLIDING TYPE PVC DOOR PAINTED PINK/WHITE (W/ST)	SLIDING TYPE PUSH DOOR PAINTED PINK/WHITE (W/ST)
HARDWARE/FINISH	COMPLETE ACCESSORIES	COMPLETE ACCESSORIES (LOCK-TYPE WITH STAINLESS STEEL)	COMPLETE ACCESSORIES (LOCK-TYPE WITH STAINLESS STEEL)	COMPLETE ACCESSORIES (LOCK-TYPE WITH STAINLESS STEEL)
NO. OF ITEMS	1	1	1	1

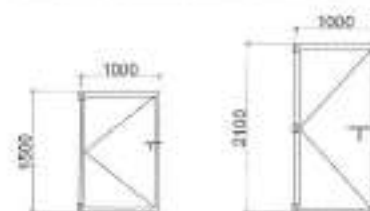


DESCRIPTION	⊕	⊕
WINDOW	SLIDING WINDOW with CLEAR TEMPLERED GLASS ON WHITE COLOR POWDER COATED ALUMINUM FRAMES	SLIDING WINDOW with CLEAR TEMPLERED GLASS ON WHITE COLOR POWDER COATED ALUMINUM FRAMES
HARDWARE/FINISH	PROVIDE WITH COMPLETE ACCESSORIES AND GRILLS	PROVIDE WITH COMPLETE ACCESSORIES AND GRILLS
NO. OF ITEMS	2	2

1 SCHEDULE OF DOORS AND WINDOWS AT KALAYAAN B1



DESCRIPTION	⊕	⊕
DOOR	SLIDING TYPE PVC DOOR WITH CLEAR TEMPLERED GLASS ON WHITE COLOR POWDER COATED ALUMINUM FRAMES	SLIDING TYPE PUSH DOOR PAINTED PINK/WHITE (W/ST)
HARDWARE/FINISH	COMPLETE ACCESSORIES (LOCK-TYPE WITH STAINLESS STEEL)	COMPLETE ACCESSORIES (LOCK-TYPE WITH STAINLESS STEEL)
NO. OF ITEMS	1	1



DESCRIPTION	⊕	⊕
DOOR	STEEL DOOR	STEEL DOOR
HARDWARE/FINISH	COMPLETE ACCESSORIES WITH HANDLE, KEY	COMPLETE ACCESSORIES WITH HANDLE, KEY
NO. OF ITEMS	2	1

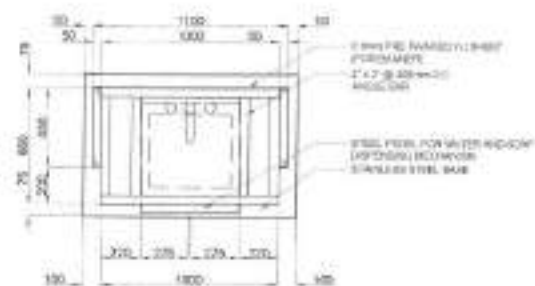
2 SCHEDULE OF DOORS AT KALAYAAN B2 & B3

SCALE: 1:50M

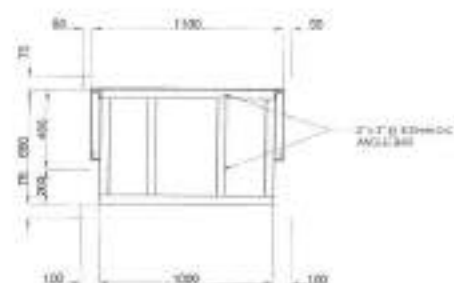


Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE: PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF KALAYAAN B DAY CARE CENTER	DRAWN BY: DATE: 8.7.2021 CHECKED BY: DESIGNER/NO.:	SUBMITTED BY: ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & RECONSTRUCTION DIVISION	RECOMMENDING APPROVAL: ENGR. MARIANNE R. VERZOSA, JR. CITY ENGINEERING DEPARTMENT	APPROVED BY: HON. MA. JOSEFINA G. BELMONTE CITY MAJOR, QUEZON CITY	SHEET CONTENT: KALAYAAN B FLOOR PLAN	SHEET NO. AR-10 10/24
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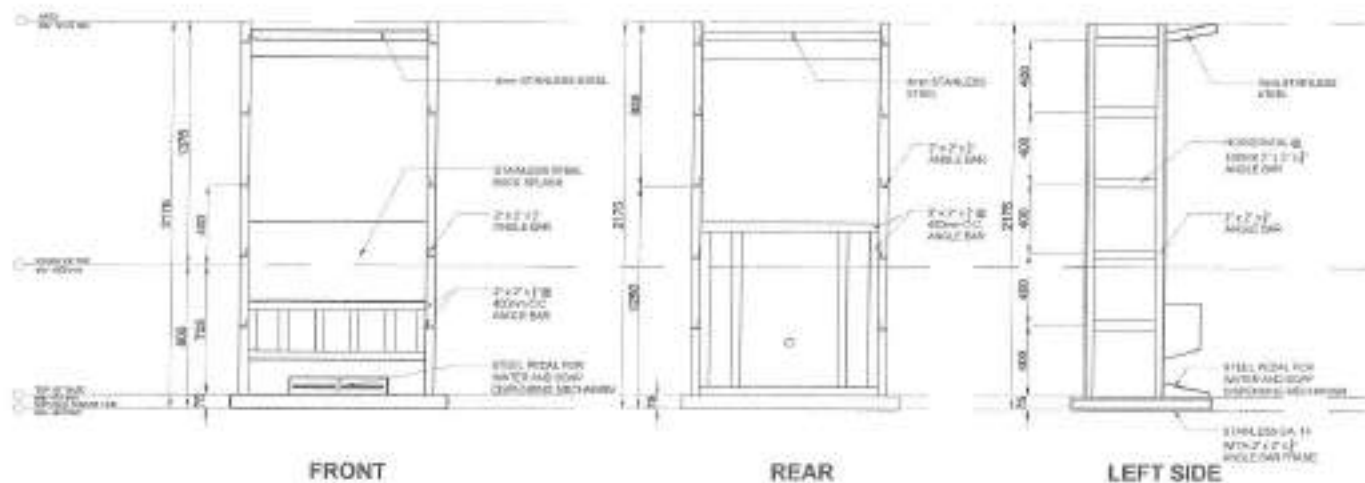
PLAN



ROOF PLAN

1 SINGLE SINK PORTABLE HAND WASHING STALL PLAN

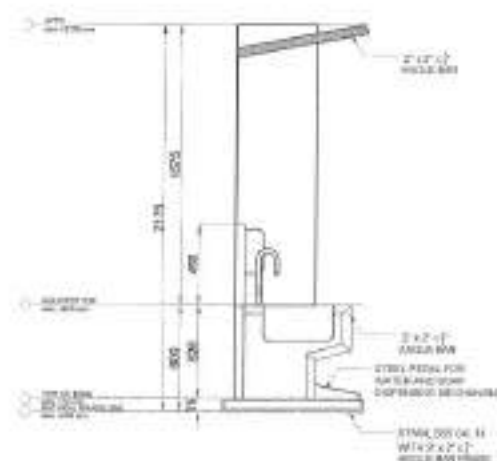
SCALE: 1:30M



FRONT

REAR

LEFT SIDE



2 ELEVATIONS

SCALE: 1:30M

3 TYPICAL SECTION

SCALE: 1:30M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
**PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND
REHABILITATION OF KALAYAAN B
DAY CARE CENTER**

LOCATION:
BAY BATAK HILLS DISTRICT 7, QUEZON CITY

DESIGNED BY:
DATE: 03.2021

CHECKED BY:
JRE

DESIGNED NO.:

APPROVED BY:
ENGR. LEO S. DEL ROSARIO
MEM. PLANNING & REHABILITATION DIVISION

RECOMMENDING APPROVAL:
ENGR. RAJAN R. VERZOGA, JR.
D.C. CITY ENGINEERING DEPARTMENT

APPROVED BY:
HON. MA. JOSEFINA G. BELMONTE
CITY MAJOR, QUEZON CITY

SHEET CONTENT:
SINGLE SINK PORTABLE
HAND WASHING STALL
PLAN
ELEVATIONS & SECTION

SHEET NO.
ST-01
11/24

GENERAL

- CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE LOCAL ORDINANCES, SPECIFICATIONS, STANDARDS, CODES, REGULATIONS, AND OTHER REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE ANY WORK IS BEGUN. CHECK WITH MECHANICAL AND ELECTRICAL CONTRACTORS FOR COORDINATION, PERMITS, ETC. TO BE OBTAINED IN ADVANCE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY BRACING AND SHORING FOR ALL CONCRETE WORK. BRACING SHALL BE DESIGNED AND CONSTRUCTED BY THE CONTRACTOR. BRACING SHALL BE REMOVED AS SOON AS IT IS SAFE TO DO SO. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.

CONCRETE & REINFORCEMENT

- ALL CONCRETE SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND THE LATEST EDITIONS OF THE SPS AND SPO.
- ALL CONCRETE SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND THE LATEST EDITIONS OF THE SPS AND SPO.
- ALL REINFORCEMENT SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND THE LATEST EDITIONS OF THE SPS AND SPO.

NO.	DESCRIPTION	QUANTITY	UNIT	REMARKS
1	CONCRETE	1000.00	CUM	
2	REINFORCEMENT	1000.00	KG	
3	FORMWORK	1000.00	SQ. M	
4	STEEL BRACING	1000.00	KG	
5	SHORING	1000.00	SQ. M	

11. CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE LOCAL ORDINANCES, SPECIFICATIONS, STANDARDS, CODES, REGULATIONS, AND OTHER REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.

FOUNDATION

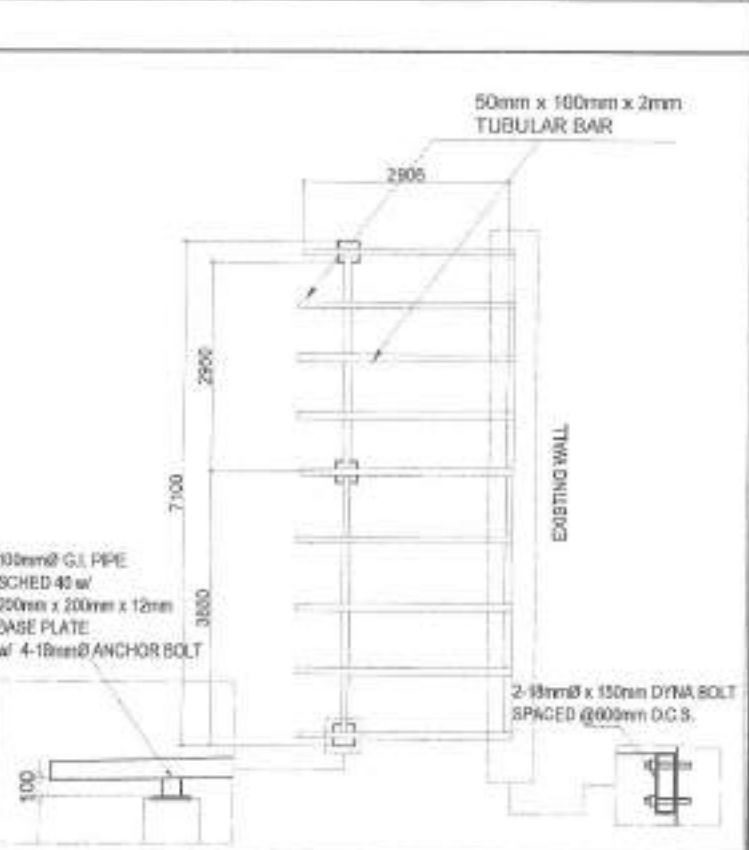
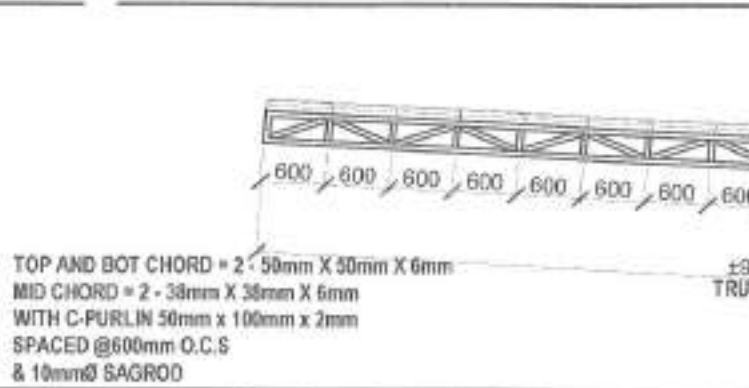
- FOUNDATION SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND THE LATEST EDITIONS OF THE SPS AND SPO.
- FOUNDATION SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND THE LATEST EDITIONS OF THE SPS AND SPO.
- FOUNDATION SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND THE LATEST EDITIONS OF THE SPS AND SPO.

MASONRY WALLS

- MASONRY WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND THE LATEST EDITIONS OF THE SPS AND SPO.
- MASONRY WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND THE LATEST EDITIONS OF THE SPS AND SPO.
- MASONRY WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND THE LATEST EDITIONS OF THE SPS AND SPO.

STEPPED BEARING BLOCK

STEPPED COLLAR DETAIL



1 GENERAL NOTES

3 ROOF FRAMING OF KALAYAAN B1

4 CANOPY FRAMING OF KALAYAAN B2

Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF KALAYAAN B DAY CARE CENTER

LOCATION:
BROY, DATARAN HILLS, DISTRICT 3, QUEZON CITY

DESIGNED BY: [Signature]

DATE: 8.7.2021

CHECKED BY: [Signature]

REVISION NO.:

SUBMITTED BY: [Signature]

ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING & PROGRAM DEVELOPMENT

REVISIONS APPROVAL:

ENGR. [Signature] R. VERZOSA, JR.
CITY ENGINEER (GENERAL)

APPROVED BY:

ENR. MA. JOSEFINA S. BELMONTE
CITY ENGINEER - QUEZON CITY

SHEET CONTROL

GENERAL NOTES
TRUSS DETAIL
ROOF FRAMING
CANOPY FRAMING

ST-2
12/24

1. All plumbing work and materials installed herein shall be compliant to the provisions of the National Building Code, the other ordinances and local regulations, the latest and applicable codes, rules, regulations and the provisions of the local ordinance when available.

2. The plumbing work shall be done in accordance with the approved plans and specifications. It is not intended to show the actual installation of fixtures or equipment for framing, but all fixtures and equipment shall be installed in accordance with the approved plans and specifications.

3. The plumbing work shall comply with all existing codes in the city and other local ordinances.

4. The plumbing work shall be done in accordance with the approved plans and specifications.

5. The plumbing work shall be done in accordance with the approved plans and specifications.

6. Proposed plumbing work shall conform with the actual location, depth and level elevation of existing pipes.

7. Connection of pipes to pipes and fittings shall be according to the manufacturer's specifications.

8. All work shall be done in accordance with the approved plans and specifications.

9. All work shall be done in accordance with the approved plans and specifications. It is not intended to show the actual installation of fixtures or equipment for framing, but all fixtures and equipment shall be installed in accordance with the approved plans and specifications.

10. All underground (U.G.) pipes shall be installed in accordance with the approved plans and specifications. It is not intended to show the actual installation of fixtures or equipment for framing, but all fixtures and equipment shall be installed in accordance with the approved plans and specifications.

11. The work shall be done in accordance with the approved plans and specifications.

12. All work shall be done in accordance with the approved plans and specifications. It is not intended to show the actual installation of fixtures or equipment for framing, but all fixtures and equipment shall be installed in accordance with the approved plans and specifications.

13. The work shall be done in accordance with the approved plans and specifications.

14. All work shall be done in accordance with the approved plans and specifications.

15. All work shall be done in accordance with the approved plans and specifications. It is not intended to show the actual installation of fixtures or equipment for framing, but all fixtures and equipment shall be installed in accordance with the approved plans and specifications.

16. The work shall be done in accordance with the approved plans and specifications.

17. The work shall be done in accordance with the approved plans and specifications.

18. All work shall be done in accordance with the approved plans and specifications.

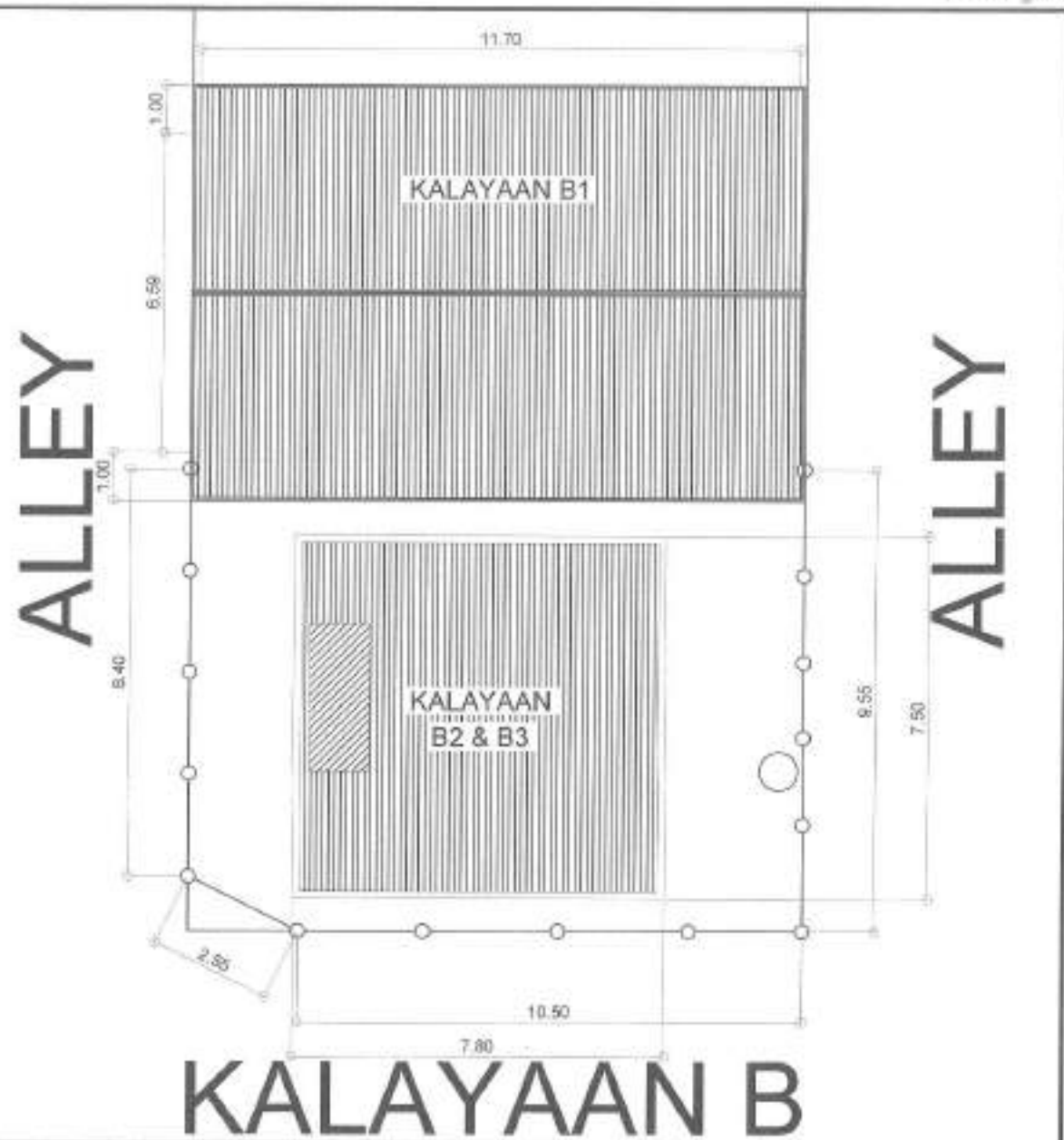
19. All plumbing work and materials installed herein shall be compliant to the provisions of the National Building Code, the other ordinances and local regulations, the latest and applicable codes, rules, regulations and the provisions of the local ordinance when available.

I. FEATURES AND OTHER LEGEND

- FD FLOOR DRAIN
- RD ROOF DRAIN
- SHD SHOWER
- WC WATER CLOSET
- LAV LAVATORY
- URU URINAL
- KD KITCHEN SINK
- BD BUILDING DRAIN
- DD DECK DRAIN
- COO CEILING CLEANOUT
- PCO FLOOR/CEILING CLEANOUT
- DS DOWNSPOUT
- RM RIM
- DI DIA
- SDR SHOWER DRAIN
- CB CATCH BASIN
- MH MANHOLE
- DF DIRECTION OF FLOW
- DT DRAINAGE TRAP

II. SEWER/WASTE AND VENT SYSTEM

- SP / WP SOIL PIPE / WASTE PIPE
- VS / VAC VENT STACK / VENT AT CEILING
- SDR STORM DRAIN PIPE
- DS DRAINAGE STACK / DOWNSPOUT
- SVTR STACK VENT/EXTENDED THROUGH ROOF
- SS SOIL STACK
- FCD / GCO FLOOR CLEANOUT / GROUND CLEANOUT
- COO CEILING CLEAN-OUT
- SPDR SUMP PIT DISCHARGE RISER
- SPDP SUMP PIT DISCHARGE PIPE
- AD/CB AREA DRAIN/CATCH BASIN
- DD DECK DRAIN



1 GENERAL NOTES & LEGENDS

2 EXISTING SITE

SCALE: 1:100 MM

Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
**PROPOSED CONSTRUCTION OF
HAND WASHING FACILITY AND
REHABILITATION OF KALAYAAN
B DAY CARE CENTER**

LOCATION:
BROADWAY BAGONG BILANGKAP DISTRICT 2, QUEZON CITY

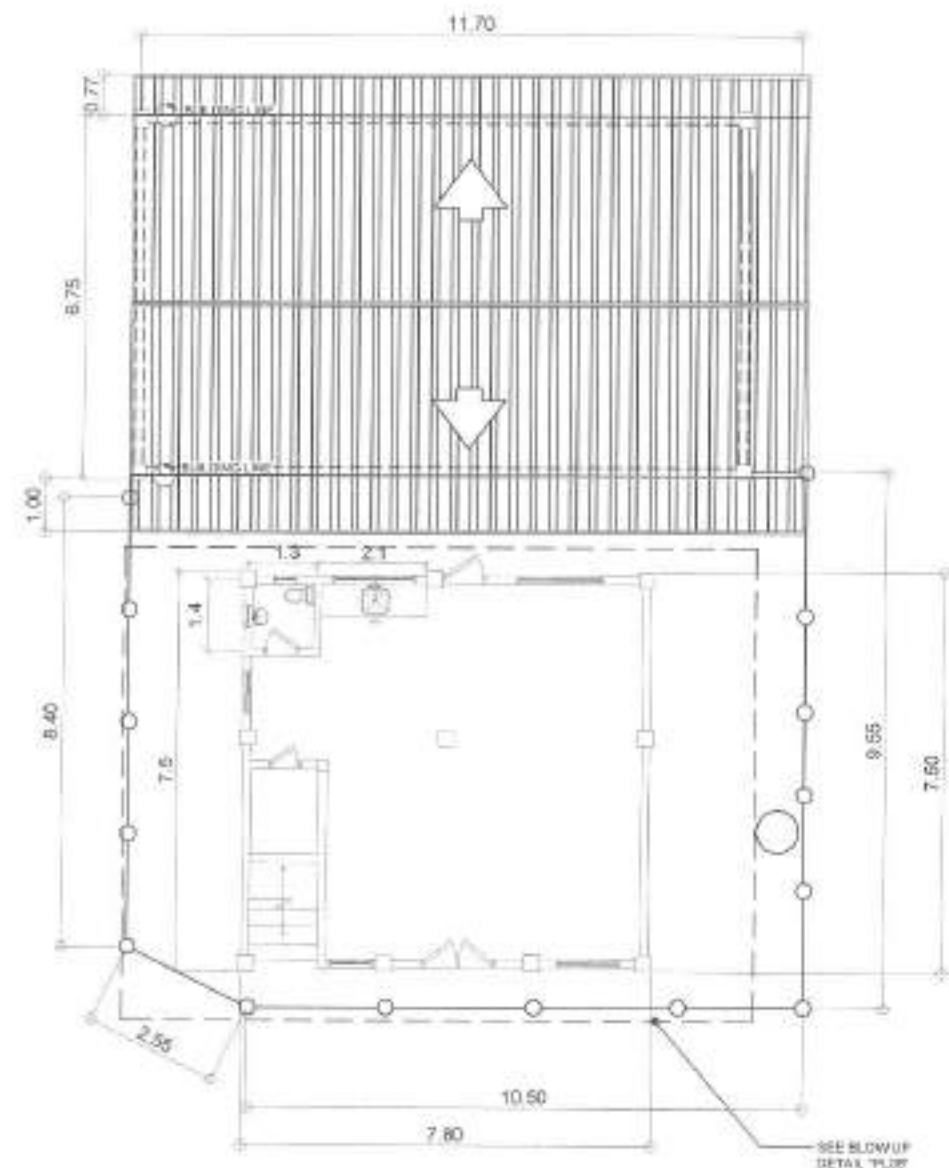
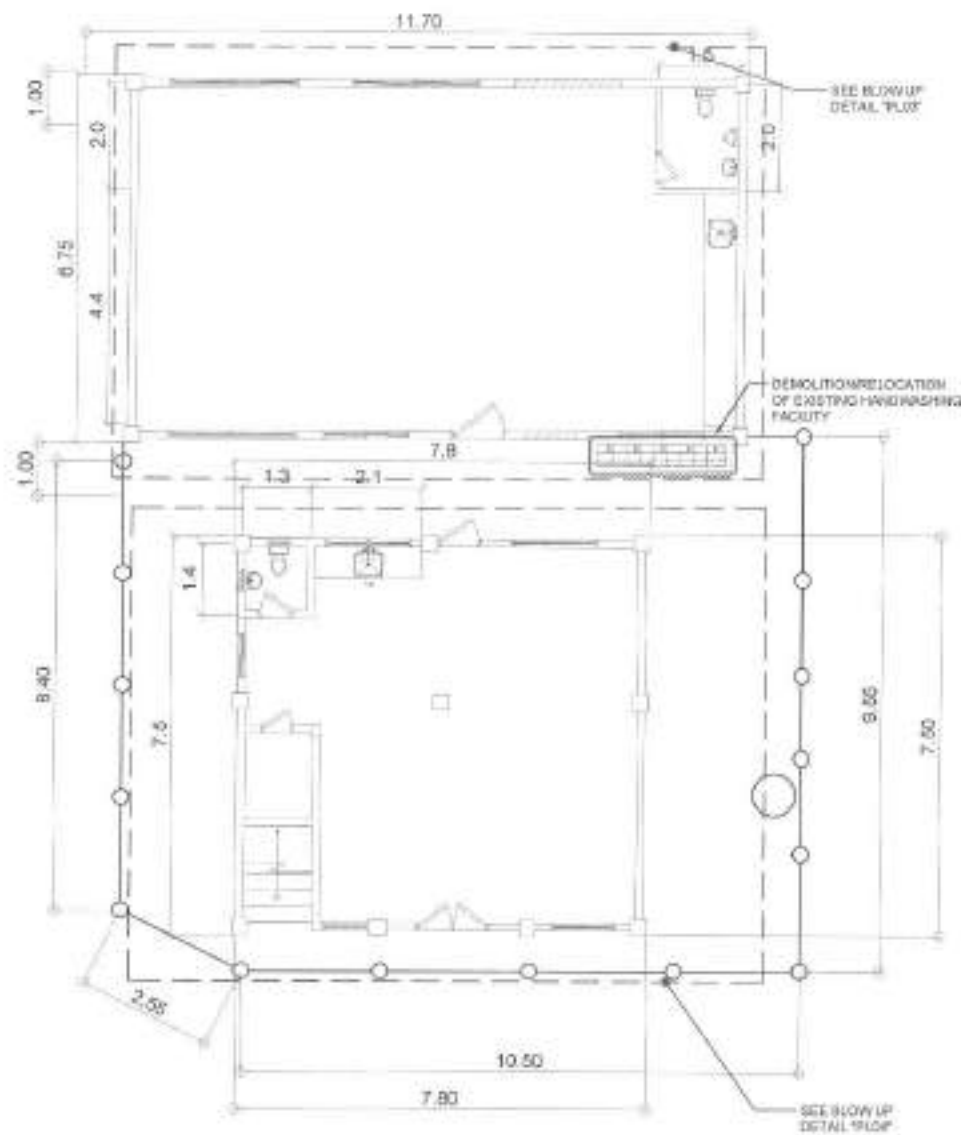
DRAWN BY: LUNA
DATE: MAR 13, 2020
CHECKED BY: JAA
SUBMITTED BY:
ENGR. LEO S. DEL ROSARIO
HEAD, PLUMBING & PIPING DIVISION

RECOMMENDING APPROVAL:
ENGR. ANA R. VERZOSA, JR.
DIE. CITY ENGINEERING DEPARTMENT

APPROVED BY:
HON. MA. JOSEFINA G. BELMONTÉ
CITY MAYOR, QUEZON CITY

SHEET CONTENT:
GENERAL NOTES &
LEGENDS
SITE LOCATION

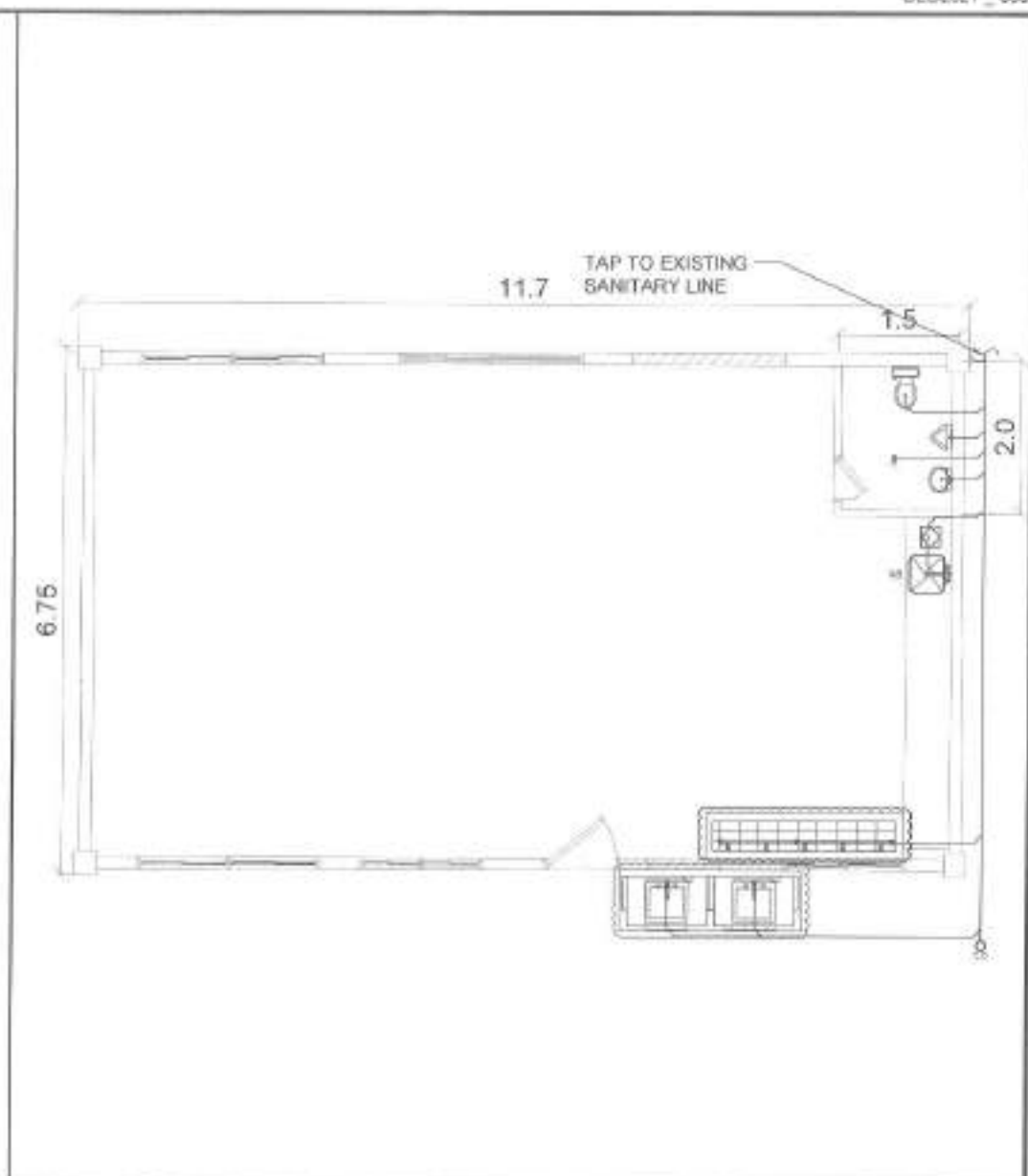
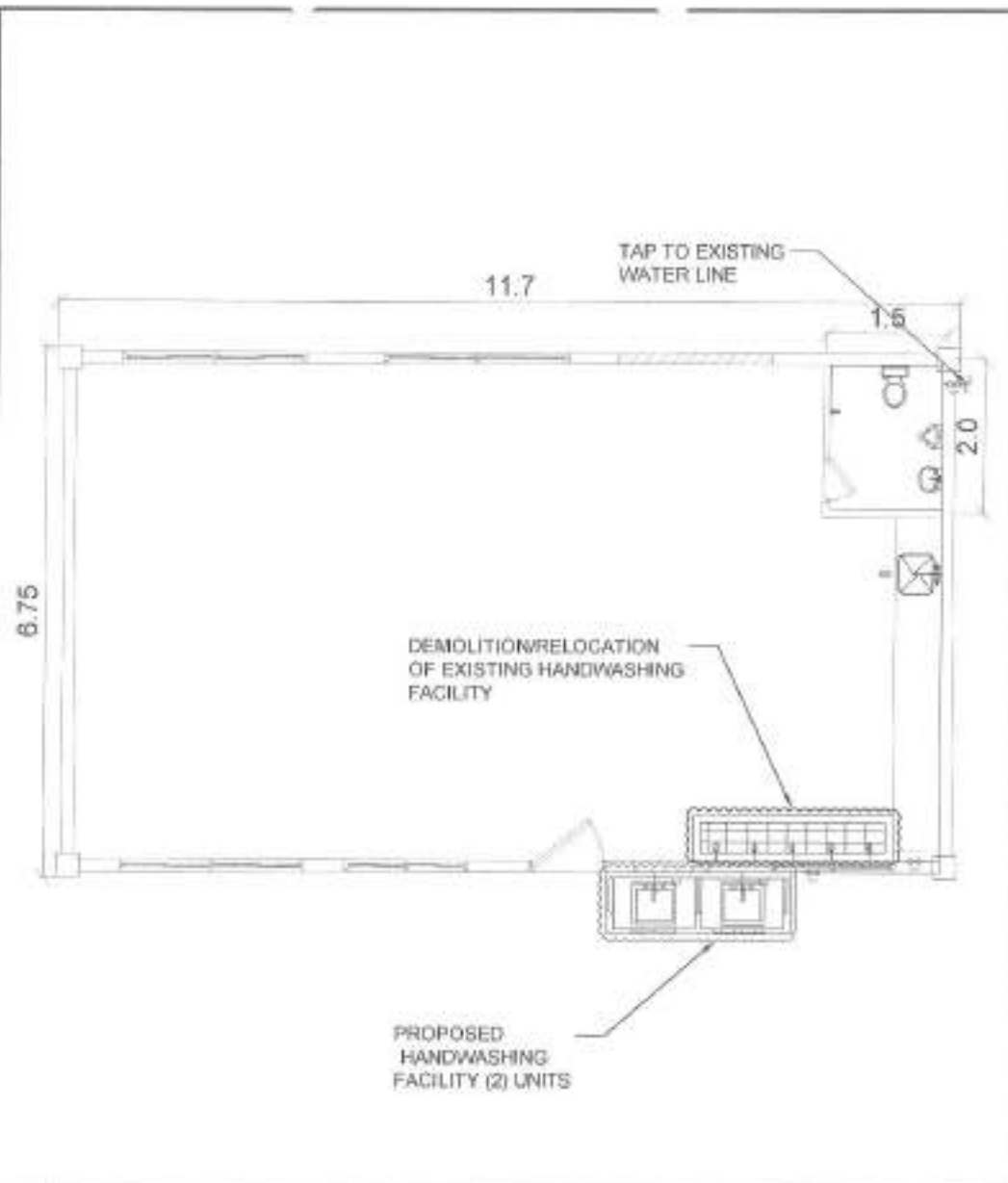
SHEET NO:
PL-01
13/24



1 EXISTING GROUND FLOOR PLAN SCALE: 1:150 M




2 EXISTING SECOND FLOOR PLAN SCALE: 1:150 M

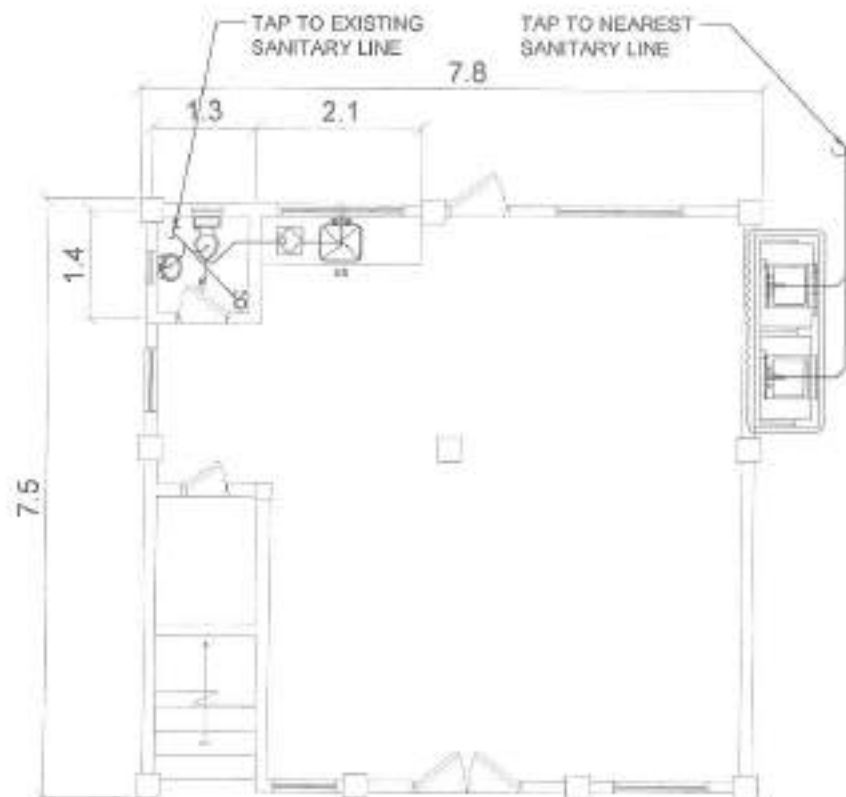
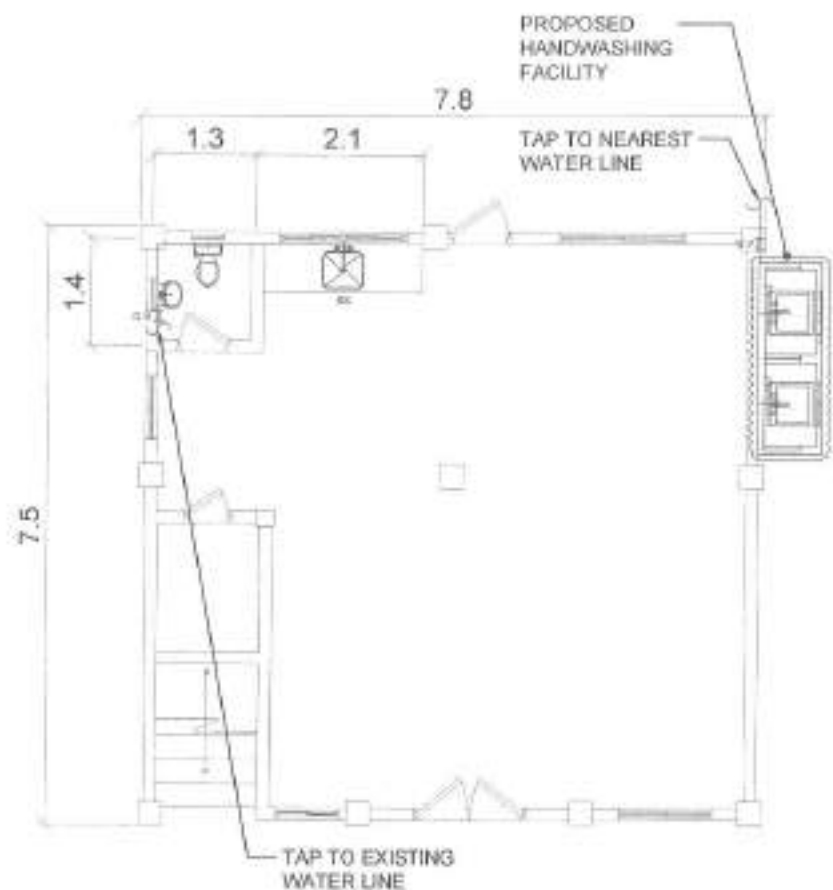
 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DRAWN BY: <i>DMV</i>	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.:
	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF KALAYAAN 8 DAY CARE CENTER	DATE: MAR 13, 2021	ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAMS DIVISION	ENGR. MARVIN R. VERZOSA, JR. DIL. CH. ENGINEERING DEPARTMENT	NON. MA. JOSEFINA G. BELMONTÉ CITY ENGINEER, QUEZON CITY	EXISTING GROUND FLOOR PLAN	
	LOCATION: BIRHANG BANGKO DILANGKI DISTRICT 2, QUEZON CITY	CHECKED BY: <i>JFA</i>	REVISION NO.: 1			EXISTING SECOND FLOOR PLAN	



1 BLOW UP OF PROPOSED GROUND FLOOR WATER LINE LAYOUT (KALAYAAN B1) SCALE: 1:150 M

2 BLOW UP OF PROPOSED GROUND FLOOR SANITARY LINE LAYOUT (KALAYAAN B1) SCALE: 1:150 M

 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DRAWN BY: <i>[Signature]</i>	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.:
	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF KALAYAAN B DAY CARE CENTER	DATE: JUN 15, 2021	 ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAM DEVELOPMENT	 ENGR. ISADOR R. VERZOSA, JR. CH. CITY ENGINEERING DEPARTMENT	HON. MA. JOSEFINA G. BELMONTE CITY ANCHOR - QUEZON CITY	PROPOSED GP WATER LINE LAYOUT (KALAYAAN B1)	
	LOCATION: BAYANGAY BAGONG BILANGAN DISTRICT 2, QUEZON CITY	CHECKED BY: <i>[Signature]</i>				REVISION NO.: 1	



1 BLOW UP OF PROPOSED GROUND FLOOR WATER LINE LAYOUT (KALAYAAN B2)

SCALE: 1:150 M

2 BLOW UP OF PROPOSED GROUND FLOOR SANITARY LINE LAYOUT (KALAYAAN B2)

SCALE: 1:150 M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
**PROPOSED CONSTRUCTION OF
HAND WASHING FACILITY AND
REHABILITATION OF KALAYAAN
B DAY CARE CENTER**

LOCATION:
SANDAGAY SANDAGAY BILAYAN DISTRICT 2, QUEZON CITY

DESIGNED BY:
DATE: AUG. 13, 2021
CHECKED BY:
REVISION NO: 1

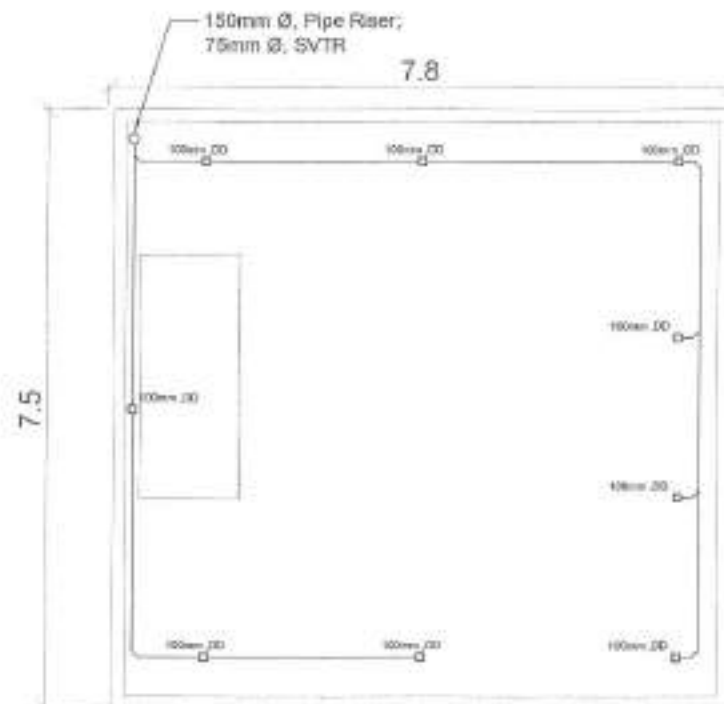
DESIGNED BY:
[Signature]
ENGR. LEON S. DEL ROSARIO
HEAD, PLANNING & RECONSTRUCTION DIVISION

RECOMMENDED APPROVAL:
[Signature]
ENGR. HENRY R. VERZOSA, JR.
CH. CITY ENGINEER (REPRESENT)

APPROVED BY:
ROM. MA. JOSEFINA G. BELMORTE
DIV. MANR. OFFICER

SHEET CONTENT:
PROPOSED GROUND FLOOR WATER LINE LAYOUT (KALAYAAN B2)
PROPOSED GROUND FLOOR SANITARY LINE LAYOUT (KALAYAAN B2)

SHEET NO.
PL-04
16/24



1 | PROPOSED ROOF DECK PLAN (KALAYAAN B3)

SCALE: 1:150 M

 <p>Republic of the Philippines Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DRAWN BY: GJM	SUBMITTED BY:	RECOMMENDING APPROVAL:	HYPOXENED BY:	SHEET CONTENT:	SHEET NO.:
	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF KALAYAAN B DAY CARE CENTER LOCATION: BAYANSAY BANGKO BANGSA DISTRICT 2, QUEZON CITY	DATE: MAR. 15, 2021 CHECKED BY: JJA	 ENGR. LEO S. DEL ROSARIO HEAD, PLANNING AND PROGRAMS DIVISION	 ENGR. RADWAN VERZOSA, JR. CC, CITY ENGINEERING DEPARTMENT	HON. MA. JOSEFINA G. BELMONTE CITY MAYOR, QUEZON CITY	PROPOSED ROOF DECK PLAN	

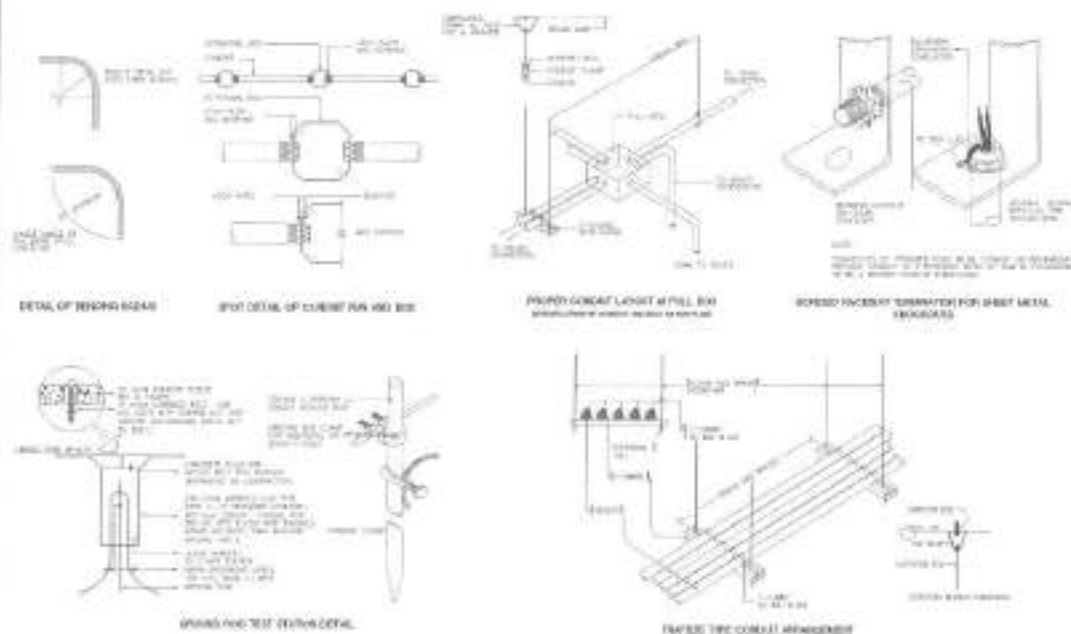
- ALL ELECTRICAL WORKS SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, THE LAWS AND ORDINANCES OF THE LOCAL GOVERNMENT AUTHORITY AND THE REQUIREMENTS OF THE LOCAL POWER AND TELEPHONE UTILITY COMPANY.
- THE CONTRACTOR SHALL SECURE ALL PERMITS AND PAY ALL FEES REQUIRED FOR THE WORK AND SHALL RETURN THE OWNER THROUGH THE ENGINEER FINAL CERTIFICATES OF ELECTRICAL INSPECTION AND APPROVAL FROM PROPER GOVERNMENT AUTHORITIES FOR COMPLETION OF WORK.
- ALL EMBEDDED BRANCH CIRCUITS SHALL BE PVC CONDUITS AND FOR EXPOSED INSTALLATION SHALL BE RMT OR MC SUPPORTED BY CONDUIT CLAMPS EVERY 700 MILLIMETERS.
- PULL BOXES SHALL BE PROVIDED BY THE CONTRACTOR WHENEVER NECESSARY TO FACILITATE WIRE PULLING EVEN IF THESE ARE NOT INDICATED ON THE PLANS. SIZING OF ALL PULL BOXES SHALL BE COMPLETED BASED ON THE CODE REQUIREMENTS. SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION. LOCATION OF PULL BOXES SHALL BE APPROVED BY THE ARCHITECT/ENGINEER AND MUST BE REFLECTED ON THE FINISHED PLAN.
- ALL POWER OUTLETS AND SWITCHES SHALL BE GROUNDING TYPE WITH PARALLEL SLOTS FOR 208V.
- PROVIDE GROUND FAULT CURRENT INTERRUPTER CIRCUIT BREAKER FOR LOADS BRANCHED OFF ON THE PLAN.
- ALL METALLIC CONDUITS, CABINETS AND EQUIPMENT SHALL BE PROPERLY GROUNDING AND BONDED.
- UNLESS OTHERWISE NOTED, MOUNTING HEIGHT FOR WALL MOUNTED DEVICES SHALL BE AS FOLLOWS:
RECEPTACLE OUTLET - 500 MM AFF, 150MM ABOVE WORKING COUNTER
LIGHTING SWITCH - 1400 MM AFF
PANEL BOARD - 1800 MM AFF
- REFER TO MECHANICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR RATINGS AND LOCATIONS OF EQUIPMENT AS WELL AS THEIR CONTROL SEQUENCES AS SPECIFIED AND OR DRAWN UNDER THEIR RESPECTIVE SECTIONS.
- ALL MATERIALS TO BE USED SHALL BE OF THE BEST QUALITY. BRAND NAME AS SPECIFIED.
- THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO PRESENT GENERAL LAYOUT AND BROAD OUTLINE DESCRIPTION OF THE PROJECT BUT DO NOT NECESSARILY INDICATE DESCRIBED ACTUAL LOCATIONS, LEVELS AND DISTANCES OF THE EQUIPMENT. THE CONTRACTOR IS HEREBY REQUIRED TO MAKE SUCH ADJUSTMENT AT THE JOBSITE AS LOCATION, DISTANCES AND LEVELS ARE GOVERNED BY ACTUAL FIELD CONDITIONS.
- ANY DISCREPANCY BETWEEN THE PLANS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION DECISION.
- ALL LIGHTING AND COMMERCIAL OUTLET CIRCUITS SHALL BE 3.5 SQ. MM THW-2 COPPER WIRE UNLESS OTHERWISE NOTED. MINIMUM SIZE OF WIRE SHALL BE 3.5 SQ. MM COPPER WIRE. ALL WIRES AND CABLES SHALL BE COLOR CODED AS FOLLOWS:

LINE 1 - RED
LINE 2 - YELLOW
NEUTRAL - WHITE
GROUND - GREEN

- BORES, WIRE GUTTERS, ENCLOSURE SHALL BE FABRICATED FROM STEEL WITH THICKNESS AS FOLLOWS:
MINIMUM WIDTH OF THE WIDEST SURFACE STEEL:
UP TO INCLUDING 151.40 MM GA 18 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
OVER 152.40 MM BUT NOT OVER 457.00 GA 14 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
OVER 457.00 MM BUT NOT OVER 762.00 MM GA 12 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
OVER 762.00 MM GA 10 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
- ALL ELECTRICAL WORKS HEREBY SHALL BE EXECUTED BY EXPERIENCED MEN UNDER THE DIRECT SUPERVISION OF A FULL TIME LICENSED ELECTRICAL ENGINEER AND A FULLY ACCREDITED ELECTRICAL CONTRACTOR BY PCAL. WORKS SHALL BE NEATLY PLACED, SECURELY FASTENED AND PROPERLY FINISHED.
- TYPE OF SERVICE ENTRANCE SHALL BE: 3-PHASE, TWO-WIRE PLUS GROUND, 60 HERTZ, 230V AC NOMINAL.
- CONDUITS WHO USE SHALL THERE BE MORE THAN THE EQUIVALENT OF FOUR QUARTER BENDS IN ANY ONE RUN. ALL CONDUIT BENDS SHALL BE FIELD MADE BY USING HORIZONTAL BENDERS. MINIMUM BENDING RADIUS MUST BE IN ACCORDANCE TO THE CODE REQUIREMENTS.
- UPON COMPLETION OF ELECTRICAL CONSTRUCTION WORK, INSULATION RESISTANCE TEST AND FUNCTIONALITY TEST SHALL BE PERFORMED BY THE CONTRACTOR INCLUDING OF THE INSTALLATION TO BE REPORTED IN DETAILS ON FORMS APPROVED BY THE QUEZON CITY ENGINEERING DEPARTMENT REPRESENTATIVE. THE GROUND RESISTANCE FOR ELECTRICAL SYSTEMS SHALL NOT BE MORE THAN 5 OHMS. COMMUNICATION GROUNDING RESISTANCE SHALL NOT EXCEED 2 OHMS.

	Duplex Convenience Outlet	S3.	Three Way Switch
	150mmØ LED Pinlight		Orbit Fan with Selector Switch
	2x18w LED Tube in 1200mm x 600mm Troffer Fixture		Lighting Power Panel
	1x18w LED Tube in 1200mm x 300mm Troffer Fixture		Circuit Home run
	100mm x 100mm Ceiling Mounted Exhaust Fan		Utility Service Meter
S.	One Gang Switch		Circuit Breaker
S2.	Two Gang Switch		Grounding
S3.	Three Gang Switch		2-Spool Secondary Rack, Heavy Duty

2 LEGENDS AND SYMBOLS



1 GENERAL NOTES

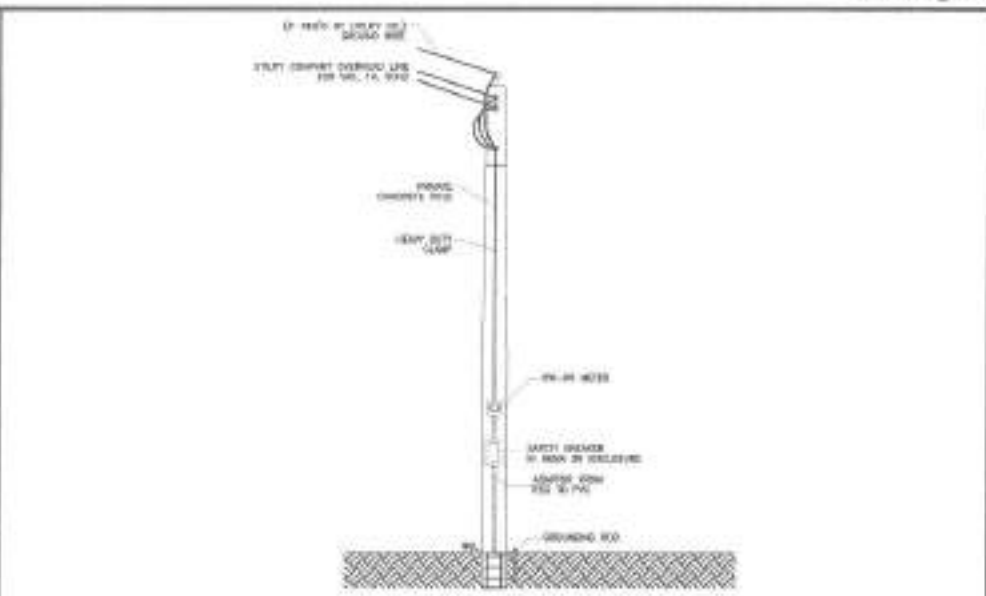
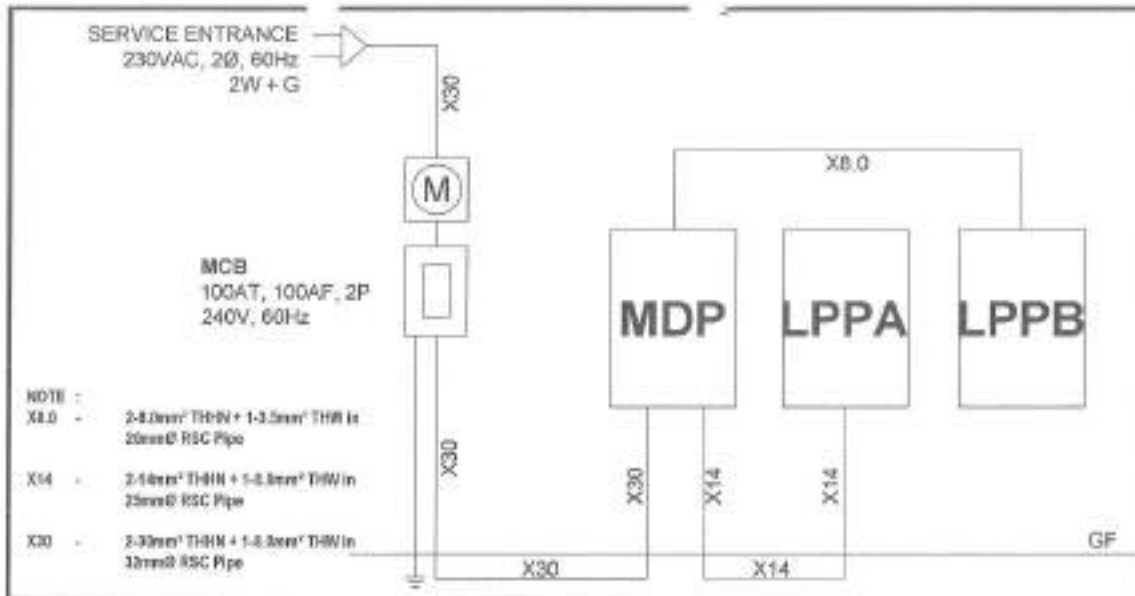


Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF KALAYAAN 8 DAY CARE CENTER
DATE:	AUG. 13, 2020
DESIGNED BY:	ENS. LEO S. DEL ROSARIO
LOCATION:	BRANDWAY BRANDON BILANGAN DISTRICT 2, QUEZON CITY
DESIGN NO.:	1

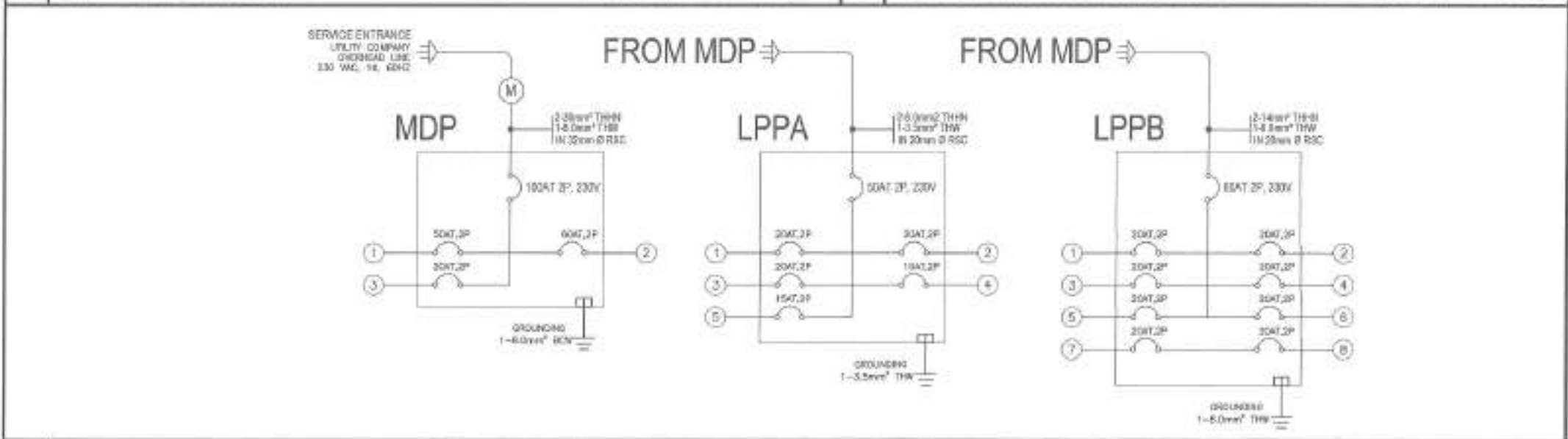
3 CONNECTION DETAIL

DESIGNED BY:	ENS. LEO S. DEL ROSARIO HEAD, PLUMBING & PROGRAMMING DIVISION	RECOMMENDING APPROVAL:	ENS. IBRAHIM R. VERZORA, JR. C.E. CITY ENGINEERING DEPARTMENT	APPROVED BY:	HON. MA. JOSEFINA G. BELMORTE CITY MAYOR, QUEZON CITY	SHEET CONTENT:	GENERAL NOTES LEGENDS AND SYMBOL CONNECTION DETAIL	SHEET NO.:	EL-01 19/24
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1 SINGLE LINE DIAGRAM SCALE: NTS

2 SERVICE ENTRANCE POST DETAIL SCALE: NTS



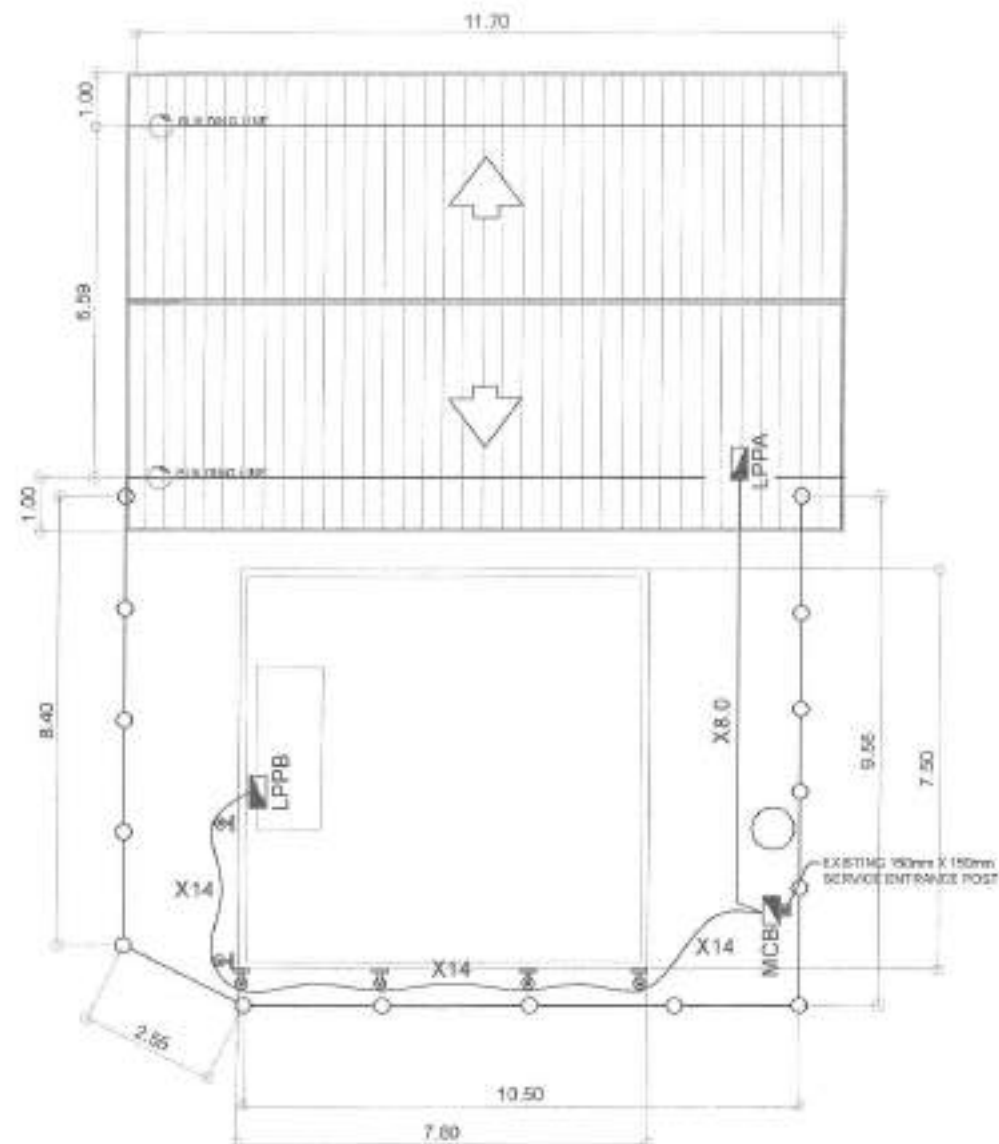
3 PANELBOARD DIAGRAM SCALE: NTS

<p>Republic of the Philippines Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	<p>PROJECT TITLE: PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF KALAYAAN B DAY CARE CENTER</p>	<p>DRAWN BY: <i>[Signature]</i> DATE: APR 14, 2021</p>	<p>SUBMITTED BY: <i>[Signature]</i> ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAM MANAGEMENT</p>	<p>RECOMMENDING APPROVAL: <i>[Signature]</i> ENGR. RAGAN R. VERZOSA, JR. CITY ENGINEERING DEPARTMENT</p>	<p>APPROVED BY: <i>[Signature]</i> HON. MA. JOSEFINA G. BELMONTE CITY MANOR, QUEZON</p>	<p>SHEET CONTENT: SINGLE LINE DIAGRAM SERVICE ENTRANCE POLE DETAIL PANELBOARD DIAGRAM</p>	<p>SHEET NO.: EL-02 2024</p>
	<p>LOCATION: BARANGAY PASONG SILANGAN DISTRICT 2, QUEZON CITY</p>	<p>REVISION NO: 1</p>					

TABLE NUMBER: SCHEDULE OF LOADS											
ITEM NO.	DESCRIPTION	MATERIAL			OVERLAP PROJECTION				SIZE OF WIRE	CONDUIT	
		SA	U	A	ST	ST	P	TYPE		SIZE	TYPE
1	SPRING/SHOWER	400	20	10.0	10	100	2	Both way	2x 2.0mm ² TWB + 2x 2.0mm ² TW	30	PVC
2	SPRING/SHOWER/TOILET	400	20	10.21	10	100	2	Both way	2x 2.0mm ² TWB + 2x 2.0mm ² TW	30	PVC
3	WATER	1000	20	4.0	10	100	2	Both way			
TOTAL		1200		14.21							
COMPLETION		MATERIAL			OVERLAP PROJECTION				CONDUIT		
L ₁ = 1200		MATERIAL			OVERLAP PROJECTION				CONDUIT		
L ₂ = 1200		MATERIAL			OVERLAP PROJECTION				CONDUIT		
L ₃ = 1200		MATERIAL			OVERLAP PROJECTION				CONDUIT		
L ₄ = 1200		MATERIAL			OVERLAP PROJECTION				CONDUIT		

TABLE NUMBER: SCHEDULE OF LOADS											
ITEM NO.	DESCRIPTION	MATERIAL			OVERLAP PROJECTION				SIZE OF WIRE	CONDUIT	
		SA	U	A	ST	ST	P	TYPE		SIZE	TYPE
1	SPRING/SHOWER	200	10	4.78	10	100	2	Both way	2x 2.0mm ² TWB + 2x 2.0mm ² TW	30	PVC
2	SPRING/SHOWER	200	10	4.78	10	100	2	Both way	2x 2.0mm ² TWB + 2x 2.0mm ² TW	30	PVC
3	WATER	400	20	4.0	10	100	2	Both way	2x 2.0mm ² TWB + 2x 2.0mm ² TW	30	PVC
4	WATER	1000	20	4.0	10	100	2	Both way			
5	WATER	1000	20	4.0	10	100	2	Both way			
TOTAL		2400		17.16							
COMPLETION		MATERIAL			OVERLAP PROJECTION				CONDUIT		
L ₁ = 2400		MATERIAL			OVERLAP PROJECTION				CONDUIT		
L ₂ = 2400		MATERIAL			OVERLAP PROJECTION				CONDUIT		
L ₃ = 2400		MATERIAL			OVERLAP PROJECTION				CONDUIT		
L ₄ = 2400		MATERIAL			OVERLAP PROJECTION				CONDUIT		

TABLE NUMBER: SCHEDULE OF LOADS											
ITEM NO.	DESCRIPTION	MATERIAL			OVERLAP PROJECTION				SIZE OF WIRE	CONDUIT	
		SA	U	A	ST	ST	P	TYPE		SIZE	TYPE
1	SPRING/SHOWER	400	20	4.78	10	100	2	Both way	2x 2.0mm ² TWB + 2x 2.0mm ² TW	30	PVC
2	SPRING/SHOWER	400	20	4.78	10	100	2	Both way	2x 2.0mm ² TWB + 2x 2.0mm ² TW	30	PVC
3	WATER	700	20	4.0	10	100	2	Both way	2x 2.0mm ² TWB + 2x 2.0mm ² TW	30	PVC
4	WATER	700	20	4.0	10	100	2	Both way	2x 2.0mm ² TWB + 2x 2.0mm ² TW	30	PVC
5	WATER	400	20	4.0	10	100	2	Both way	2x 2.0mm ² TWB + 2x 2.0mm ² TW	30	PVC
6	WATER	400	20	4.0	10	100	2	Both way	2x 2.0mm ² TWB + 2x 2.0mm ² TW	30	PVC
7	WATER	1000	20	4.0	10	100	2	Both way			
8	WATER	1000	20	4.0	10	100	2	Both way			
TOTAL		4600		25.17							
COMPLETION		MATERIAL			OVERLAP PROJECTION				CONDUIT		
L ₁ = 4600		MATERIAL			OVERLAP PROJECTION				CONDUIT		
L ₂ = 4600		MATERIAL			OVERLAP PROJECTION				CONDUIT		
L ₃ = 4600		MATERIAL			OVERLAP PROJECTION				CONDUIT		
L ₄ = 4600		MATERIAL			OVERLAP PROJECTION				CONDUIT		



1 SCHEDULE OF LOADS

2 SITE DEVELOPMENT PLAN

SCALE: 1:100 M



Republika ng Pilipinas
Lungsod ng Iloilo
CITY ENGINEERING DEPARTMENT

PROJECT TITLE
**PROPOSED CONSTRUCTION OF
HAND WASHING FACILITY AND
REHABILITATION OF KALAYAAN
B DAY CARE CENTER**

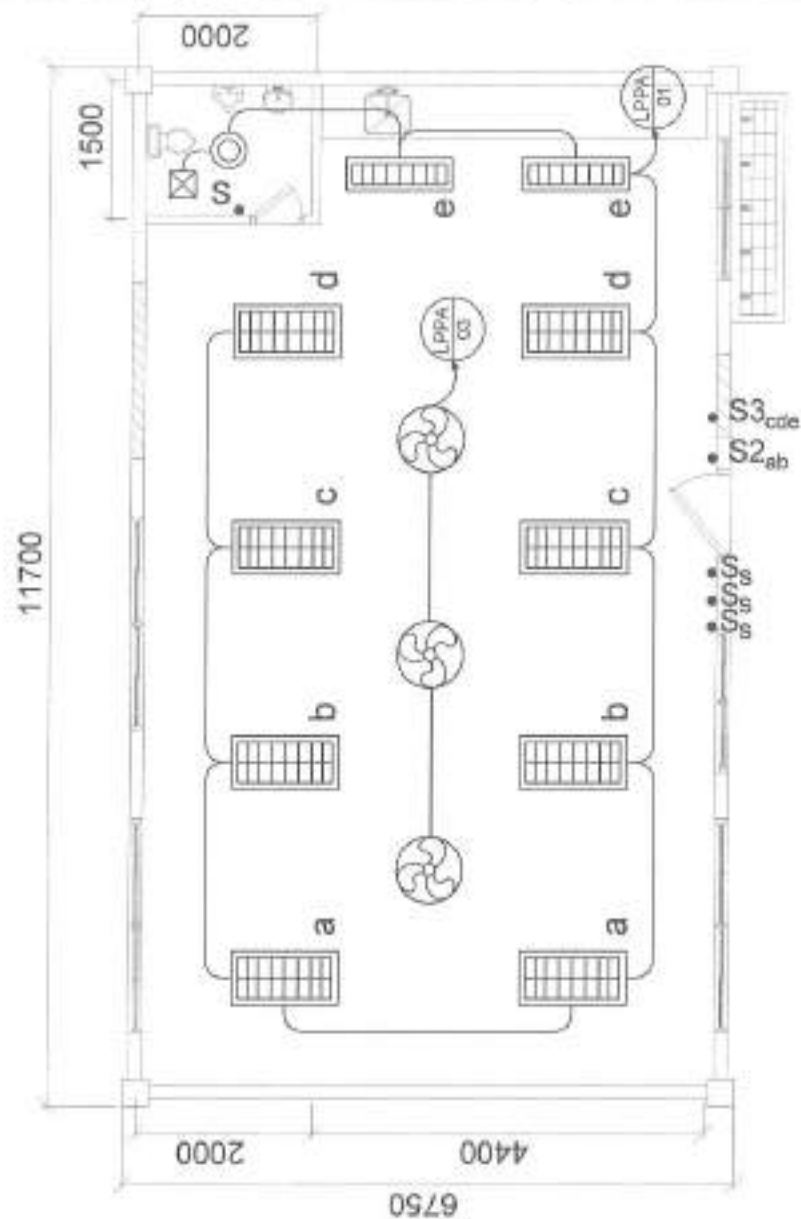
LOCATION
MANKAYON BARANGAY BUNDAW DISTRICT 2, QUEZON CITY

DRAWN BY
DATE: APR. 13, 2021
CHECKED BY
ENGR. LEO S. DEL ROSARIO
REG. PLANNER & PROFESSIONAL ENGINEER

RECOMMENDED OFFICIAL
ENGR. ISABELA R. VERZOSA, JR.
SEC. CITY ENGINEERING DEPARTMENT

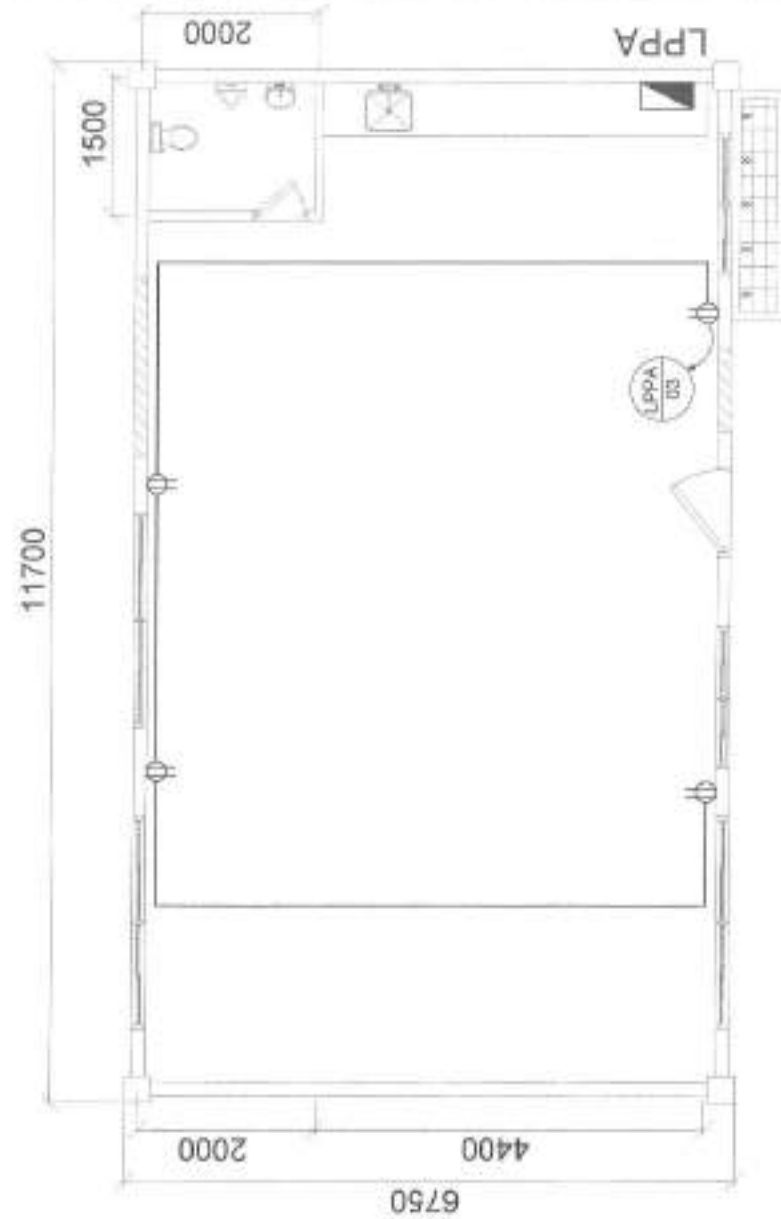
APPROVED BY
HON. RA. JOSEFINA G. BELMONTE
CITY MAOR, MANKAYON CITY

DATE OF SUBMITTAL
SCHEDULE OF LOADS
SITE DEVELOPMENT PLAN
SHEET NO.
EL-03
21/24



1 KALAYAAN B1 LIGHTING LAYOUT

SCALE : 1:60 M



2 KALAYAAN B1 POWER LAYOUT

SCALE : 1:60 M



Republic of the Philippines
 Lungsod ng Quezon
 CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED CONSTRUCTION OF
 HAND WASHING FACILITY AND
 REHABILITATION OF KALAYAAN
 B DAY CARE CENTER

LOCATION:

BARANGAY BAGONG SILANGAN DISTRICT 2, QUEZON CITY

DRAWN BY:

DATE: AUG. 13, 2017

CHECKED BY:

REVISION NO.: 1

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
 HEAD, PLANNING & PROGRAMS DIVISION

RECOMMENDING APPROVAL:

ENGR. EDUARDO R. VERZOSA, JR.
 CH. CITY ENGINEERING DEPARTMENT

APPROVED BY:

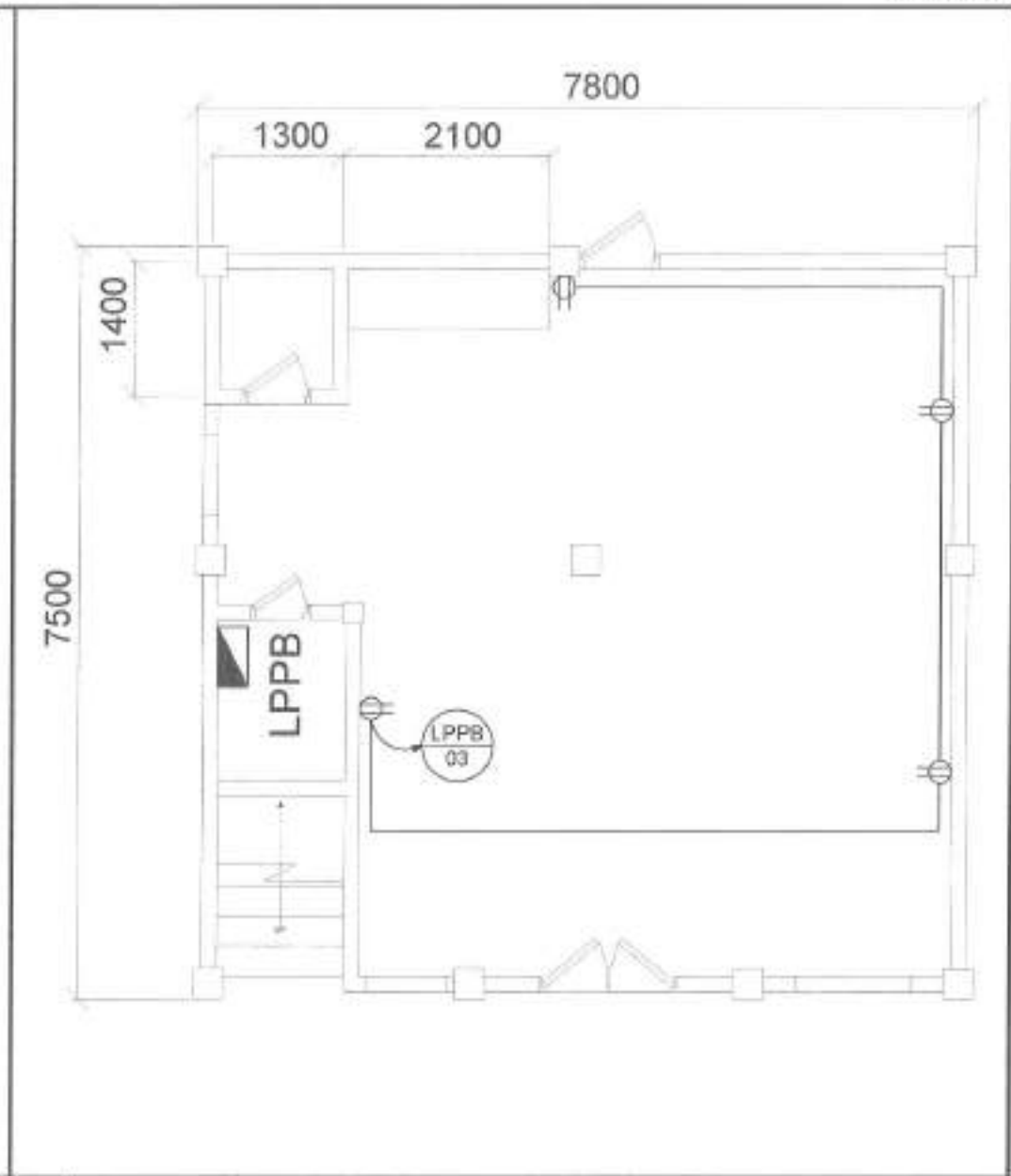
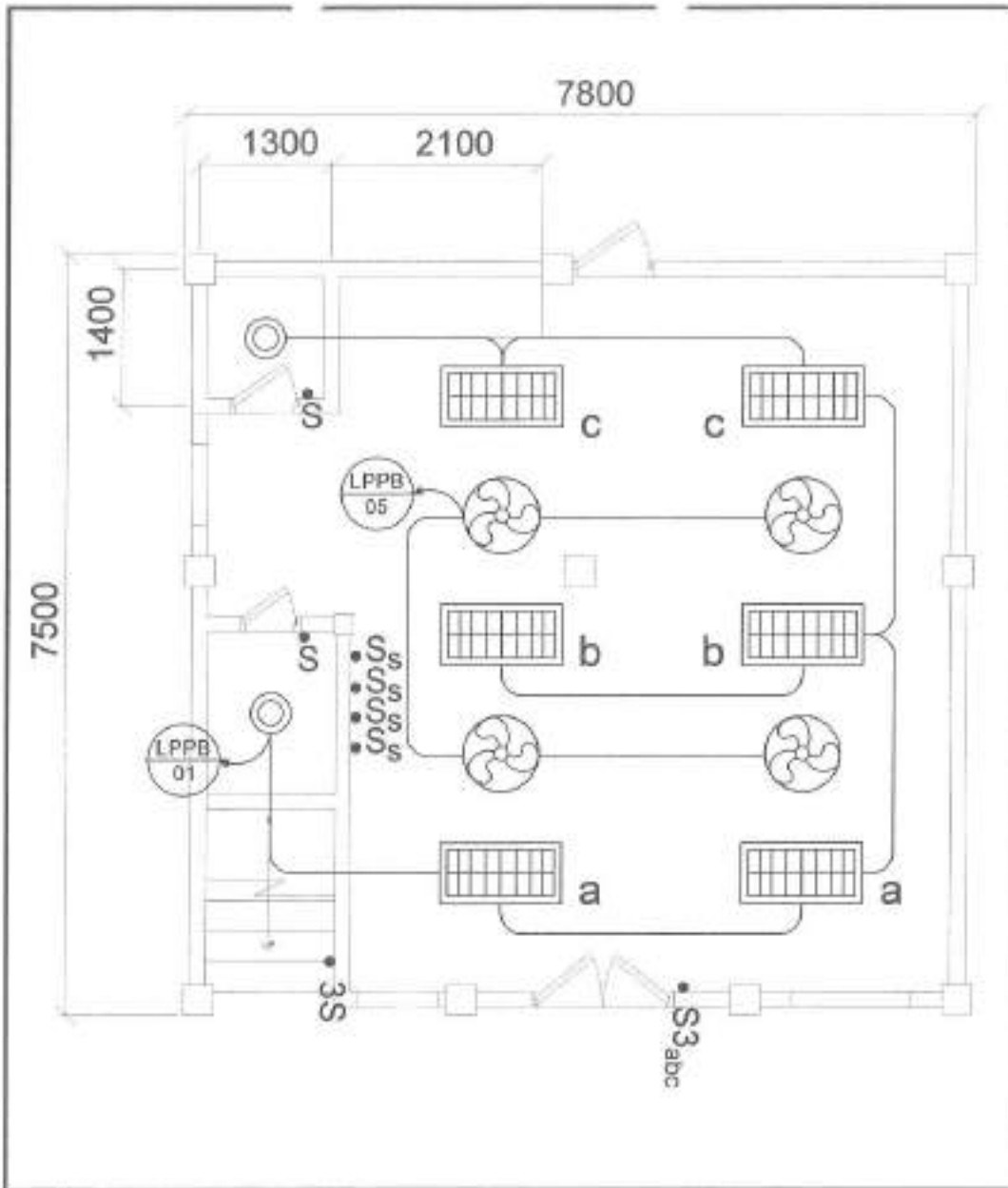
RON. MA. JOSEFINA G. BELMONTE
 CITY ENGINEER, QUEZON CITY

SHEET CONTENT:

KALAYAAN B1
 LIGHTING LAYOUT
 KALAYAAN B1 POWER
 LAYOUT

SHEET NO.:

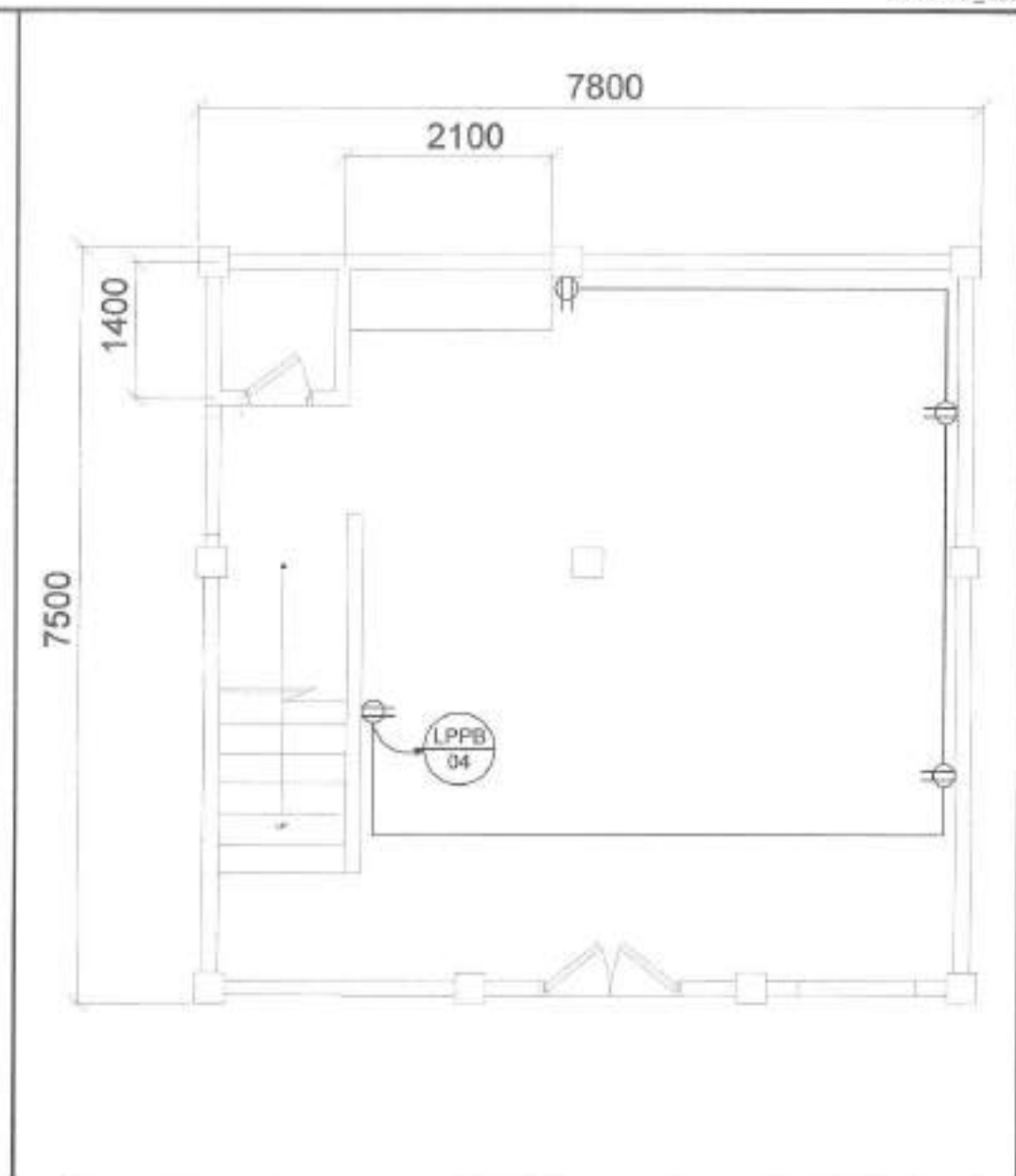
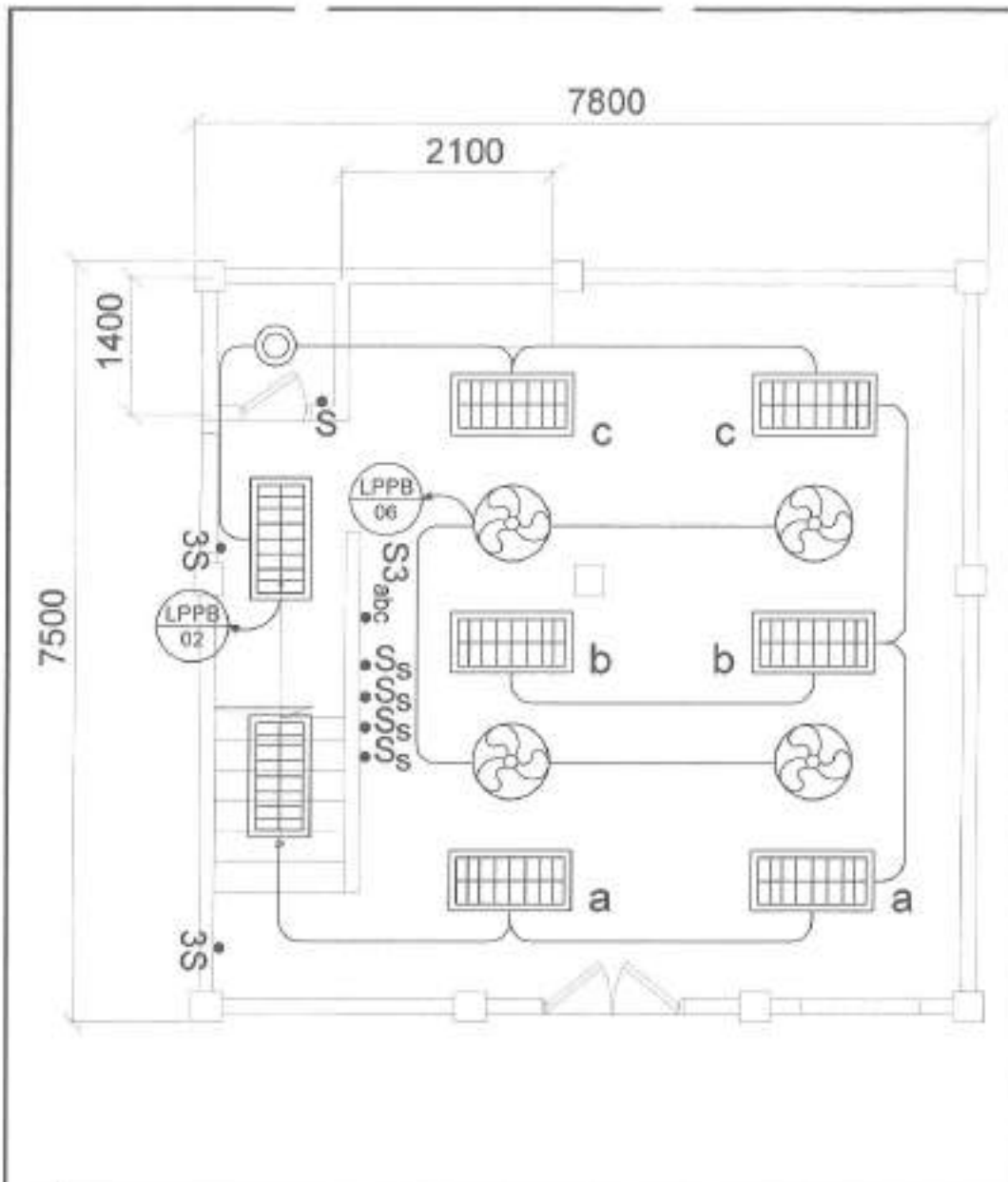
EL-04
 22/24



1 KALAYAAN B2 & B3 GROUND FLOOR LIGHTING LAYOUT SCALE : 1:60 M


2 KALAYAAN B2 & B3 GROUND FLOOR POWER LAYOUT SCALE : 1:60 M

<p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	<p>PROJECT TITLE: PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF KALAYAAN B DAY CARE CENTER.</p>	<p>DATE: AUG. 18, 2021</p>	<p>SUBMITTED BY: </p>	<p>RECOMMENDING OFFICER: </p>	<p>APPROVED BY: </p>	<p>SHEET CONTENT</p>	<p>SHEET NO.</p>
	<p>LOCATION: BARANGAY (PINOY) BLANKIN DISTRICT 2 QUEZON CITY</p>	<p>CHECKED BY: </p>	<p>REVISION NO.: 1</p>	<p>ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAMMING DIVISION</p>	<p>ENGR. ISAAC R. VERZOSA, JR. CC, CITY ENGINEERING DEPARTMENT</p>	<p>HON. MA. JOSEFINA G. BELMONTE CITY MANOR, QUEZON CITY</p>	<p>KALAYAAN B2 & B3 GROUND FLOOR LIGHTING LAYOUT</p>

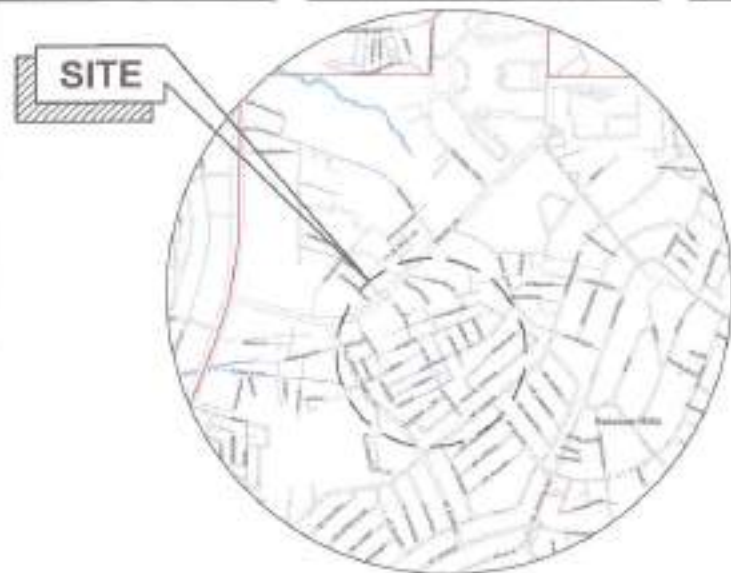


1 KALAYAAN B2 & B3 SECOND FLOOR LIGHTING LAYOUT SCALE : 1:60 M

2 KALAYAAN B2 & B3 SECOND FLOOR POWER LAYOUT SCALE : 1:60 M

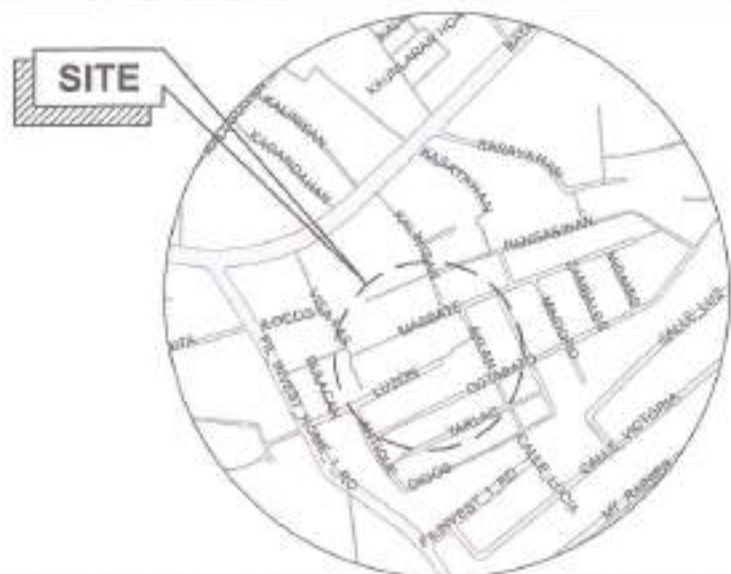
 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	<p>PROJECT TITLE: PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF KALAYAAN B DAY CARE CENTER</p>	<p>DATE: AUG. 18, 2021</p>	<p>DATE: AUG. 18, 2021</p>	<p>RECOMMENDING APPROVAL:</p>	<p>APPROVED BY:</p>	<p>PROJECT CONCERN:</p>	<p>PROJECT NO.:</p>
	<p>LOCATION: BAYANANG BAGONG BILANGAY DISTRICT 2, QUEZON CITY</p>	<p>CHECKED BY: <i>Jean P.</i></p>	<p>DESIGNED BY: <i>Jean P.</i></p>	<p>ENGR. LEY S. DEL ROSARIO HEAD, PLANNING & PROGRAMS DIVISION</p>	<p>ENGR. RICHARD R. VERZOSA, JR. DC, CITY ENGINEERING DEPARTMENT</p>	<p>HON. RA. JOSEFINA G. BELMONTE CITY MAYOR, QUEZON CITY</p>	<p>KALAYAAN B2 & B3 SECOND FLOOR LIGHTING LAYOUT</p>

EL-06
24/24



1 LOCATION MAP

SCALE: NTS



2 VICINITY MAP

SCALE: NTS



3 PERSPECTIVE

SCALE: NTS

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AR-6	HANDWASH CABINET DETAIL TYPICAL WINDOW STEEL GRILLES DETAIL

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SANITARY / PLUMBING

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ELECTRICAL

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Republic of the Philippines
Luzviminda Day Care Center
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND
REHABILITATION OF LUZVIMINDA DAY
CARE CENTER

LOCATION:

BRGY. BATAWHI HILLS, DISTRICT 2, QUEZON CITY

DRAWN BY:

DATE: 07/20/21

CHECKED BY:

REVISION NO.:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
1840 / PLASMAN & PROGRAMMING DESIGN

RECOMMENDING APPROVAL:

ENGR. JOSEFANO R. VERZOGA, JR.
DCL CITY ENGINEERING DEPARTMENT

APPROVED BY:

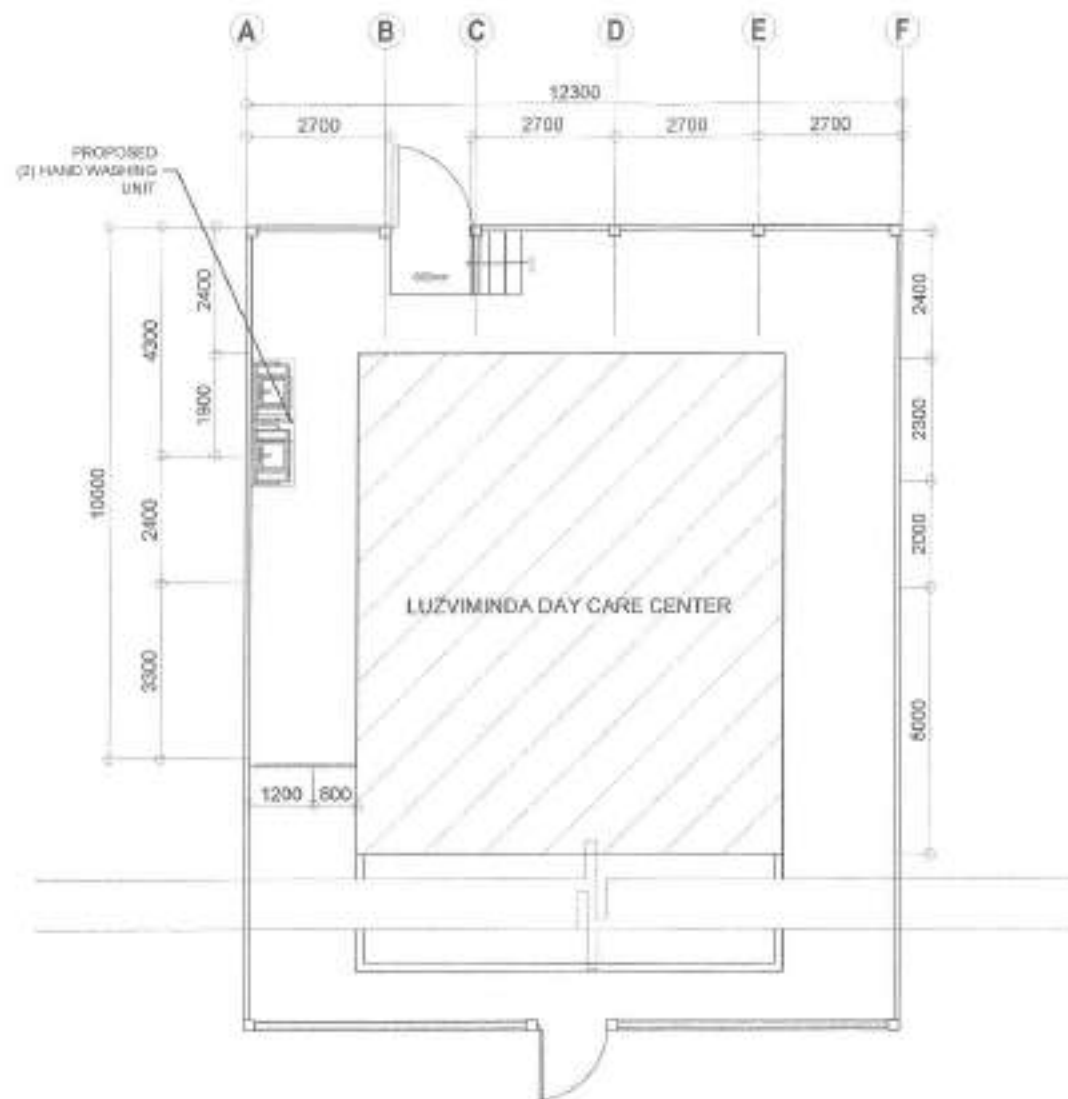
HON. MA. JOSEFINA S. BELMONTÉ
CITY ANCHOR, QUEZON CITY

SHEET CONTENT:

VICINITY MAP
LOCATION MAP
PERSPECTIVE

SHEET NO.:

AR-1
01/13



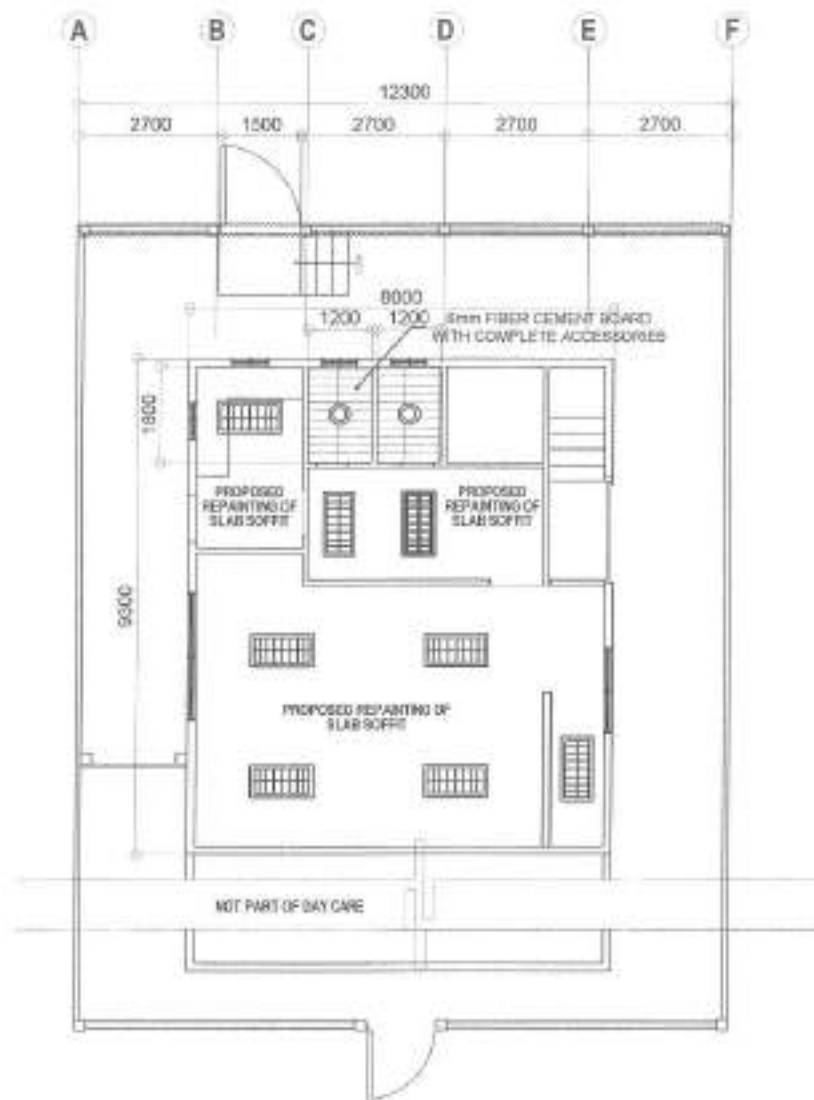
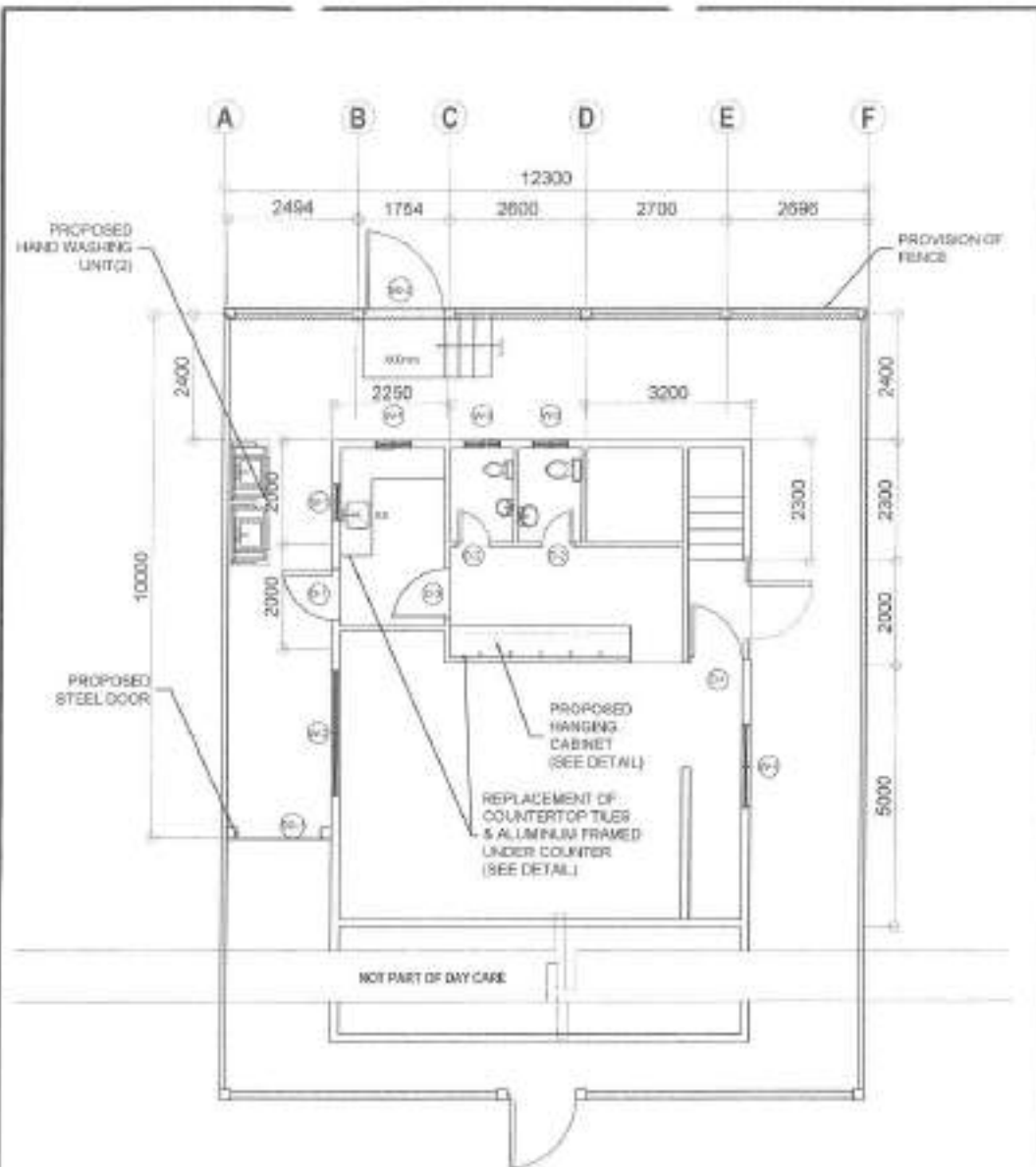
1 SITE DEVELOPMENT PLAN

SCALE: 1:75M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:	DESIGNED BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET NUMBER:	SHEET NO.
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF LUZVIMINDA DAY CARE CENTER	DATE: 11/20/21 CHECKED BY: JAA ✓ SUBMITTED BY:	ENGR. LEO S. DEL ROSARIO REG. PROFESSIONAL ENGINEER (EVS)	ENGR. ISAGAN R. VERZOSA, JR. DC, CITY ENGINEERING DEPARTMENT	HON. MA. JOSEFINA G. BELMONTE CITY MAYOR, QUEZON CITY	SITE DEVELOPMENT PLAN	AR-2 02/13
LOCATION: BISAY, NATKAM HILLS, DISTRICT 12, QUEZON CITY	BOARDING NO.:					



1 LUZVIMINDA FLOOR PLAN

SCALE: 1:100M

2 LUZVIMINDA REFLECTED CEILING PLAN

SCALE: 1:100M



Republic of the Philippines
Luzviminda
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND
REHABILITATION OF LUZVIMINDA DAY
CARE CENTER

LOCATION:

1957, BATAAN HILLS, DISTRICT 2, QUEZON CITY

DESIGNED BY:

DATE: 07/2021

CHECKED BY:

DESIGNED NO.

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING & PROGRAMMING DIVISION

RECOMMENDING APPROVAL:

ENGR. SARAH R. VERZOSA, JR.
C.E. CITY ENGINEER & SUPERVISOR

APPROVED BY:

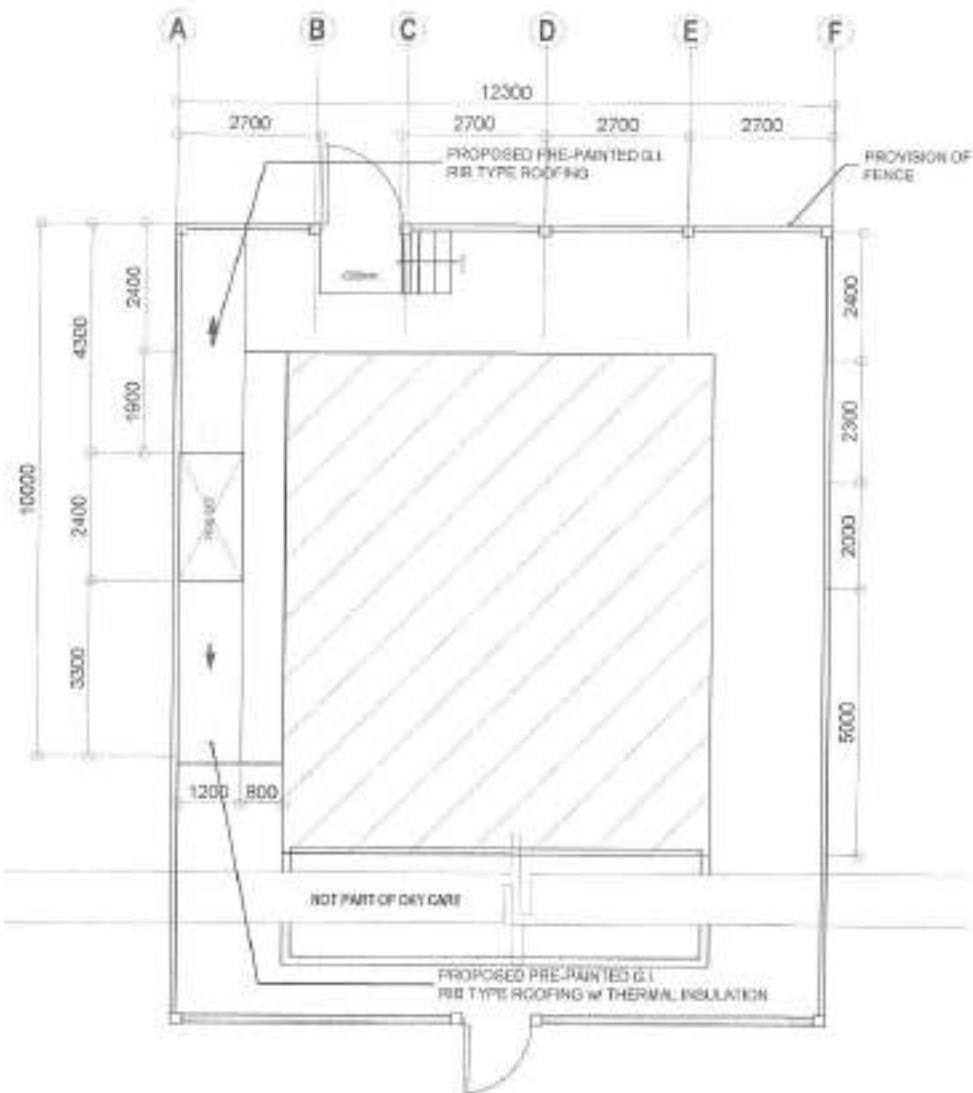
HON. MA. JOSEFINA G. BELMONTE
CITY ENGINEER - QUEZON CITY

SHEET CONTENT:

LUZVIMINDA
FLOOR PLAN
LUZVIMINDA
REFLECTED
CEILING PLAN

SHEET NO.:

AR-3
03/13



DESCRIPTION	①	②	③	④
FRAME	STEEL FRAME WITH THE CLEAR FINISHED G.I. OR GALV. COATED STEEL OR ALUMINUM FRAMES	STEEL FRAME WITH THE CLEAR FINISHED G.I. OR GALV. COATED STEEL OR ALUMINUM FRAMES	STEEL FRAME WITH THE CLEAR FINISHED G.I. OR GALV. COATED STEEL OR ALUMINUM FRAMES	STEEL FRAME WITH THE CLEAR FINISHED G.I. OR GALV. COATED STEEL OR ALUMINUM FRAMES
GLAZING	FRAMES WITH COMPLETE ACCURATE AC GLAZING	FRAMES WITH COMPLETE ACCURATE AC GLAZING	FRAMES WITH COMPLETE ACCURATE AC GLAZING	FRAMES WITH COMPLETE ACCURATE AC GLAZING
NO OF TYPE	2	1	2	1

DESCRIPTION	①	②	③	④	⑤
FRAME	STEEL GRC	STEEL GRC	WAL. DOOR	PVC DOOR WITH LOGS	ALUM. DOOR
MARKING GLAZING	FRAMES WITH COMPLETE ACCURATE AC GLAZING	FRAMES WITH COMPLETE ACCURATE AC GLAZING	FRAMES WITH COMPLETE ACCURATE AC GLAZING	FRAMES WITH COMPLETE ACCURATE AC GLAZING	FRAMES WITH COMPLETE ACCURATE AC GLAZING
NO OF TYPE	1	1	2	2	1

1 CANOPY ROOFING PLAN

SCALE: 1:100W

2 WINDOW & DOOR SCHEDULE

SCALE: 1:100W



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
**PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND
REHABILITATION OF LUZVIMINDA DAY
CARE CENTER**

LOCATION:
BPO7, BATAAN HILLS, DISTRICT 7, QUEZON CITY

DRAWN BY:
DATE: 8.1.2021
CHECKED BY:
REVISION NO.:

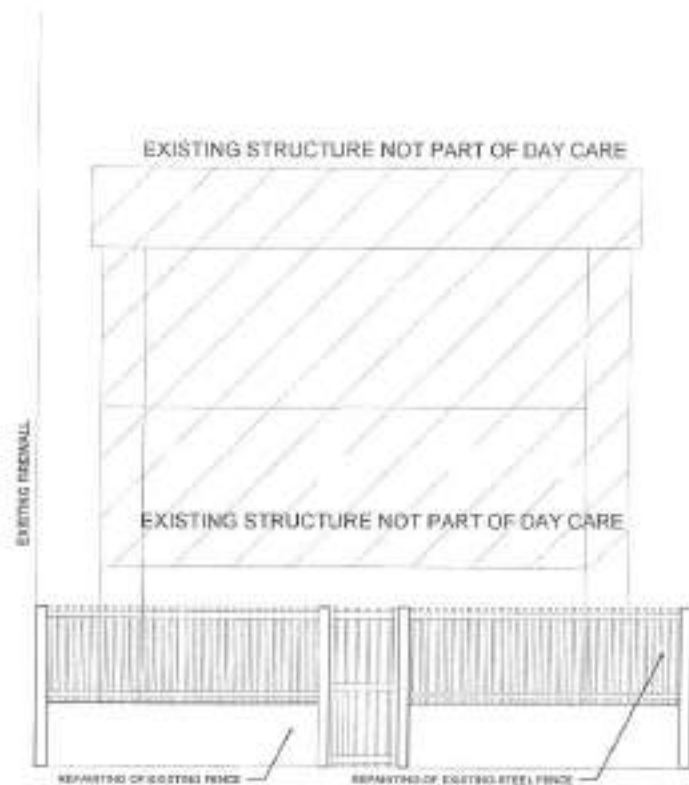
SUBMITTED BY:
ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING & PROGRAMS DIVISION

RECOMMENDING APPROVAL:
ENGR. ISMAEL R. VERZOSA, JR.
D.C. CITY ENGINEERING DEPARTMENT

APPROVED BY:
HON. RA. JOSEFINA G. BELMONTÉ
CITY MAYOR, QUEZON CITY

SHEET CONTENT:
CANOPY ROOFING PLAN
WINDOW & DOOR SCHEDULE

SHEET NO.:
AR-4
04/13

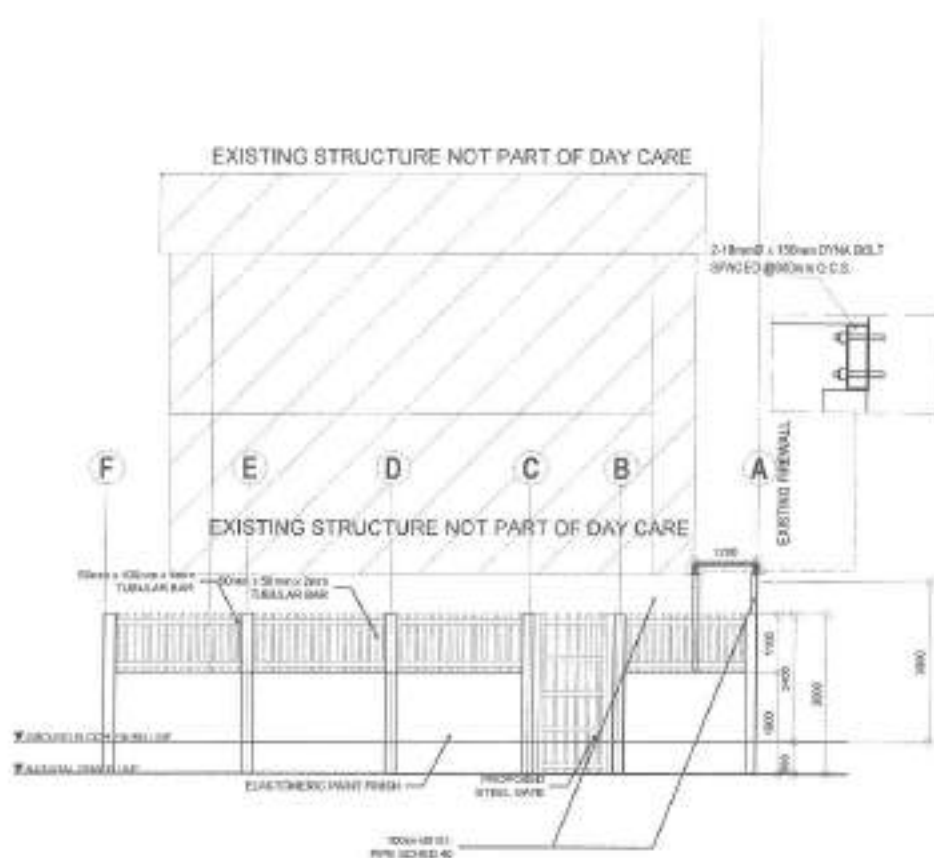


1 FRONT ELEVATION

SCALE: 1:100M

2 REAR ELEVATION

SCALE: 1:100M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF LUZVIMINDA DAY CARE CENTER

DATE: 03.2021
CHECKED BY: JAA ✓
DESIGNED BY:
REVISION NO.:

LOCATION:
BRGY. SAKIMANHELI, DISTRICT 2, QUEZON CITY

DRAWN BY: [Signature]
DATE: 03.2021
CHECKED BY: JAA ✓
DESIGNED BY:
REVISION NO.:

ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING & DESIGN DIVISION

RECOMMENDERS APPROVAL:

ENGR. EDGEM R. VERZOSA, JR.
CITY ENGINEERING DEPARTMENT

APPROVED BY:

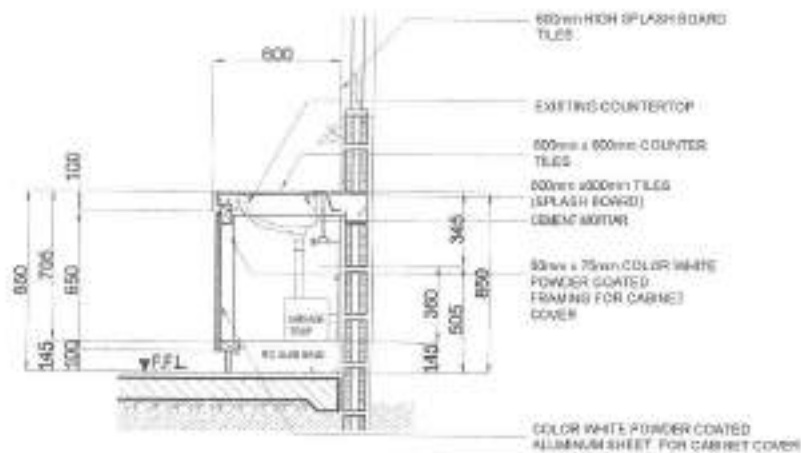
ENR. MA. JOSEFINA G. BELMONTE
CITY ENGINEERING DEPARTMENT

SHEET CONTENT:

REAR ELEVATION
REAR FENCE

SHEET NO.:

AR-5
05/13



1 COUNTERTOP DETAIL

SCALE: 1:25M



PROP HANGING CABINET
18mm THK MARINE PLYWOOD
PAINTED FINISH
w/ LOCKING MECHANISM

2 HANGING CABINET DETAIL

SCALE: 1:25M



TYPICAL GRILLES FOR
SLIDING WINDOWS
25mm x 25mm x 2mm TUBULAR

3 TYPICAL WINDOW STEEL GRILLES DETAIL

SCALE: 1:25M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND
REHABILITATION OF LUZVIMINDA DAY
CARE CENTER

LOCATION:

HWY. BATAANFIELD, DISTRICT 2, QUEZON CITY

DRAWN BY:

DATE: 6.1.2021

CHECKED BY:

REVISIONS:

SUBMITTED BY:

ENGR. **LEO S. DEL ROSARIO**
HEAD, PLANNING PROGRAM DIVISION

RECOMMENDING APPROVAL:

ENGR. **GUAN R. VERZOSA, JR.**
CITY ENGINEERING DEPARTMENT

APPROVED BY:

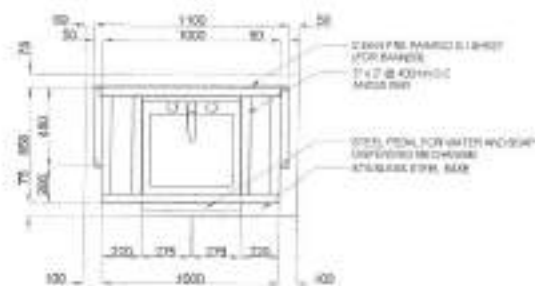
HON. MA. JOSEFINA G. BELMONTE
CITY ENGINEER, QUEZON CITY

SHEET CONTENT:

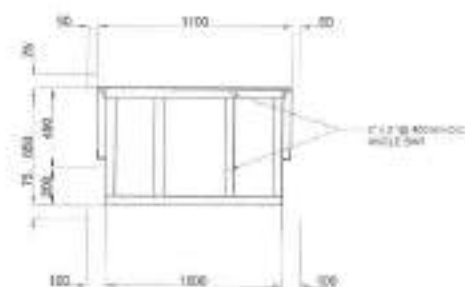
COUNTERTOP DETAIL
HANGING CABINET DETAIL
TYPICAL WINDOW/STEEL
GRILLES

SHEET NO.:

AR-6
06/13



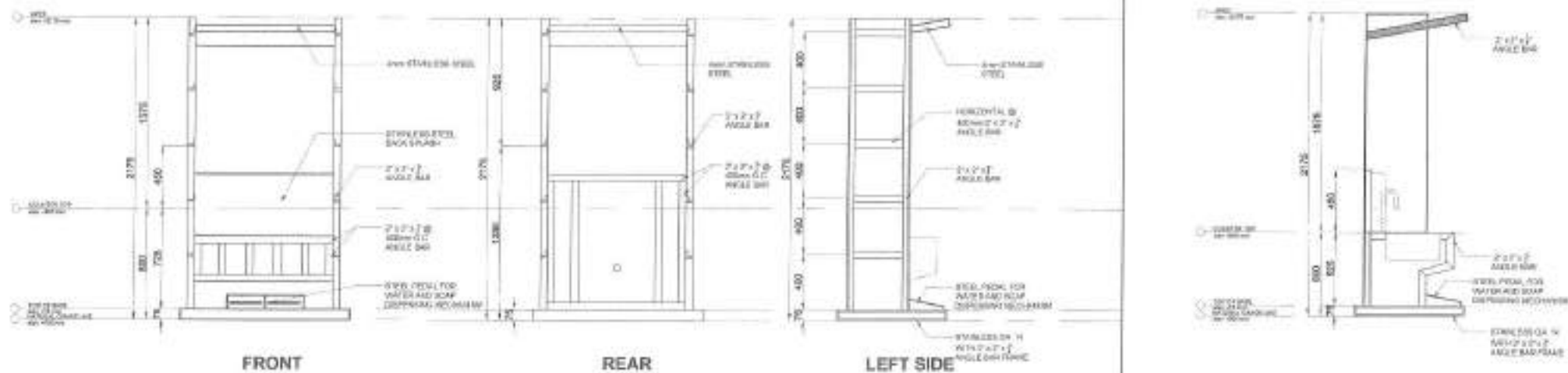
PLAN



ROOF PLAN

1 SINGLE SINK PORTABLE HAND WASHING STALL PLAN

SCALE: 1:30ms



2 ELEVATIONS

SCALE: 1:30ms

3 TYPICAL SECTION

SCALE: 1:30ms



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
**PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND
REHABILITATION OF LUZVIMINDA DAY
CARE CENTER**

LOCATION:
GRAY, BATAVIA HILLS DISTRICT 2, QUEZON CITY

DESIGNED BY:
DATE: 03.2021
CHECKED BY:
REVISION NO.:

DESIGNED BY:

ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING PROGRAM DIVISION

RECOMMENDING APPROVAL:

ENGR. MARIANI R. VERZOSA, JR.
CITY ENGINEERING DEPARTMENT

APPROVED BY:
HON. MA. JOSEFINA G. BELMONTE
CITY ENGINEER

SHEET CONTENT:
SINGLE SINK PORTABLE
HAND WASHING STALL
PLAN
ELEVATIONS & SECTION

SHEET NO.
ST-01
07/13

GENERAL

- CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS AND STANDARDS.
- WORK SHALL BE DONE IN ACCORDANCE WITH THE SPECIFICATIONS AND STANDARDS OF ALL STRUCTURES FOR WHICH APPROVAL IS REQUIRED.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE ALL WORK IS DONE. CHECK ALL MEASUREMENTS AND ELECTRICAL CONNECTIONS FOR CORRECTNESS BEFORE ANY WORK IS BEGUN.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL NECESSARY PERMITS AND APPROVALS FOR ALL WORK.
- IN CASE OF DISCREPANCY BETWEEN THE DRAWINGS AND THE SPECIFICATIONS, THE CONTRACTOR SHALL CONSULT WITH THE ENGINEER.

CONCRETE & REINFORCEMENT

- ALL CONCRETE SHALL BE SUPPLIED BY THE LOCAL SUPPLIER.
- ALL CONCRETE SHALL BE OF A MINIMUM COMPRESSIVE STRENGTH OF 28 MPa.
- ALL CONCRETE SHALL BE PLACED AND FINISHED IN ACCORDANCE WITH THE FOLLOWING:

LOCATION	STRENGTH	MAX. SIZE OF AGGREGATES	MAX. SLUMP
1. SUB-GROUND CONCRETE (FOUNDATIONS, WALLS, PILING)	28 MPa (28,000 PSI)	19mm (3/4")	75mm (3")
2. SLAB ON GROUND CONCRETE (FLOORING)	28 MPa (28,000 PSI)	19mm (3/4")	75mm (3")
3. ALL REINFORCING BARS SHALL COMPLY WITH THE FOLLOWING:			
1. LENGTH	200mm (8")	19mm (3/4")	75mm (3")

- ALL REINFORCING BARS SHALL BE PLACED IN ACCORDANCE WITH THE FOLLOWING:
- CONCRETE SHALL BE PLACED IN A MINIMUM OF 75mm (3") COVER AND FINISHED WITH A FINISH OF 10mm (3/8").
- ALL CONCRETE SHALL BE PLACED IN A MINIMUM OF 75mm (3") COVER AND FINISHED WITH A FINISH OF 10mm (3/8").

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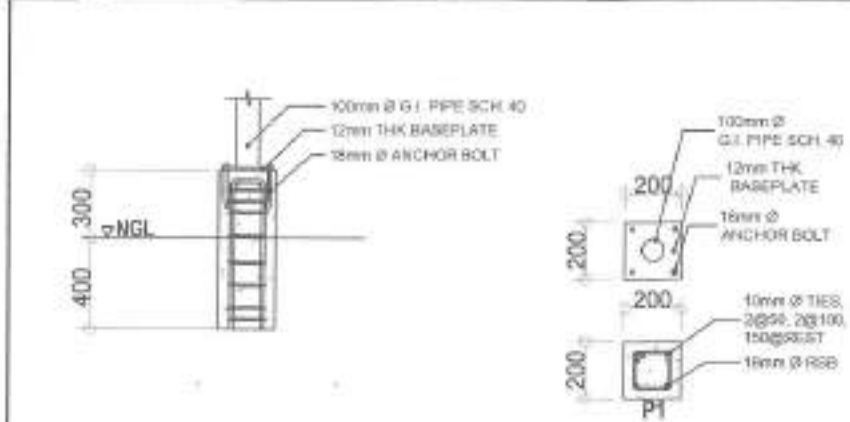
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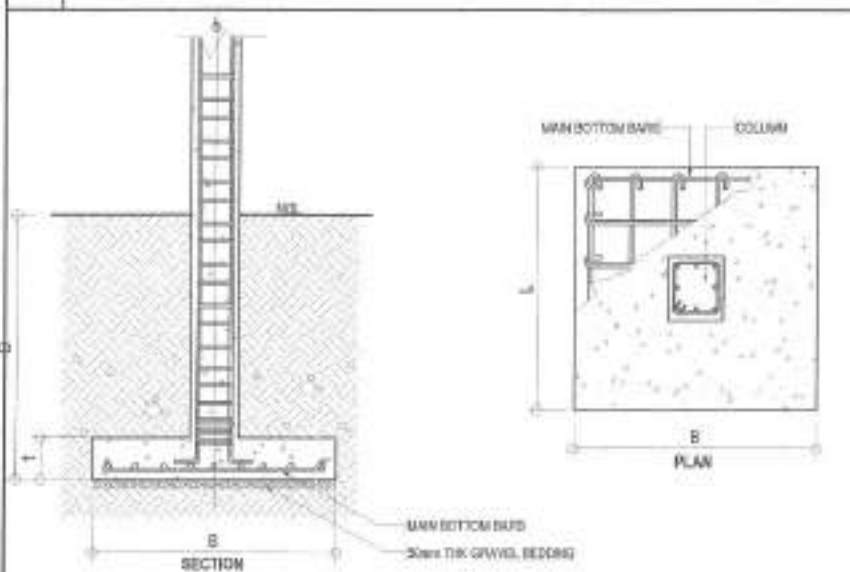
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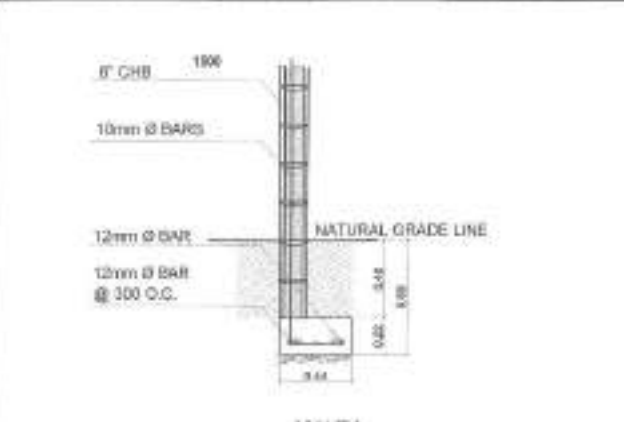


2 PEDESTAL DETAIL

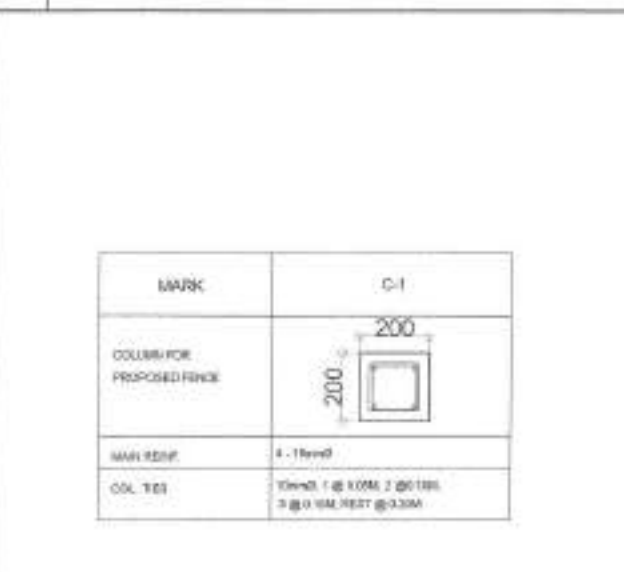


MARK	DIMENSION (mm)			REINFORCEMENTS		D	REMARKS
	B	L	I	ALONG B	ALONG L		
F1	800	800	200	5-18mm Ø	5-18mm Ø	800	SQUARE FOOTING

3 FOUNDATION SCHEDULE



4 WALL FOOTING DETAIL



MARK	C-1
COLUMN FOR PROPOSED FENCE	200
MAX. SIZE	4-18mm Ø
COL. TIES	10mm Ø @ 100mm Z @ 180mm 3 @ 0.9M. REST @ 300mm

5 COLUMN SCHEDULE

1 GENERAL NOTES

REPUBLIC OF THE PHILIPPINES
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

3 FOUNDATION SCHEDULE

PROJECT TITLE: PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF LUZVIMINDA DAY CARE CENTER

DATE: 5/2/2021

DESIGNED BY: J.A.N.

CHECKED BY: J.A.N.

REVISIONS:

5 COLUMN SCHEDULE

DESIGNED BY: ENGR. LEO S. DEL ROSARIO

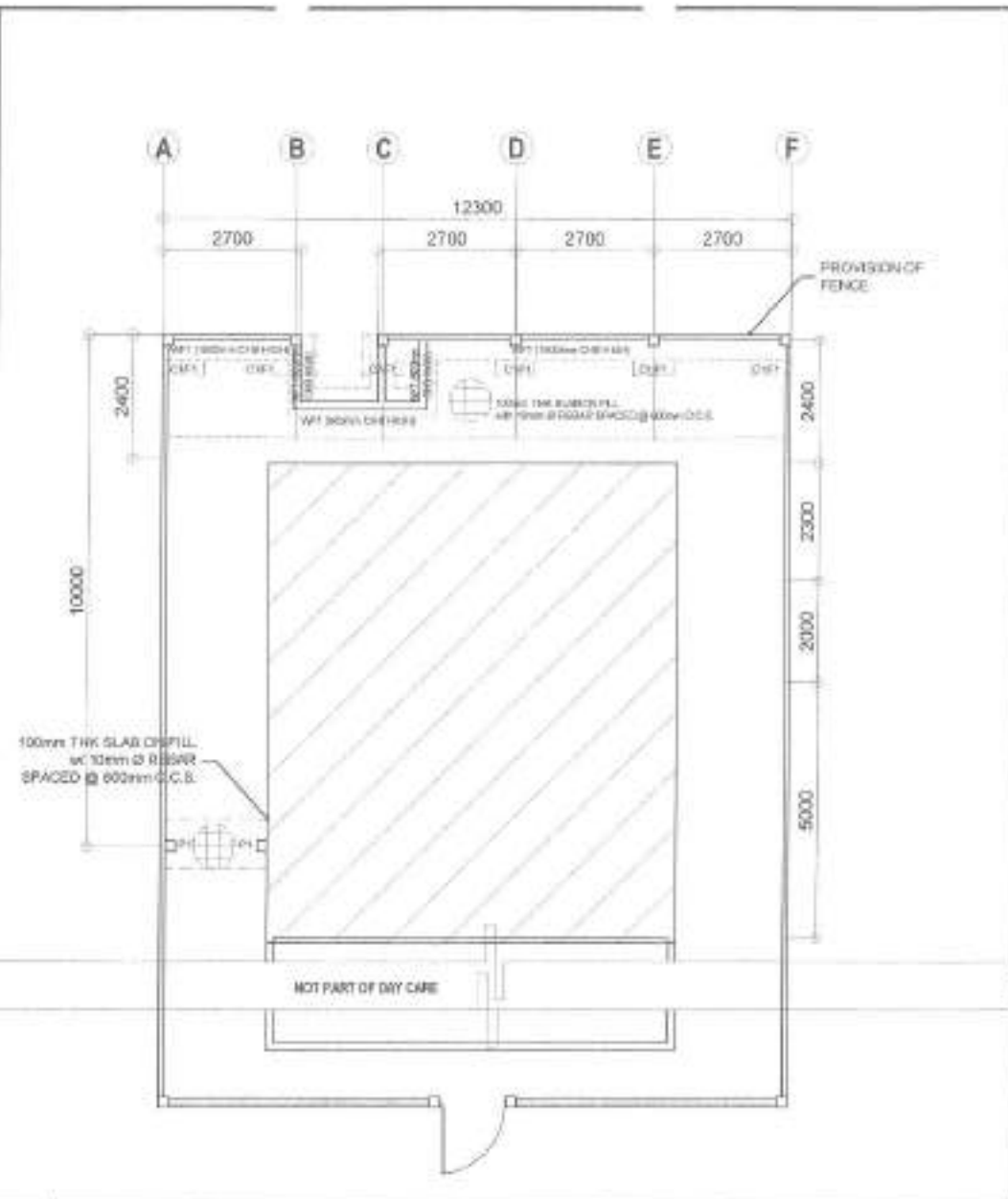
CHECKED BY: ENGR. ISAAC R. VERDOSA, JR.

APPROVED BY: HON. MA. JOSEFINA G. BELMONTI

PROJECT NO.: ST-02

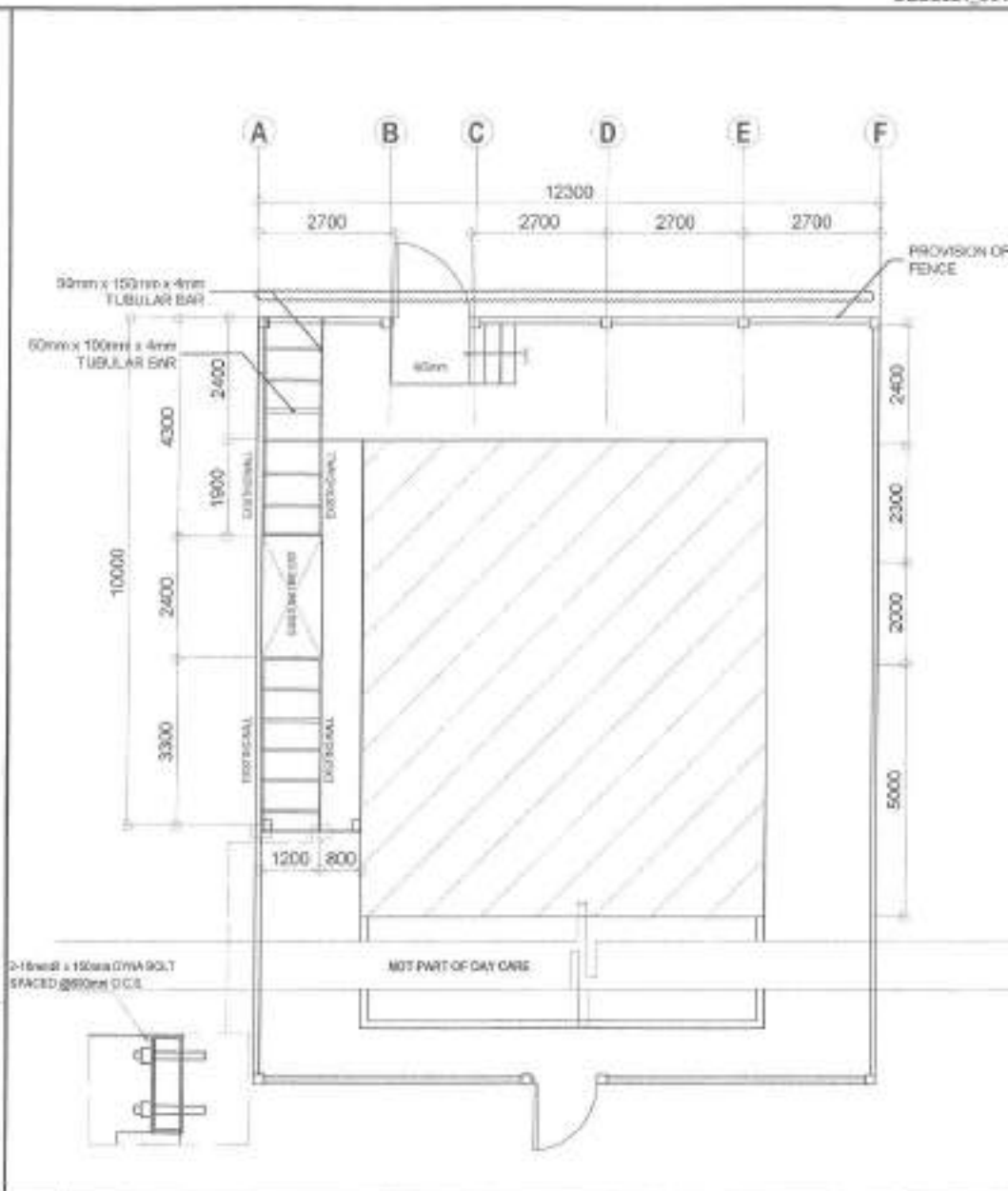
DATE: 08/13





1 FOUNDATION PLAN

SCALE: 1:100M



2 CANOPY FRAMING PLAN

SCALE: 1:75M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
**PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND
REHABILITATION OF LUZVIMINDA DAY
CARE CENTER**

LOCATION:
NADY, BATAVIA HILLS, DISTRICT 2, QUEZON CITY

DRAWN BY:
DATE: 01/2021
CHECKED BY:
REVISIONS:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
HEAVY, PLANNING & PROGRAMS DIVISION

RECOMMENDING OFFICIAL:

ENGR. BASIL R. VERZOSA, JR.
CITY ENGINEER (HEAVY)

APPROVED BY:

HON. MA. JOSEFINA G. BELMONTE
CITY MAJOR (QUEZON CITY)

SHEET NO.:

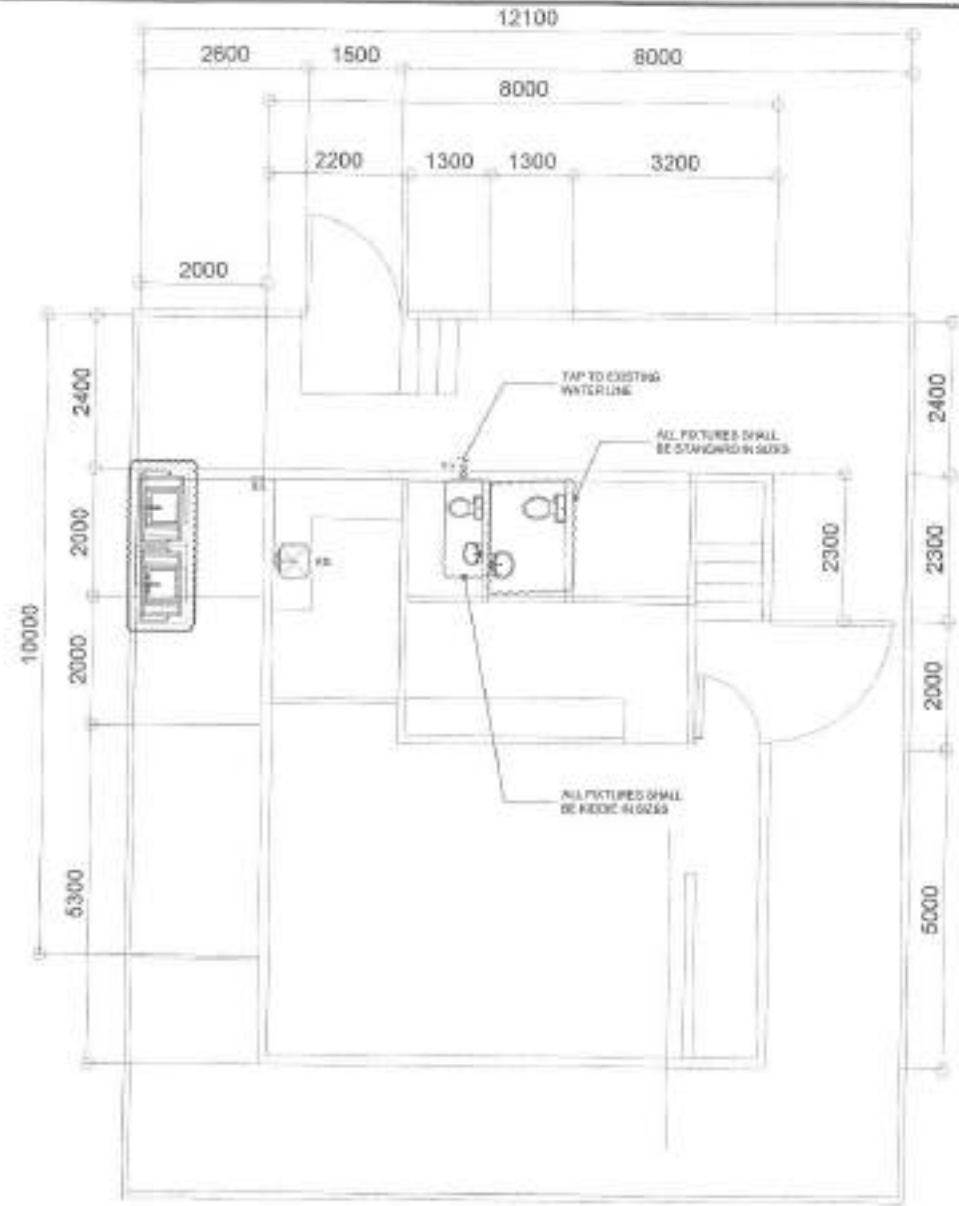
FENCE FOUNDATION
PLAN
CANOPY FRAMING
PLAN

SHEET NO.:

ST-03
09/13

- All plumbing work and material in finished basins shall be complete to the satisfaction of the local utility of Division of Public Works. The rates and regulations of local utilities covered. Facilities and regulations of local utility companies and the procedure of the local developer when and where applicable.
- The plumbing layout is only diagrammatic. Pipes, cleanouts and check valves shall be coordinated to meet as possible. It is understood to show the actual dimension of the pipe and fixtures in the drawing list of the pipe and fixtures shall be installed as and where indicated. Any relocation will require proper coordination in relation with other trades.
- The plumbing contractor shall verify all existing utilities at the site and shall coordinate to work with other trades.
- Pipes shall not be embedded in structural members unless otherwise specified in drawing.
- Minimum slope for hot/cold water lines shall be 1% and for drain lines shall be 2%.
- Proposed sanitary utilities shall conform with the local code, depth and exact elevation of the existing pipe/utilities.
- Connection of fixtures to pipes and fittings shall be according to manufacturer's specifications.
- All floor drains shall be installed properly.
- All cleanout facilities shall be back-vented to roof and shall be provided with polished cover caps. Do not backflow from cleanout except take as grade and service areas not subject to traffic.
- All underground (U) pipes in direct contact with soil shall be protected with two (2) coats of polyethylene covering with wrapped with job cloth thoroughly installed in trench or pipe.
- Provide vent stacks and vent pipe for roof of each room unless noted otherwise.
- All outdoor pipes shall be of approved quality and G.I. pipes for water distribution lines shall be Schedule 40 U.S. standard weight.
- Provide gas valves to all water supply lines to fixtures.
- All hot water lines shall be provided with proper insulation where exposed.
- All individual branches to fixtures or group of fixtures water equipments shall be provided with check valves or capped vertical pipe extensions of dimensions as shown.
- 1/2" dia for 1/2" and larger
- 3/4" dia for 1/2" and smaller
- All hot water shall be 1/2" dia (1/2" dia) unless otherwise indicated.
- Hot pipe of supply shall be 30 mm higher than the supply pipe which is 20 mm higher than the cold pipe.
- All plumbing work and material of construction shall be under the direct supervision of licensed day licensed Master Plumber or Registered Sanitary Engineer. Any discrepancies found in this drawing shall refer to the specification.

SYMBOLS AND CONVENTIONS	
FD	FLOOR DRAIN
SD	SINK DRAIN
SDC	SINK CUP
WC	WATER CLOSET
LW	LABORATORY
UB	URINAL
ES	EXT. SINK
ED	EXT. DRAIN
CD	CORRIDOR CLEANOUT
FD	FLOOR DRAIN
OK	CLEANOUT
YS	YIELD
EL	EXT. CLEANOUT
SD	SINK DRAIN
CS	CATCH BASIN
WH	WATER HEATER
...	...



1 GENERAL NOTES & LEGENDS

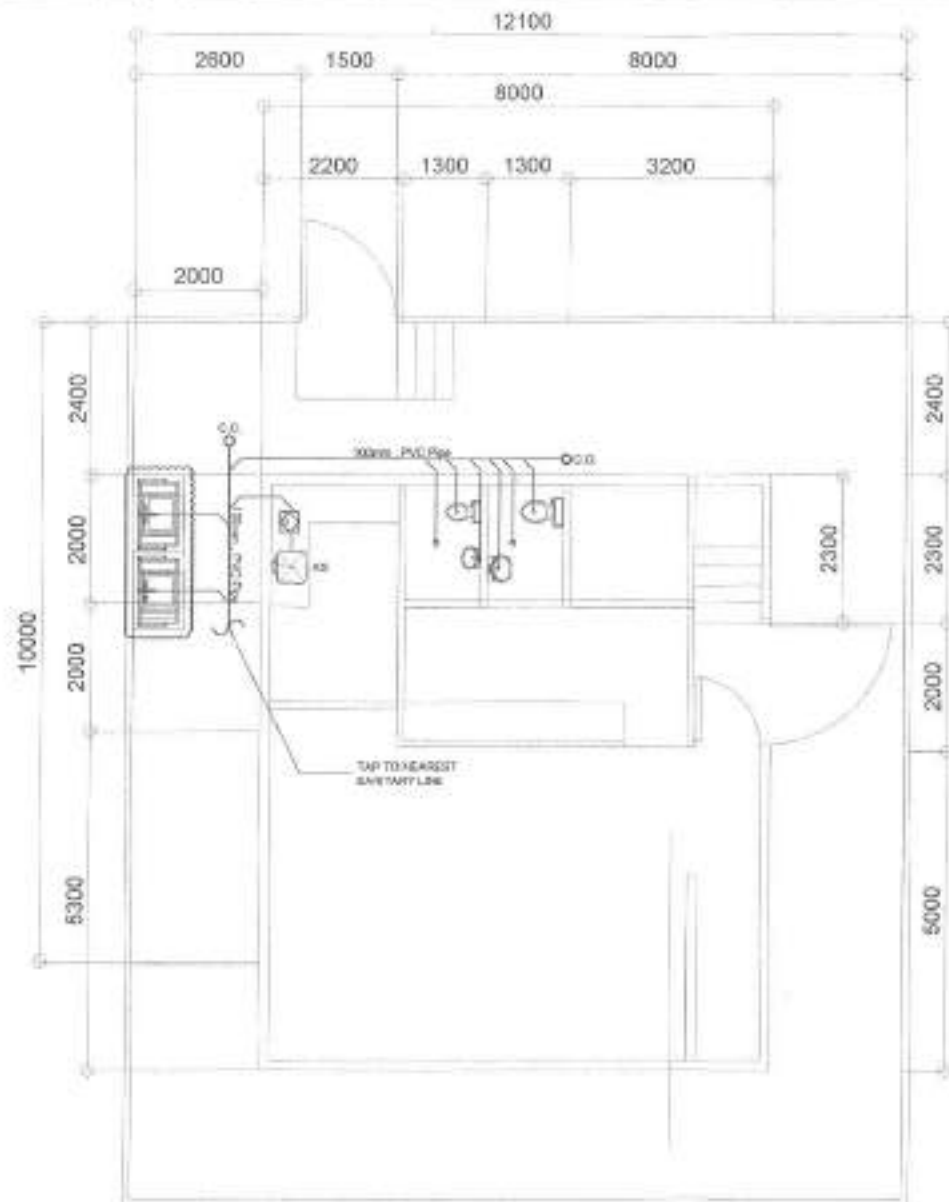
2 GROUND FLOOR WATER LINE LAYOUT

NOT TO SCALE



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE: PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF LUZYMINDA DAY CARE CENTER	DIVISION: <i>[Signature]</i> DATE: 6/20/21	SUBMITTED BY: <i>[Signature]</i>	RECEIVING OFFICE APPROVAL: <i>[Signature]</i>	APPROVED BY: <i>[Signature]</i>	SHEET DESIGN: GENERAL WATER LINES GROUND FLOOR WATER LINES	SHEET NO. PL-01 10/13
	LOCATION: BRGY. BATAAN HILLS, DISTRICT 2, QUEZON CITY	CHECKED BY: <i>[Signature]</i> REVISION NO.:	ENGR. LEO S. DEL ROSARIO HEAD, PLUMBING & SANITARY DIVISION	ENGR. ISAGONE R. VERZOSA, JR. CH. ENGINEER IN CHARGE	HON. MA. JOSEFINA G. BELMONTÉ CITY ENGINEER	


1 GROUND FLOOR SANITARY LINE LAYOUT

NOT TO SCALE


 Republika ng Pilipinas
 Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

**PROPOSED CONSTRUCTION OF HAND
 WASHING FACILITY AND
 REHABILITATION OF LUZVIMINDA DAY
 CARE CENTER**

LOCATION:

BRGY. BATAKUNHILLS, DISTRICT 7, QUEZON CITY

DRAWN BY:

DATE: 5/7/2021

CHECKED BY:

REVISION NO:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
 HEAD, PLANNING & PROGRAM DEVELOPMENT

RECOMMENDED APPROVAL:

ENGR. ISMAEL R. VERZOSA, JR.
 CH. & ASST. CH. ENGINEERING DEPARTMENT

APPROVED BY:

HON. MA. JOSEFINA G. BELMONTE
 CITY MAYOR, QUEZON CITY

SHEET CONTENT:

 WORK HEAD
 LOCKS
 05/07/2021 1:08 AM

SHEET NO:

PL-02
11/13

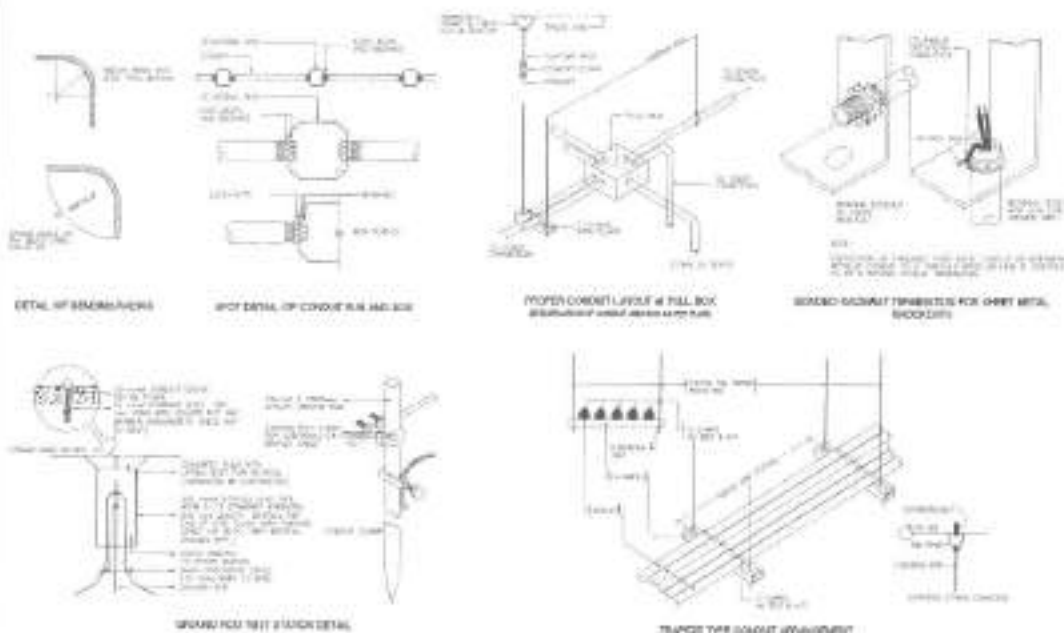
- ALL ELECTRICAL WORKS SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, THE LAWS AND ORDINANCES OF THE LOCAL CODE ENACTING AUTHORITIES AND THE REQUIREMENTS OF THE LOCAL POWER AND TELEPHONE UTILITY COMPANY.
- THE CONTRACTOR SHALL SECURE ALL PERMITS AND PAY ALL FEES REQUIRED FOR THE WORK AND SHALL FURNISH THE CORRECT THROUGH THE ENGINEER, FINAL CERTIFICATES OF ELECTRICAL INSPECTION AND APPROVAL FROM RICHER GOVERNMENT AUTHORITIES FOR COMPLETION OF WORK.
- ALL EMERGENCY BRANCH CIRCUITS SHALL BE IN CONDUITS AND FOR EXPOSED METALLATION SHALL BE EMT OR MC SUPPORTED BY CONDUIT CLAMPS EVERY 100 MILLIMETERS.
- PULL BOXES SHALL BE PROVIDED BY THE CONTRACTOR WHEREVER NECESSARY TO FACILITATE WIRE PULLING EVEN IF THESE ARE NOT INDICATED ON THE PLANS. SIZE OF ALL PULL BOXES SHALL BE COMPUTED BASED ON THE CODE REQUIREMENTS. SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION. LOCATION OF PULL BOXES SHALL BE APPROVED BY THE ARCHITECT/ENGINEER AND MUST BE REFLECTED ON THE AS-BUILT PLAN.
- ALL POWER OUTLETS AND SWITCHES SHALL BE GROUNDING TYPE WITH PARALLEL SLOTS FOR 230V.
- PROVIDE GROUND FAULT CURRENT INTERRUPTER CIRCUIT BREAKER FOR 10Amps WIRING "OUT" ON THE PLAN.
- ALL METALLIC CONDUITS, CABINETS AND EQUIPMENT SHALL BE PROPERLY GROUNDED AND RACED.
 - UNLESS OTHERWISE NOTED, MOUNTING HEIGHT FOR WALL MOUNTED DEVICES SHALL BE AS FOLLOWS:
 - RECEPTACLE OUTLET - 300 MM AFF. 150MM ABOVE WORKING COUNTER.
 - LIGHTING SWITCH - 1400 MM AFF.
 - POWER BOARD - 1500 MM AFF.
- REFER TO MECHANICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR FITTINGS AND LOCATIONS OF EQUIPMENT AS WELL AS THEIR CONTROL SEQUENCES AS SPECIFIED AND OR SHOWN UNDER THEIR RESPECTIVE SECTIONS.
- ALL MATERIALS TO BE USED SHALL BE OF THE BEST QUALITY. BRAND NAME AS SPECIFIED.
- THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO PRESENT GENERAL LAYOUT AND BROAD OUTLINE DESCRIPTION OF THE PROJECT BUT DO NOT NECESSARILY INDICATE DESCRIBED ACTUAL LOCATIONS, LEVEL AND DISTANCES OF THE EQUIPMENT. THE CONTRACTOR IS HEREBY REQUIRED TO MAKE SUCH ADJUSTMENT AT THE JOB SITE AS LOCATION, DISTANCES AND LEVELS ARE GOVERNED BY ACTUAL FIELD CONDITIONS.
- ANY DISCREPANCY BETWEEN THE PLANS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION/DECISION.
- ALL LIGHTING AND CONVENIENCE OUTLET CIRCUITS SHALL BE 3.5 SQ. MM THIN-Z COPPER WIRE UNLESS OTHERWISE NOTED. MINIMUM SIZE OF WIRE SHALL BE 3.5 SQ. MM COPPER WIRE. ALL WIRES AND CABLES SHALL BE COLOR CODED AS FOLLOWS:

LINE 1 - RED
 LINE 2 - YELLOW
 NEUTRAL - WHITE
 GROUND - GREEN

- BOXES, WIRE, OUTLETS, ENCLOSURE SHALL BE FABRICATED FROM STEEL WITH THICKNESS AS FOLLOWS:
 - MAXIMUM WIDTH OF THE WIDEST SURFACE STEEL
 - UP TO INCLUDING 152.4 MM
 - OVER 152.4 MM BUT NOT OVER 457.2
 - OVER 457.2 MM BUT NOT OVER 914.4 MM
 - OVER 914.4 MM
 - GA 16 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
 - GA 14 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
 - GA 12 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
 - GA 10 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
- ALL ELECTRICAL WORKS HEREIN SHALL BE ENSURED BY EXPERIENCED MEN UNDER THE DIRECT SUPERVISION OF A FULL-TIME LICENSED ELECTRICAL ENGINEER AND A DULY INCORPORATED ELECTRICAL CONTRACTOR BY PCAE. WORKS SHALL BE NEATLY PLACED, SECURELY FASTENED AND PROPERLY FINISHED.
- TYPE OF SERVICE ENTRANCE SHALL BE SINGLE-PHASE, TWO-WIRE PLUS GROUND, 50 HERTZ, 230V AC NOMINAL.
- CONDUIT IN ANY CASE SHALL THERE BE MORE THAN THE EQUIVALENT OF FOUR QUARTER BENDS IN ANY ONE RUN. ALL CONDUIT BENDS SHALL BE FIELD MADE BY USING HYDRAULIC BENDERS. MINIMUM BENDING RADIUS MUST BE IN ACCORDANCE TO THE CODE REQUIREMENTS.
- UPON COMPLETION OF ELECTRICAL CONSTRUCTION WIRING INSULATION RESISTANCE TEST AND FUNCTIONALITY TEST SHALL BE PERFORMED BY THE CONTRACTOR INCLUSIVE OF THE INSTALLATION TO BE REPORTED IN DETAILS ON FORMS APPROVED BY THE QUEZON-CITY ENGINEERING DEPARTMENT REPRESENTATIVE. THE GROUND RESISTANCE FOR ELECTRICAL SYSTEMS SHALL NOT BE MORE THAN 5 OHM. COMMUNICATION GROUNDING RESISTANCE SHALL NOT EXCEED 1 OHM.

	Duplex Convenience Outlet		150mm ² LED Pnlight
	Duplex Convenience Outlet, Counter-top		2x18w LED Tube in 1200mm x 600mm Troffer Fixture

2 LEGENDS AND SYMBOLS



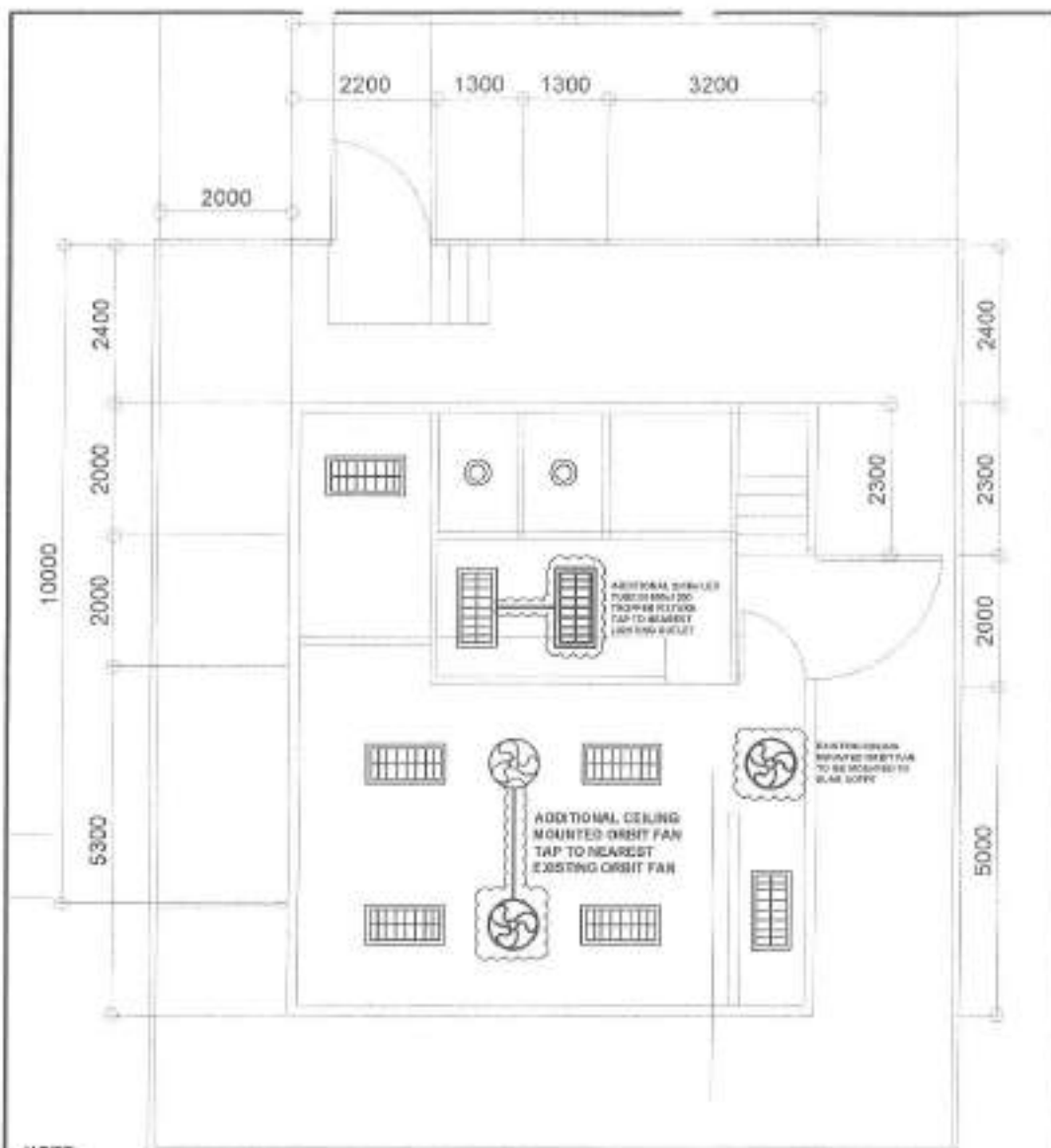
1 GENERAL NOTES

2 CONNECTION DETAIL



Republika ng Pilipinas
 Lungsod ng Quezon
 CITY ENGINEERING DEPARTMENT

PROJECT TITLE: PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF LUZVIMINDA DAY CARE CENTER	DESIGNED BY: <i>[Signature]</i>	ISSUED BY: <i>[Signature]</i>	RECOMMENDED BY/ APPROVAL: <i>[Signature]</i>	APPROVED BY: <i>[Signature]</i>	DEPT. CHIEF: GENERAL NOTES LEGENDS AND SYMBOL CONNECTION DETAIL	SHEET NO. EL-01 12/13
DATE: 8.7.2021	CHECKED BY: <i>[Signature]</i>	ENGINEER: ENGR. LEO S. OLL ROSARIO HEAD, PLUMBING & FIRE PROTECTION DIVISION	ENGINEER: ENGR. JOSEANI R. VERDEGA, JR. CITY ENGINEERING DEPARTMENT	HOW. MA. JOSEFINA G. BELMONTE CITY MAOR, QUEZON CITY		
LOCATION: BHW7, BATAVIA HILLS II, DISTRICT 2, QUEZON CITY	REVISION NO.:					

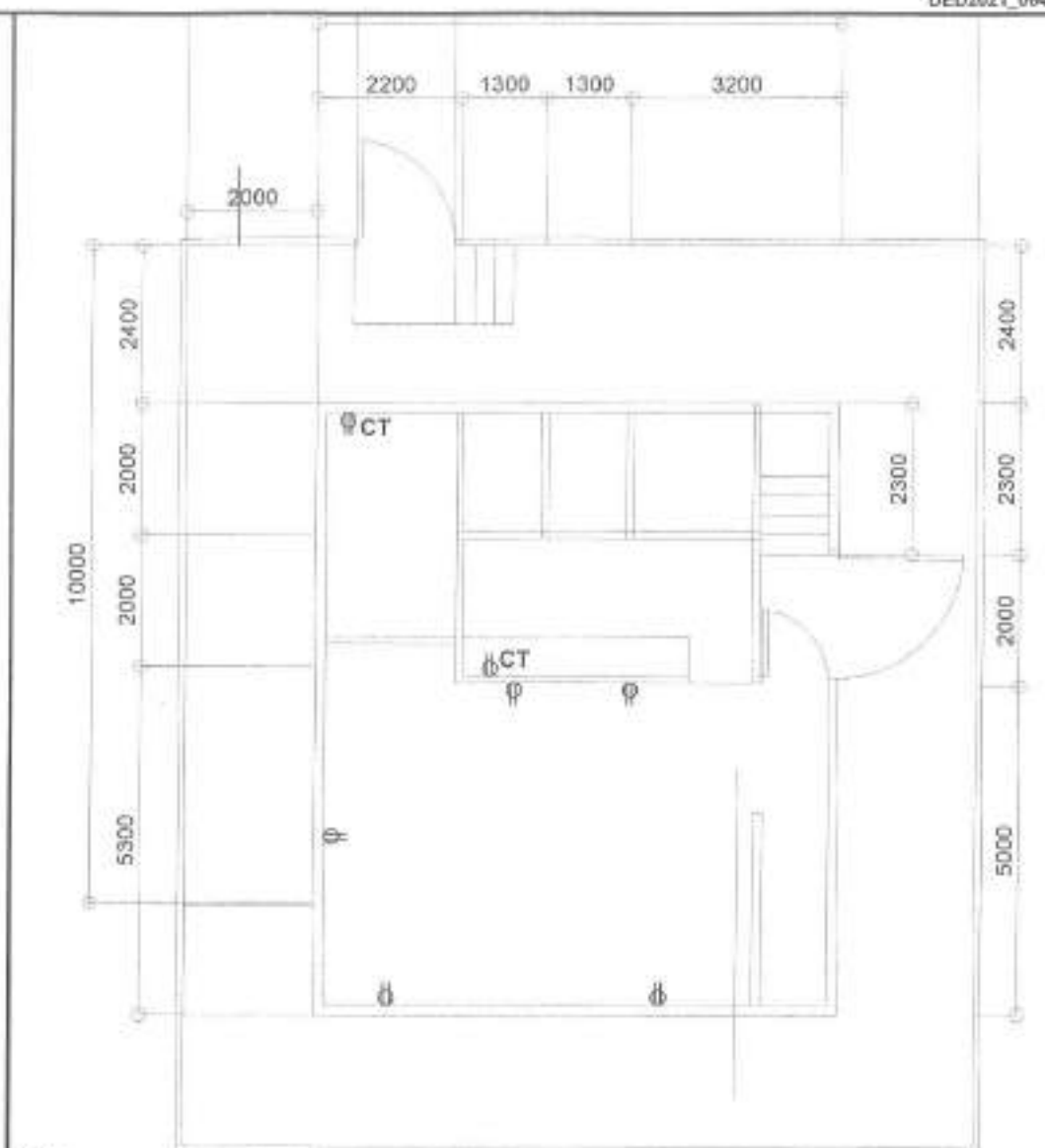


NOTE:

- FOR REPLACEMENT OF EXISTING 2x16w LED TUBE IN 600x1200mm TROFFER FIXTURES
- FOR REPLACEMENT OF EXISTING ORBIT FANS WITH SELECTOR SWITCH

1 GROUND FLOOR LIGHTING LAYOUT

SCALE: 1:80M



NOTE:

- FOR REPLACEMENT OF EXISTING DUPLEX CONVENIENCE OUTLETS.

2 GROUND FLOOR POWER LAYOUT

SCALE: 1:80M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
**PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND
REHABILITATION OF LUZVIMINDA DAY
CARE CENTER**

LOCATION:
SPEY, BATAVIAN HILLS, DISTRICT 2, QUEZON CITY

DRAWN BY:
DATE: 9/2/2021
CHECKED BY:
DESIGNED BY:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING & PROGRAMMING DIVISION

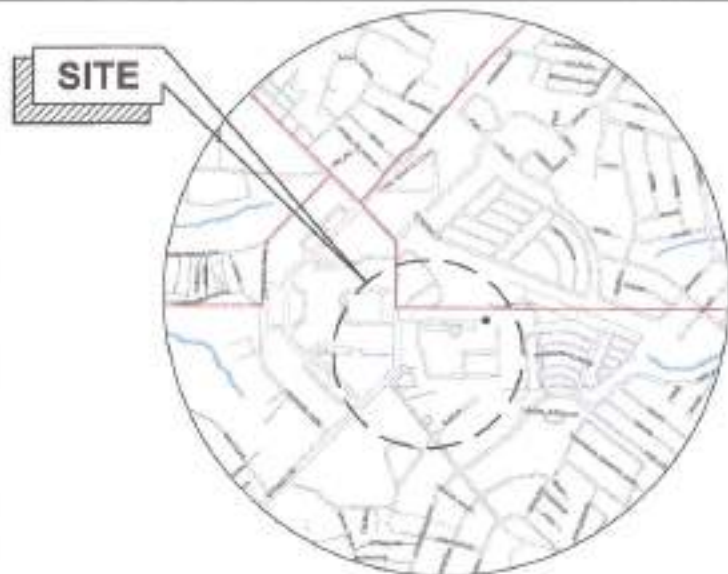
RECOMMENDING APPROVAL:

ENGR. SAGOR R. VERZOSA, JR.
CHIEF, ELECTRICAL ENGINEERING DIVISION

APPROVED BY:
HON. NA. JOSEFINA S. BELMONTE
CITY MAYOR, QUEZON CITY

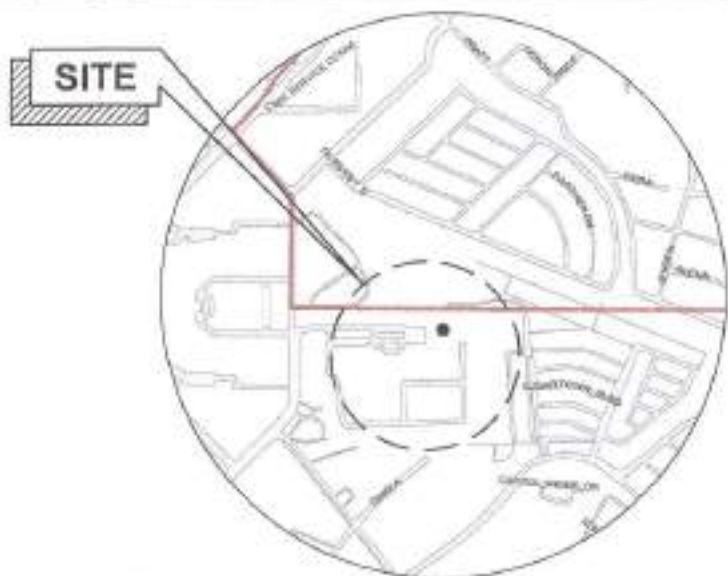
SHEET NO./TOTAL
GROUND FLOOR
LIGHTING LAYOUT
GROUND FLOOR
POWER LAYOUT

SHEET NO.
EL-02
13/13



1 LOCATION MAP

SCALE: NTS



2 VICINITY MAP

SCALE: NTS



3 PERSPECTIVE

SCALE: NTS

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------	---



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND
REHABILITATION OF POOK PAG-ASA
DAY CARE CENTER

LOCATOR:

BRGY. BATAWAN HILLS, DISTRICT 2, QUEZON CITY

DRAWN BY:

DATE: 8/19/2021

CHECKED BY:

REVISION/NO.

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
HEAD, PLUMBING & MECHANICAL DIVISION

RECOMMENDING APPROVAL:

ENGR. ROBERTO R. VERZOSA, JR.
DC, CITY ENGINEERING DEPARTMENT

APPROVED BY:

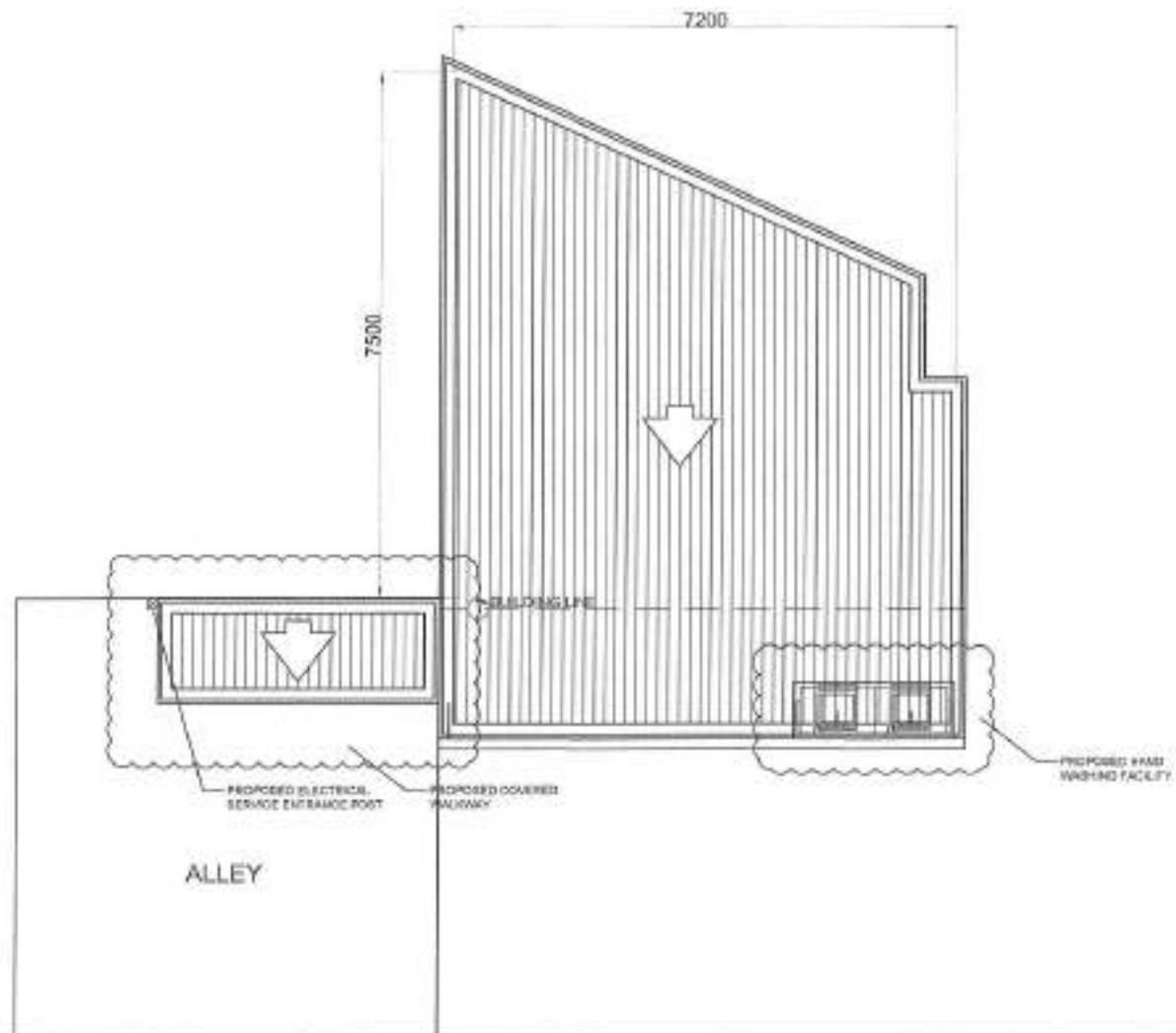
HON. MA. JOSEFINA G. BELMORTE
CITY SHERIFF, QUEZON CITY

SHEET CONTENT:

LOCATION MAP
VICINITY MAP
PERSPECTIVE

SHEET NO.:

AR-1
01/16



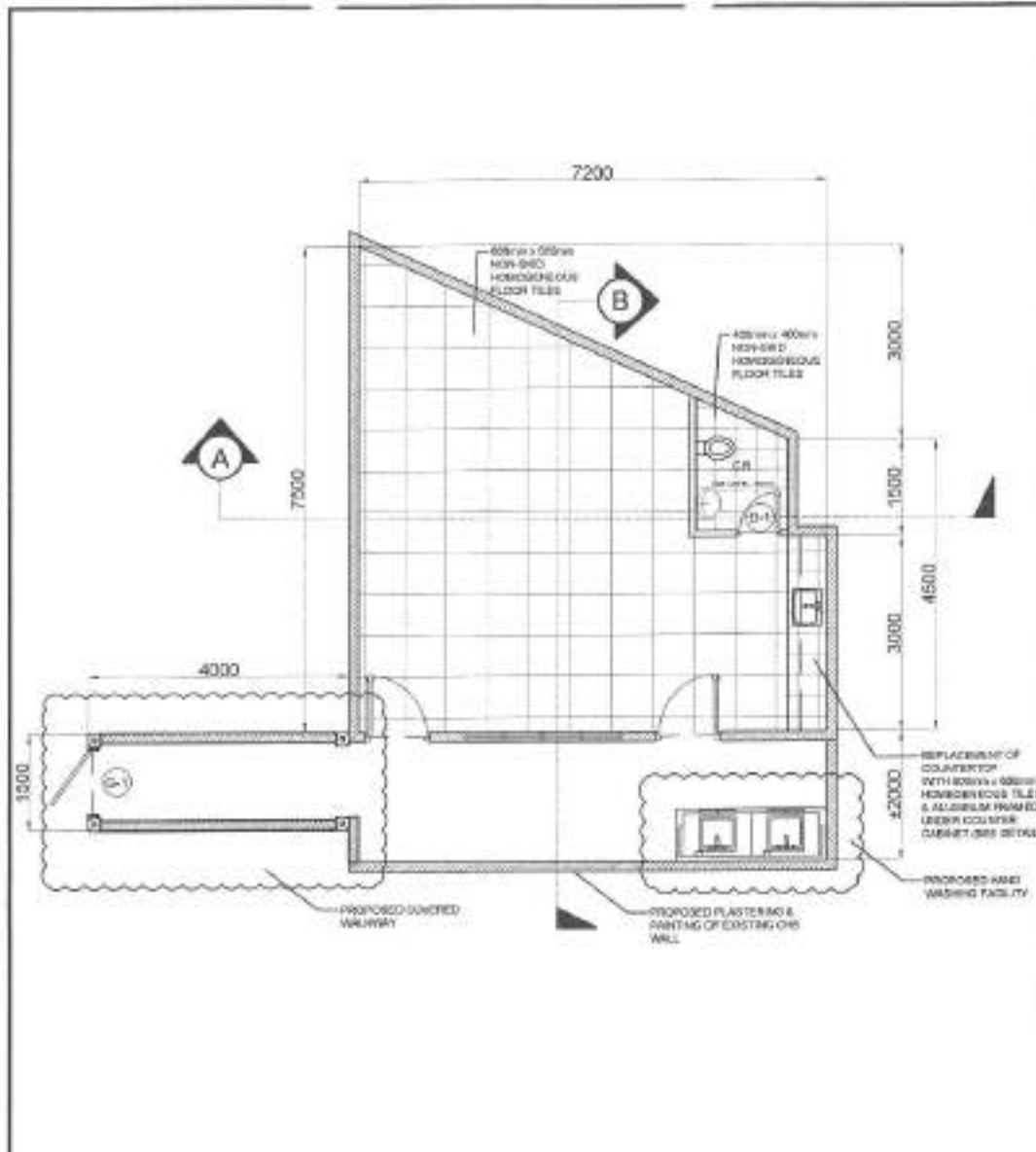
1 SITE DEVELOPMENT PLAN

SCALE: 1:15000

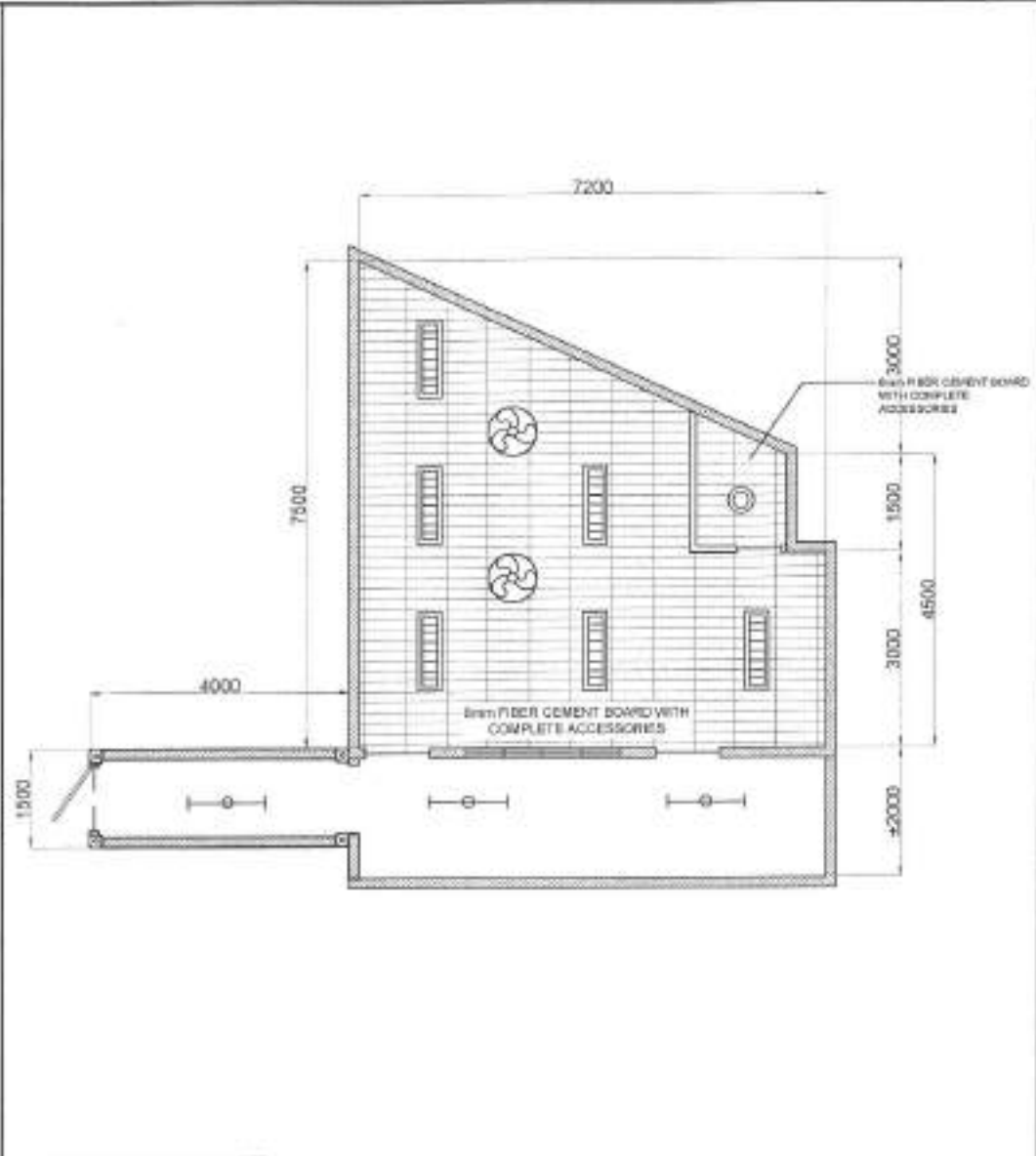


Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE	DRAWN BY	SUBMITTED BY	RECOMMENDING APPROVAL	APPROVED BY	SHEET CONTENT	SHEET NO.
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF POOK PAG-ASA DAY CARE CENTER	DATE: 8/16/2021 CHECKED BY: JJP	ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAMMING DIVISION	ENGR. EDGAR R. VERZOSA, JR. DIR. CITY ENGINEERING DEPARTMENT	HON. RA. JOSEFINA G. BELMORTE CITY MAYOR, QUEZON CITY	SITE DEVELOPMENT PLAN	AR-2 0216
LOCATION: GREY BATHS/AN HILLS DISTRICT 3, QUEZON CITY	REWORKING NO.					



NOTE:
 • WHOLE INTERIOR AND EXTERIOR OF BUILDING TO BE REPAINTED



NOTE:
 • CEILING TO BE REPLACED

1 GROUND FLOOR PLAN

SCALE: 1:80ms

2 GROUND FLOOR REFLECTED CEILING PLAN

SCALE: 1:80ms



PROJECT TITLE:
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF POOK PAG-ASA DAY CARE CENTER

LOCATION:
 BPOY, DATADIP HILLS, DISTRICT 2, QUEZON CITY

DESIGNED BY: [Signature]
 DATE: 01/03/21
 CHECKED BY: [Signature]
 REVISION NO.:

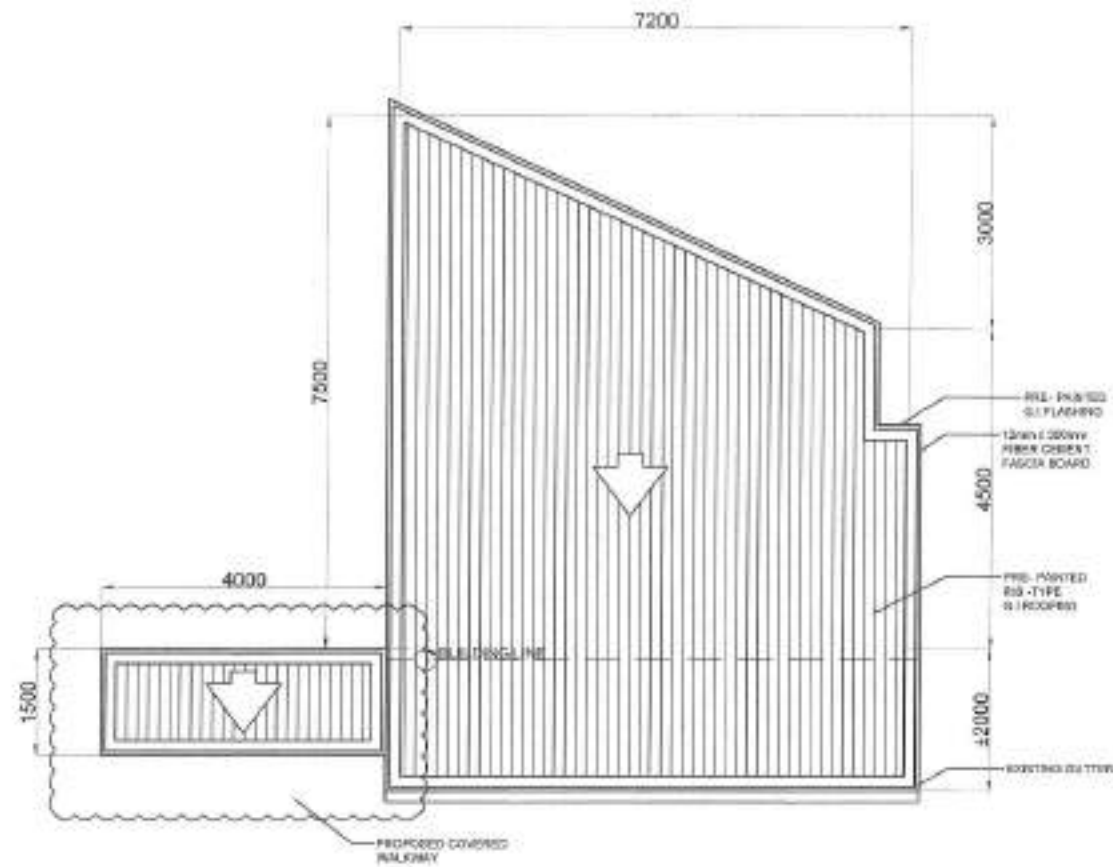
SUBMITTED BY:
 [Signature]
ENGR. LEO S. DEL ROSARIO
 HEAD, PLANNING & PROJECT DEVELOPMENT

RECOMMENDED APPROVAL:
 [Signature]
ENGR. URSALINI R. VERZOSA, JR.
 OIC, CITY ENGINEERING DEPARTMENT

APPROVED BY:
 [Signature]
HON. RA. JOSEFINA G. BELMONTE
 CITY MAYOR, QUEZON CITY

SHEET CONTENT:
 GROUND FLOOR PLAN
 GROUND FLOOR
 REFLECTED CEILING PLAN

SHEET NO.
AR-3
03/16



NOTE:
• ROOFING TO BE REPLACED

1 ROOF PLAN

SCALE: 1/32nd



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND
REHABILITATION OF POOK PAG-ASA
DAY CARE CENTER

LOCATION:

3907, BAYANAN HILLS, DISTRICT 2, QUEZON CITY

DRAWN BY:

DATE: 6/15/2021

CHECKED BY: JAM

DESIGNER:

SUBMITTED BY:

ENGR. LEY S. DEL ROSARIO

HEAD, PLANNING & PROGRAMMING DIVISION

RECOMMENDING APPROVAL:

ENGR. ISAGUATH R. VERZOSA, JR.

CC, CITY ENGINEERING DEPARTMENT

APPROVED BY:

HON. MA. JOSEFINA G. BELMONTTE

CITY MARCH, QUEZON CITY

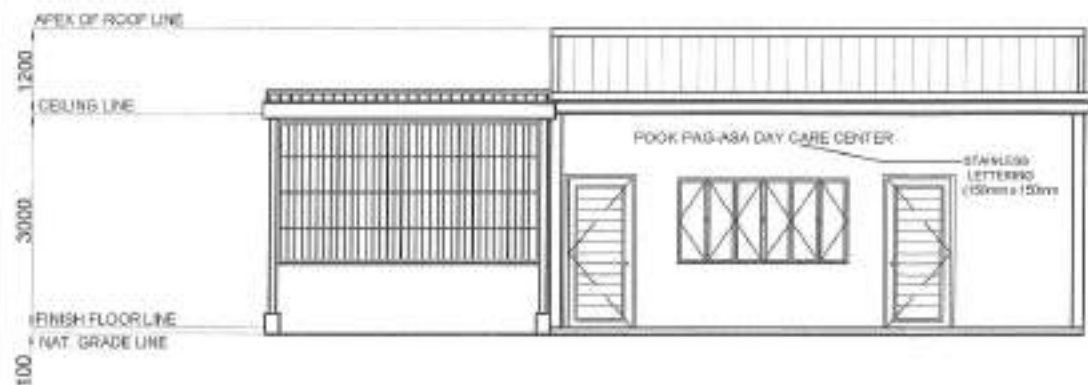
SHEET COUNT:

ROOF PLAN

SHEET NO.:

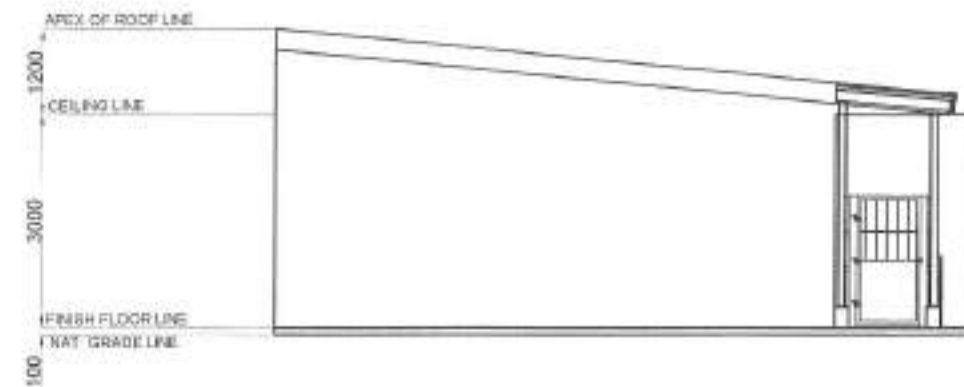
AR-4

04/16

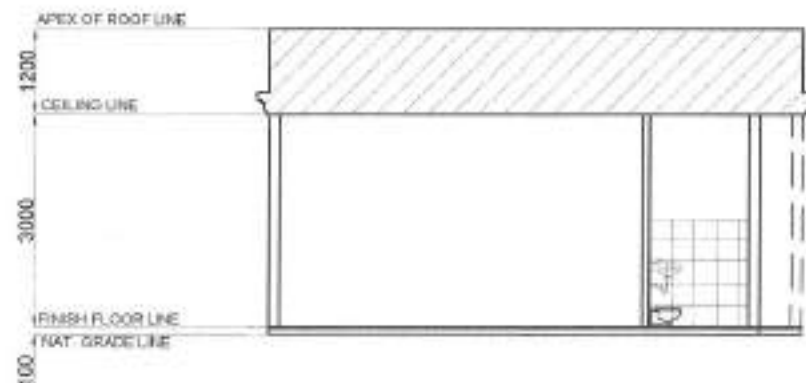


1 FRONT ELEVATION

SCALE: 1:100nbs

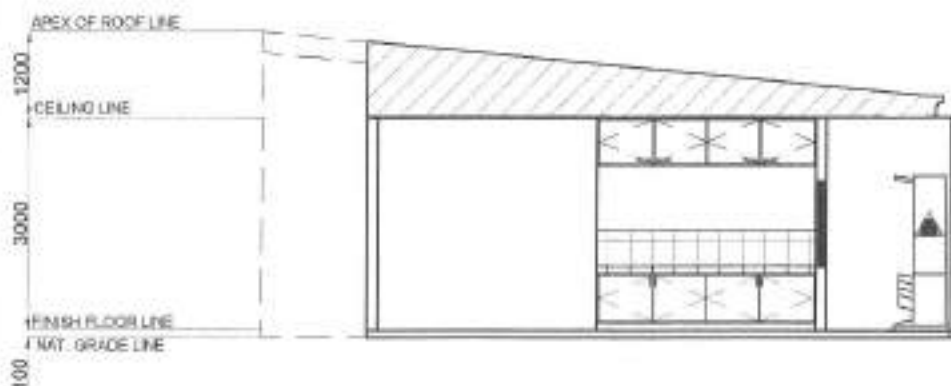


2 LEFT SIDE ELEVATION



3 SECTION THRU "A"

SCALE: 1:100nbs



4 SECTION THRU "B"

SCALE: 1:100nbs

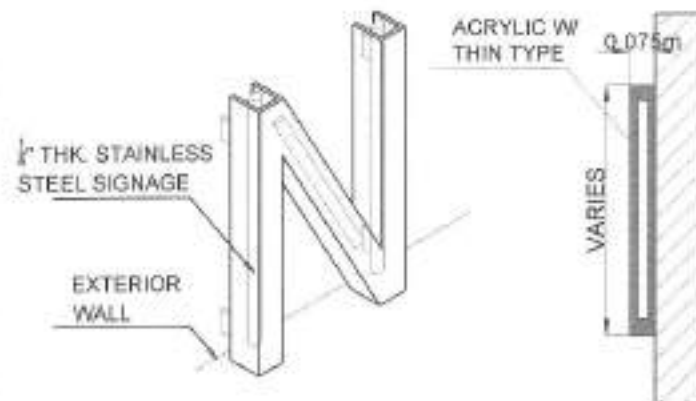
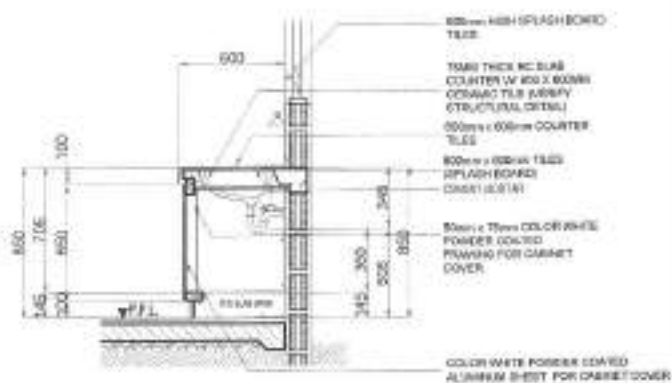
NOTE:

- WHOLE EXTERIOR AND INTERIOR OF BUILDING TO BE REPAINTED



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE: PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF POOK PAG-ASA DAY CARE CENTER	DRAWN BY: <i>[Signature]</i>	SUBMITTED BY: <i>[Signature]</i>	RECOMMENDING APPROVAL: <i>[Signature]</i>	APPROVED BY: <i>[Signature]</i>	SHEET CONTENT: FRONT ELEVATION LEFT SIDE ELEVATION SECTION THRU "A" SECTION THRU "B"	SHEET NO.: AR-5 05 16
LOCATION: BRDY, BATAVIA HILLS, DISTRICT 9, QUEZON CITY	DATE: 8/16/2021	ENGR. CESO S. DEL ROSARIO HEAD, PLANNING & PROGRAM DIVISION	ENGR. ISAGANI R. VERZOSA, JR. CO. CITY ENGINEER	HON. NA. JOSEFINA G. BELMONTE CITY MAYOR, QUEZON CITY		
CHECKED BY: <i>[Signature]</i>	REVISION NO.:					



1 DOOR SCHEDULE

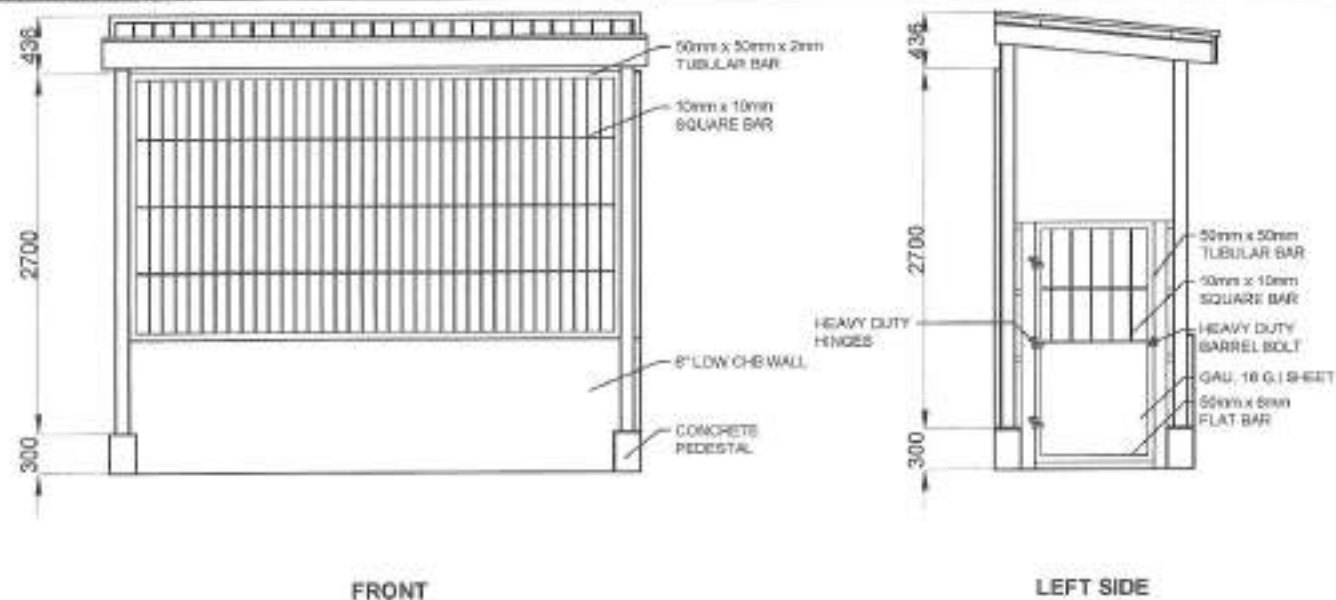
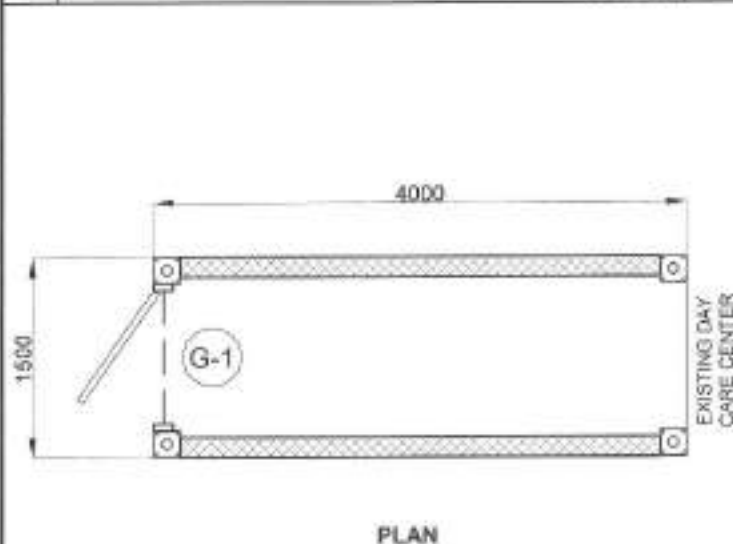
SCALE: NTS

2 STANDARD COUNTERTOP WITH SINK DETAILS

SCALE: 1:30mb

3 STANDARD LOGO DETAILS

SCALE: 1:10mb



4 COVERED WALKWAY DETAILS

SCALE: 1:40mb



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND
REHABILITATION OF POOK PAG-ASA
DAY CARE CENTER

DRAWN BY:

DATE: 8/18/2021

CHECKED BY:

REVISIONS:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING & PROGRAM DIVISION

RECOMMENDING APPROVAL:

ENGR. ISAGANI M. VERZOSA, JR.
DC, CITY ENGINEERING DEPARTMENT

APPROVED BY:

HON. MA. JOSEFINA G. BELMONTE
CITY ENGINEER, QUEZON CITY

SHEET CONTENT:

STANDARD
COUNTERTOP DETAILS
HANDING CABINET
DETAILS
STANDARD LOGO
DETAILS
COVERED WALKWAY
DETAILS

SHEET NO.:

AR-6
06/16

LOCATION:
BNDY, BATAKSIAN HILLS, DISTRICT 7, QUEZON CITY

GENERAL

- CONSTRUCTION DETAILS AND FINISHES APPLY TO ALL DIMENSIONS UNLESS OTHERWISE SHOWN OR NOTED. VERIFY TYPICAL DETAILS AS DIRECTED TO MEET SPECIAL CONDITIONS.
- SHOP DRAWINGS WITH SPECIFICATIONS AND FINISHES (INCLUDING ALL SPECIALS) FOR DIVISIONS APPROVAL BEFORE PROCEEDING.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE ALL WORK TO BEGIN. DISCOVER MECHANICAL AND ELECTRICAL CONDUITS PRIOR TO CONCRETE POUR. (SEE SCHEDULE FOR THE LOCATION OF CONDUITS).
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ADEQUATE SHORING AND BRACING OF THE STRUCTURE FOR ALL LOADS THAT MAY BE APPLIED DURING CONSTRUCTION.
- IN CASE OF QUESTION AS TO THE INTERPRETATION OF ANY DETAIL OR FINISH REFER TO THE ARCHITECT FOR THE CORRECT INTERPRETATION. THE ARCHITECT'S DECISION SHALL BE FINAL.

CONCRETE & REINFORCEMENT

- ALL DETAILS AND REINFORCEMENT SHALL COMPLY WITH THE LATEST BUILDING CODE OF THE PHILIPPINES AND THE LATEST ACI 308R.
 - ALL CONCRETE SHALL BE OF A MINIMUM COMPRESSIVE STRENGTH AT THE TIME OF POUR AS SPECIFIED WITH COMPENSATING MATERIALS TO CORRECT DEFICIENCIES. LOCATION
- | LOCATION | STRENGTH | MAX. SIZE OF AGGREGATE | W/P | SLURRY |
|-----------------------------|-------------------|------------------------|-----|--------|
| 1. SLAB ON GROUND | 28 MPa (2800 Psi) | 1.5 (20mm) | 4 | (10mm) |
| 2. WALL, COLUMN, BEAM, PIER | 28 MPa (2800 Psi) | 3/4 (20mm) | 4 | (10mm) |
| 3. FOUNDATION | 28 MPa (2800 Psi) | 1.5 (20mm) | 4 | (10mm) |

- ALL REINFORCING BARS SHALL CONFORM TO THE SPECIFICATIONS FOR STEEL BARS AND ANCHOR BOLTS AND GRACIOSO FOR STEEL BARS AND ANCHOR BOLTS.
- IN GENERAL, THE LATEST EDITION OF ALL U.S. VERSIONS OF STANDARD PRACTICE OR OTHER RELEVANT CONCRETE STANDARDS SHALL BE APPLIED TO ALL CONCRETE WORK UNLESS OTHERWISE SPECIFIED.

MINIMUM FINISH CONCRETE COVER FOR REINFORCEMENT AS FOLLOWS:

- | | |
|--|------|
| CONCRETE EXPOSED TO DIRECTLY ADJACENT GROUND | 25mm |
| EXPOSED SLAB | 25mm |
| SLAB ON GROUND | 25mm |
| WALL ABOVE GROUND | 25mm |
| BEAM & COLUMN | 40mm |

- SPICES SHALL BE SECURELY WROTE TOGETHER AND SHALL LAP UP EXPOSED TO WEATHER WITH TABLE 1 TABLE OF LAP SPACING AND OVERLAP LENGTHS OF REINFORCING BARS OR OVERLAP SPICES SHALL BE STAGGERED IN EVERY POSSIBLE MANNER.

- ALL ANCHOR BOLTS, COUPLERS AND OTHER ACCESSORIES SHALL BE PROPERLY WELDED AND SECURED IN PLACE PRIOR TO POURING OF CONCRETE.

- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REINFORCEMENT, FORMS, SCAFFOLDING, SHORING AND BRACING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION, ERECTION AND DEMOLITION OF FORMS.

- ALL CONCRETE SHALL BE PUMPED INTO PLACE FOR ALL PARTS OF WORK. CONCRETE SHALL BE PLACED AND FINISHED WITHIN THE TIME SPECIFIED BY THE CONTRACTOR. PUMPING SHALL BE DONE IN SUCH A MANNER AS TO AVOID SEGREGATION.

REINFORCEMENT PROVISIONS

CONCRETE	COVERED
FOUNDATION	31 DAYS
SLAB ON GROUND	21 DAYS
ADDITIONAL LOADS AND IMPACTS	28 DAYS
PERFORMING WORK	21 DAYS
FORMS	21 DAYS

- DEVELOPMENT LENGTH FOR ALL BARS SHALL BE A MINIMUM OF 8 BAR DIAMETERS UNLESS OTHERWISE SPECIFIED.

STRUCTURAL STEEL AND PLATES

- ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A36 (A36) UNLESS OTHERWISE SPECIFIED FOR STRUCTURAL STEEL.
- ANCHOR BOLTS SHALL BE ALL STEEL SHALL CONFORM TO ASTM A307 (A307) UNLESS OTHERWISE SPECIFIED.
- ALL STEEL SHALL BE GALVANNEAL OR GALVALUME UNLESS OTHERWISE SPECIFIED. GALVALUME SHALL BE TYPE 55.

FOUNDATION

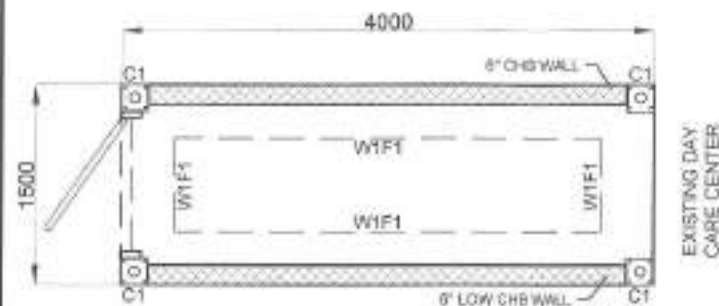
- FOUNDATION IS DESIGNED BASED ON NATIONAL BUILDING CODE OF THE PHILIPPINES FOR ALLOWABLE SOIL BEARING CAPACITY OF SOILS.

- FOUNDATION SHALL REST ON NATURAL SOIL. SOILS CHARACTERISTICS NOTED BY THE CONTRACTOR SHALL NOTIFY THE ENGINEER UPON COMPLETION OF FOUNDATION CONSTRUCTION FOR APPROVAL.

- THE CONTRACTOR SHALL NOTIFY THE ENGINEER UPON COMPLETION OF FOUNDATION CONSTRUCTION FOR APPROVAL. SOIL CONDITIONS WHICH ARE NOT COMPATIBLE WITH THE DESIGN OR NOT COMPATIBLE WITH THE DESIGN SHALL BE CORRECTED BY THE CONTRACTOR.

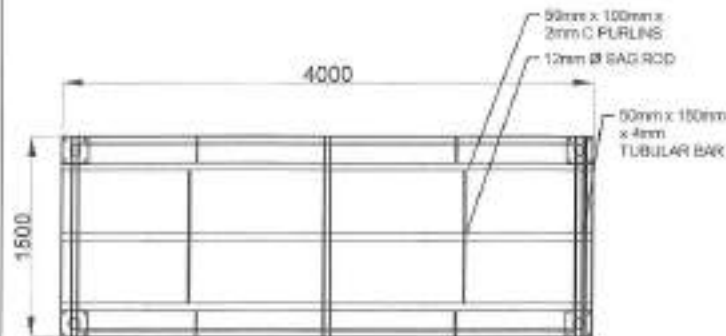
MASONRY WALLS

- ALL MASONRY WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPROPRIATE STANDARDS AND SPECIFICATIONS OF THE STRUCTURAL CODE OF THE PHILIPPINES. MASONRY SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPROPRIATE STANDARDS AND SPECIFICATIONS OF THE STRUCTURAL CODE OF THE PHILIPPINES. MASONRY SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPROPRIATE STANDARDS AND SPECIFICATIONS OF THE STRUCTURAL CODE OF THE PHILIPPINES.
- ALL MASONRY WALLS SHALL BE CONSTRUCTED WITH REINFORCEMENT SHALL BE PLACED WITHIN THE WALL.
- REINFORCEMENT AT THE LATERAL WALLS SHALL BE PROVIDED WITH ELEVATION SPECIFIED IN THE PLAN.
- ALL MASONRY WALLS SHALL BE PROTECTED BY STITCHED BEHAVIOR BY STITCHING AS REQUIRED.
- FOR MASONRY WALLS WITH 200mm x 400mm WALL THICKNESS AND 200mm WALL HEIGHT.
- FOR MASONRY WALLS WITH 200mm x 400mm WALL THICKNESS AND 200mm WALL HEIGHT.



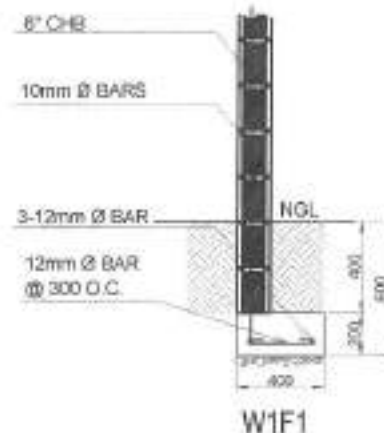
2 COVERED WALK WAY FOUNDATION PLAN

SCALE: 1/40=1



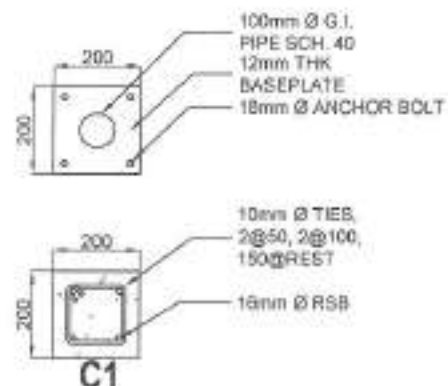
3 COVERED WALK WAY ROOF FRAMING PLAN

SCALE: 1/40=1



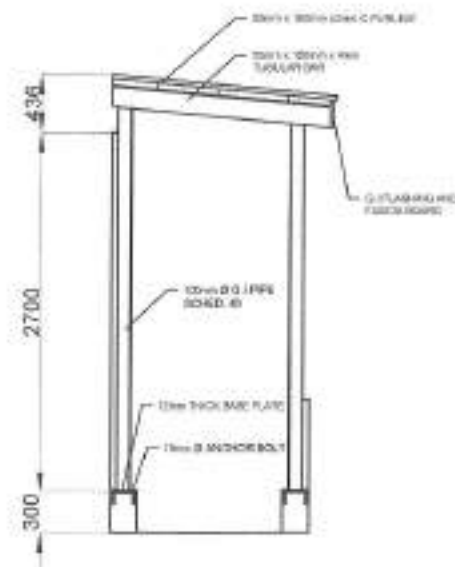
4 WALL FOOTING DETAILS

SCALE: NTS



5 PEDESTAL DETAILS

SCALE: NTS



6 ROOF DETAILS

SCALE: 1/40=1

1 GENERAL NOTES

NOT TO SCALE

4 WALL FOOTING DETAILS

SCALE: NTS

5 PEDESTAL DETAILS

SCALE: NTS

6 ROOF DETAILS

SCALE: 1/40=1



Republic of the Philippines
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF POOK PAG-ASA DAY CARE CENTER

LOCATION:

BRGY. BAYAMAN HILLS, DISTRICT 2, QUEZON CITY.

DRAWN BY:

DATE: 6/10/21

CHECKED BY:

REVISION NO.:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO

HEAD, PLANNING & PROGRAMS DIVISION

RECOMMENDING APPROVAL:

ENGR. ISAGANI R. VERZOSA, JR.

CITY ENGINEERING DEPARTMENT

APPROVED BY:

RON. RA. JOSEFINA G. BELMONT

CITY ENGINEERING DEPARTMENT

SHEET CONTENT:

GENERAL NOTES

FOUNDATION PLAN

WALL FOOTING DETAILS

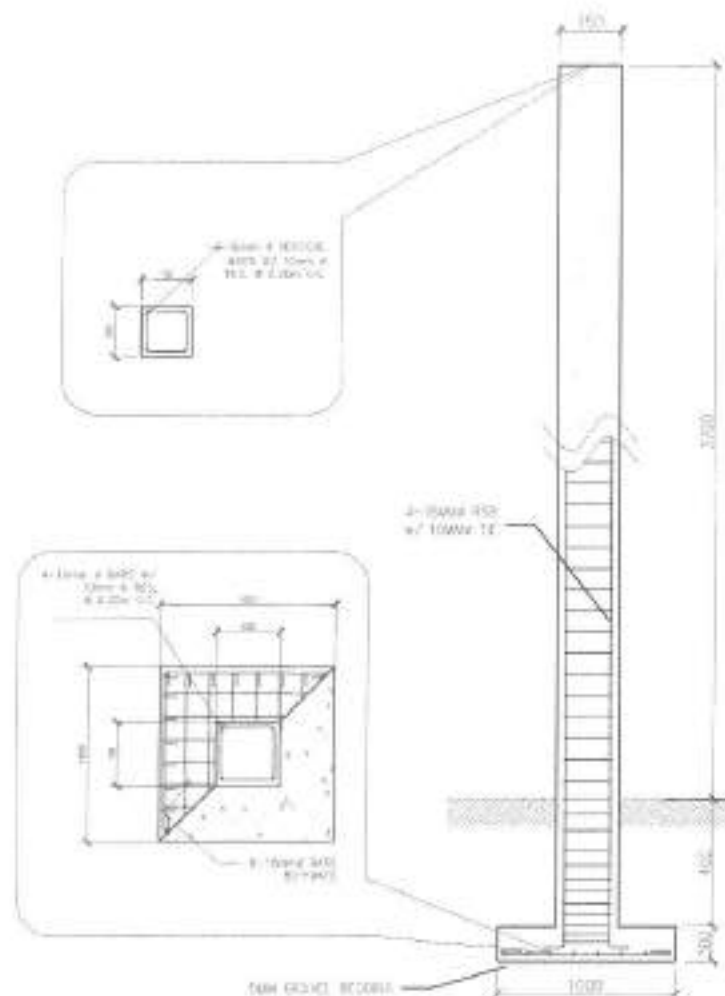
PEDESTAL DETAILS

ROOF DETAILS

SHEET NO.:

ST-1

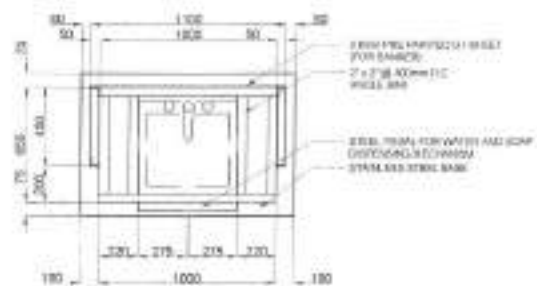
07/16


1 SERVICE ENTRANCE POST DETAILS

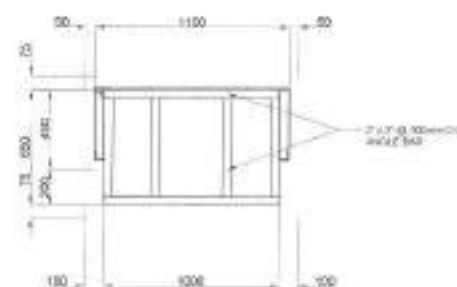
SCALE: 1:20=1


 Republika ng Pilipinas
 Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:	DRAWN BY:	QUANTIFIED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF POOK PAG-ASA DAY CARE CENTER	DATE: 5/10/2021 CHECKED BY: [Signature] REVISION NO.:	[Signature] ENGR. LEO S. DEL ROSARIO HEAD, PLANNING AND PROGRAMS DIVISION	[Signature] ENGR. ISAGAN R. VERZOSA, JR. DG, CITY ENGINEERING DEPARTMENT	[Signature] IRON, NA. JOSEFINA G. BELMONTE CITY ENGINEER, QUEZON CITY	SERVICE ENTRANCE POST DETAIL	ST-2 08/16
LOCATION: GRDY. DATAGAN HILLS, DISTRICT 2, QUEZON CITY						



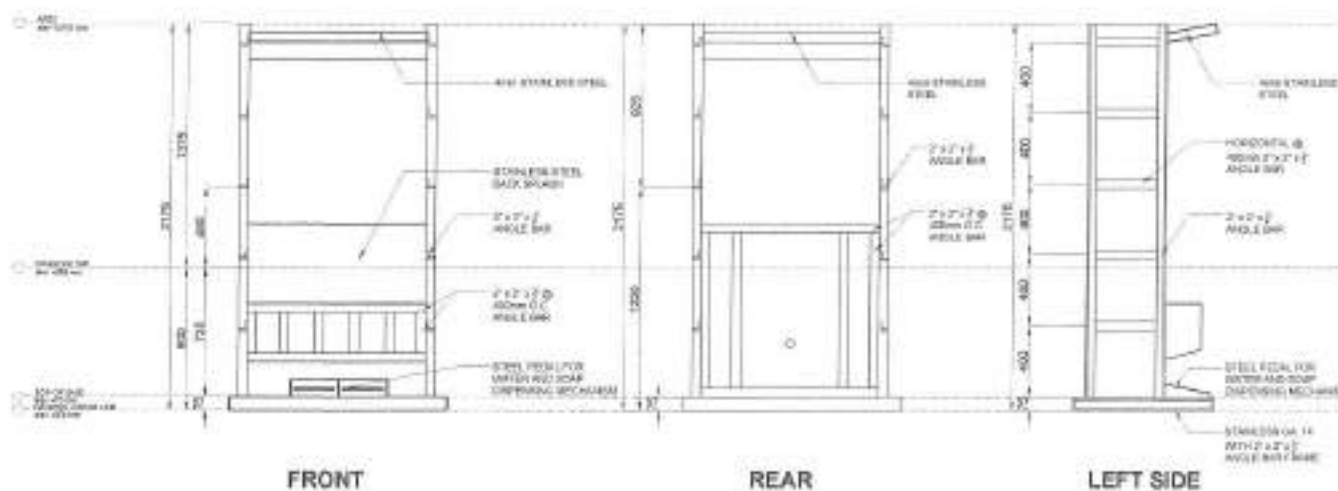
PLAN



ROOF PLAN

1 SINGLE SINK PORTABLE HAND WASHING STALL PLAN

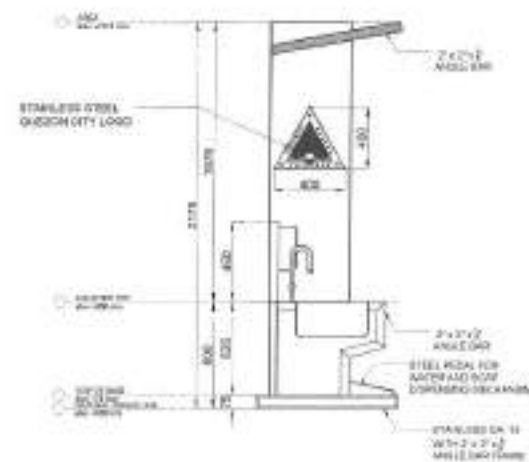
SCALE: 1:30mm



FRONT

REAR

LEFT SIDE



2 ELEVATIONS

SCALE: 1:30mm

3 TYPICAL SECTION

SCALE: 1:30mm



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:	DESIGNED BY:
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF POOK PAG-ASA DAYCARE CENTER	DATE: AUG 27, 2021
LOCATION: BARANGAY SKIMAN HILLS DISTRICT 2, QUEZON CITY	CHECKED BY: JAV
	REVISION NO.: 1

DESIGNED BY:	RECOMMENDING APPROVAL:
ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & DESIGN DIVISION	ENGR. ISAGANI R. VERZOSA, JR. C.C. CITY ENGINEER - SUBCITY

APPROVED BY:	SHEET CONTENT:
HON. MA. JOSEFINA G. BELMONTTE CITY MANSR. QUEZON CITY	SINGLE SINK PORTABLE HAND WASHING STALL PLAN ELEVATIONS & SECTION

DATE:	SHEET NO.:
	ST-03 09 12

1 All plumbing work and materials indicated herein shall be compliant to the provisions of the latest edition of National Plumbing Code, the rules and regulations of local authorities concerned, the rules and regulations of local utility companies and the provisions of the land developer when and where applicable.

2 The plumbing layout is only diagrammatic; pipes, cleanouts and check valves shall be concealed as much as possible. It is not intended to show the actual dimension of the pipes and fixtures in the drawing but all the pipes and fixtures shall be installed as and where indicated. Any relocation will require proper evaluation in relation with other trades.

3 The plumbing contractor shall verify all existing utilities at the site and shall coordinate the work with other trades.

4 Pipes shall not be embedded in structural members unless otherwise specified or allowed.

5 Minimum slope for horizontal sewer lines shall be 1% and for drain lines shall be 2%.

6 Proposed plumbing utilities shall conform with the actual location, depth and invert elevation of all existing pipe/utilities.

7 Connection of fixtures to pipes and fittings shall be according to manufacturer's specifications.

8 All floor drains shall be vented individually.

9 All clean out fittings shall be flush-mounted to wall and shall be provided with polished cover caps. Do not install floor clean outs except at lines on grade and service areas not subject to traffic.

10 All underground G.I. pipes in direct contact with soil shall be provided with two (2) coats of protective tar covering and wrapped with jute cloth thoroughly soaked in tar or asphalt.

11 Provide vent stack and vent pipe (its roof of cast iron service weight) as required.

12 All cast iron pipes shall be of approved quality and G.I. pipes for water distribution lines shall be Schedule 40 U.S. standard weight.

13 Provide gate valves to all water supply lines to fixtures.

14 All hot water lines shall be provided with proper insulation where exposed.

15 All individual branches to fixture or group of fixtures and/or equipments shall be provided with air chambers or capped vertical pipe extensions of dimensions as shown.

H = 450 mm for 19 mm Ø and larger

H = 300 mm for 12 mm Ø and smaller

16 All hose bibbs shall be 19 mm Ø (¾" Ø) unless otherwise indicated.

17 Inlet pipe of siphon trap is 50 mm higher than the siphon pipe which is 30 mm higher than the outlet pipe.

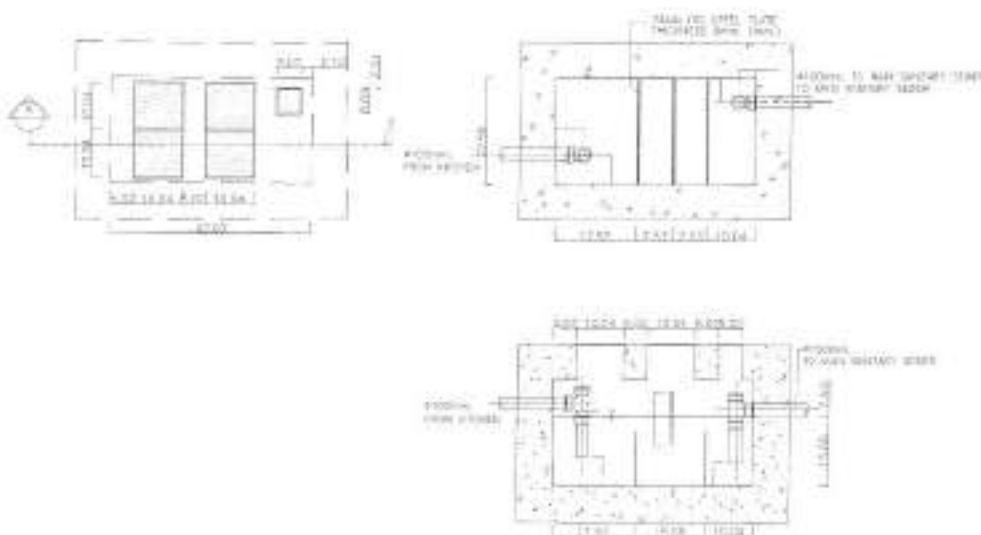
18 All plumbing works and manner of construction shall be under the direct supervision of an able and duly licensed Master Plumber or Registered Sanitary Engineer. Any discrepancies found in plan shall be notified to the same person.

LEGEND

FD	FLOOR DRAIN
RD	ROOF DRAIN
SHO	SHOWER
WC	WATER CLOSET
LAV	LAVATORY
UR	URINAL
KS	KITCHEN SINK
BD	BUILDING DRAIN
DD	DECK DRAIN
CCO	CEILING CLEANOUT
FCD	FLOOR/GROUND CLEANOUT
DS	DOWNSPOUT
mm	millimeter
Ø	mm DIAMETER
SHD	SHOWER DRAIN
CB	CATCH BASIN
MH	MANHOLE
→	DIRECTION OF FLOW

+	CHECK VALVE
MB	BUILDING DRAIN
WB	WASTELINE
WT	WATER TRAP
WCB	WATER CATCH-BASIN
FD	FLOOR DRAIN
S	SAMPLER
W	WASTE LINE
WTR	WATER LINE
GD	GRATE DRIVE
CD	CLEAROUT
↓	PIPE DOWN
↑	PIPE UP
M	METER
U	UTILITY
AD	AREA DRAIN FLOOR-SINK
AC	WATER CLOSET
LAV	LAVATORY
W	WASTELINE
H	HOSE BIBB
S	STAIN EXHAUST
BL	BENT LINE
MB	MENT ABOVE CEILING
MB	MENT ABOVE CEILING
MB	MENT ABOVE CEILING
MB	MENT ABOVE CEILING
MB	MENT ABOVE CEILING
MB	MENT ABOVE CEILING

2 LEGENDS



1 GENERAL NOTES



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND
REHABILITATION OF POCK PAG-ASA
DAY CARE CENTER ✓
LOCATION:
BRGY. BATISMAN HILLS, DISTRICT 3, QUEZON CITY

DRAWN BY:
DATE: 8/10/2021
CHECKED BY:
REVISIONS:

SUBMITTED BY:
ENGR. LEY S. DEL ROSARIO
1642 - PLANO AND INSTRUMENTS DIVISION

RECOMMENDING APPROVAL:
ENGR. ISAGANI R. VERZOSA, JR.
SIC. CIVIL ENGINEERING DEPARTMENT

APPROVED BY:
HON. MA. JOSEFINA G. BELMONTE
CITY MARCH, QUEZON CITY

SHEET CONTENT:
GENERAL NOTES
LEGENDS AND SYMBOLS
GREASE TRAP
BLOW UP PLAN

SHEET NO:
PL-1
10/16

3 GREASE TRAP BLOW-UP PLAN

SCALE: MTS

- ALL ELECTRICAL WORKS SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, THE LAWS AND ORDINANCES OF THE LOCAL CODE ENFORCING AUTHORITIES AND THE REQUIREMENTS OF THE LOCK, POWER AND TELEPHONE UTILITY COMPANY.
- THE CONTRACTOR SHALL SECURE ALL PERMITS AND PAY ALL FEES REQUIRED FOR THE WORK AND SHALL FURNISH THE OWNER WITH THE ENGINEER'S FINAL CERTIFICATE OF ELECTRICAL INSPECTION AND APPROVAL FROM PROPER GOVERNMENT AUTHORITIES FOR COMPLETION OF WORK.
- ALL EMBEDDED BRANCH CIRCUITS SHALL BE PVC CONDUITS AND FOR EXPOSED INSTALLATION SHALL BE EMT OR BIC SUPPORTED BY CONDUIT CLAMPS EVERY TWO METERS.
- PULL BOXES SHALL BE PROVIDED BY THE CONTRACTOR WHEREVER NECESSARY TO FACILITATE WIRE PULLING EVEN IF THESE ARE NOT INDICATED ON THE PLANS. SIZES OF ALL PULLBOXES SHALL BE COMPUTED BASED ON THE CODE REQUIREMENTS. SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION. LOCATION OF PULLBOXES SHALL BE APPROVED BY THE ARCHITECT/ENGINEER AND MUST BE REFLECTED ON THE "AS-BUILT" PLAN.
- ALL POWER OUTLETS AND SWITCHES SHALL BE GROUNDING TYPE WITH PARALLEL SLOTS FOR 200V.
- PROVIDE GROUND FAULT CURRENT IN TRIPPER CIRCUIT BREAKER FOR LOADS MARKED "GFCI" ON THE PLAN.
- ALL METALLIC CONDUITS, CABINETS AND EQUIPMENT SHALL BE PROPERLY GROUNDING AND BONDED.
- UNLESS OTHERWISE NOTED, MOUNTING HEIGHT FOR WALL MOUNTED DEVICES SHALL BE AS FOLLOWS:
RECEPTACLE OUTLET - 306 MM AFT.
LIGHTING SWITCH - 1426 MM AFT.
PANELBOARD - 1300 MM AFT.

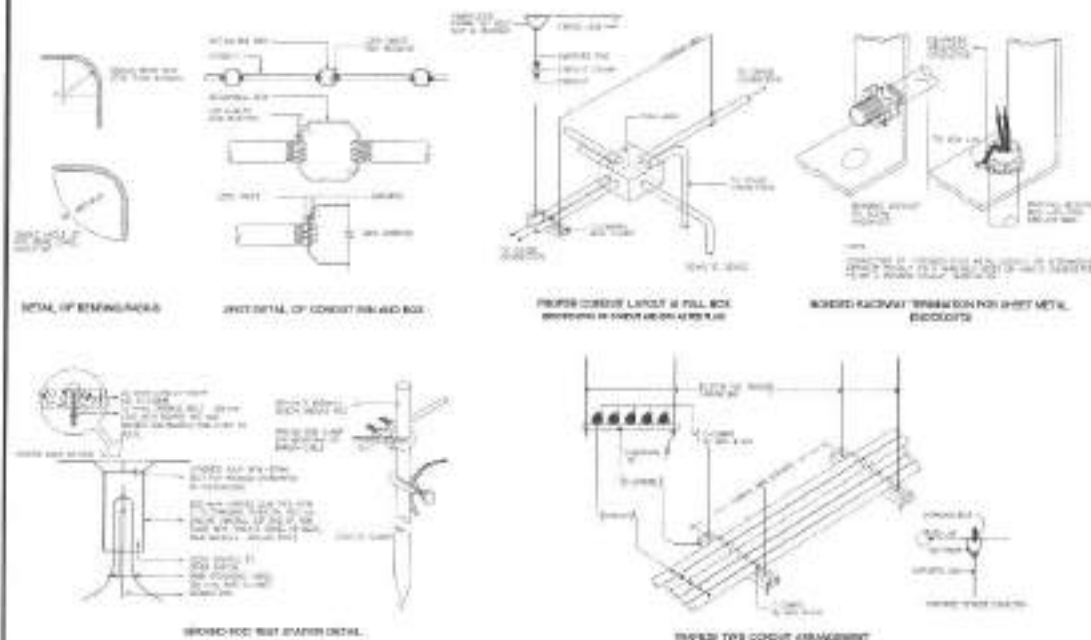
- REFER TO MECHANICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR RATINGS AND LOCATIONS OF EQUIPMENT AS WELL AS THEIR CONTROL SEQUENCES AS SPECIFIED AND OR SHOWN UNDER THEIR RESPECTIVE SECTIONS.
- ALL MATERIALS TO BE USED SHALL BE OF THE BEST QUALITY. BRAND NEW AS SPECIFIED.
- THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO PRESENT GENERAL LAYOUT AND BROAD OUTLINE DESCRIPTION OF THE PROJECT BUT DO NOT NECESSARILY INDICATE DESCRIBED ACTUAL LOCATIONS, LEVEL AND DISTANCES OF THE EQUIPMENT. THE CONTRACTOR IS HEREBY REQUIRED TO MAKE SUCH ADJUSTMENT AT THE JOB SITE AS LOCATION, DISTANCES AND LEVELS ARE GOVERNED BY ACTUAL FIELD COORDINATING.
- ANY DISCREPANCY BETWEEN THE PLANS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION/DECISION.
- ALL LIGHTING AND CONVENIENCE OUTLET CIRCUITS SHALL BE 35.50 MM THIN 2 COPPER WIRE UNLESS OTHERWISE NOTED. MINIMUM SIZE OF WIRE SHALL BE 3.5-5.0 MM COPPER WIRE. ALL WIRES AND CABLES SHALL BE COLOR CODED AS FOLLOWS:

LINE 1 - RED
LINE 2 - YELLOW
NEUTRAL - WHITE
GROUND - GREEN

- BOXES, WIRE, GUTTERS ENCLOSURE SHALL BE FABRICATED FROM STEEL WITH THICKNESS AS FOLLOWS:
MAXIMUM WIDTH OF THE WIDEST SURFACE STEEL:
UP TO INCLUDING 152.40 MM: GA 18 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
OVER 152.40 MM BUT NOT OVER 157.30: GA 18 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
OVER 157.30 MM BUT NOT OVER 203.20 MM: GA 12 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
OVER 203.20 MM: GA 12 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
- ALL ELECTRICAL WORKS HEREIN SHALL BE EXECUTED BY EXPERIENCED MEN UNDER THE DIRECT SUPERVISION OF A FULL TIME LICENSED ELECTRICAL ENGINEER AND A DULY ACCREDITED ELECTRICAL CONTRACTOR BY PCAB. WORKS SHALL BE NEATLY PLACED, SECURELY FASTENED AND PROPERLY FINISHED.
- TYPE OF SERVICE ENTRANCE SHALL BE SINGLE PHASE, TWO-WIRE PLUS GROUND, 60 HERTZ, 200 AC NOMINAL.
- CONDUITS IN NO CASE SHALL THERE BE MORE THAN THE EQUIVALENT OF FOUR QUARTER BENDS IN ANY ONE RUN. ALL CONDUIT BENDS SHALL BE FIELD MADE BY USING HYDRAULIC BENDERS. MINIMUM BENDING RADIUS MUST BE IN ACCORDANCE TO THE CODE REQUIREMENTS.
- UPON COMPLETION OF ELECTRICAL CONSTRUCTION WORK, INSULATION RESISTANCE TEST AND FUNCTIONALITY TEST SHALL BE PERFORMED BY THE CONTRACTOR INCLUSIVE OF THE INSTALLATION TO BE REPORTED IN DETAILS ON FORMS APPROVED BY THE QUEZON CITY ENGINEERING DEPARTMENT REPRESENTATIVE. THE GROUND RESISTANCE FOR ELECTRICAL SYSTEMS SHALL NOT BE MORE THAN 1 OHM. COMMUNICATION GROUNDING RESISTANCE SHALL NOT EXCEED 2 OHMS.

	Duplex Convenience Outlet		Ceiling Fan with Selector Switch
	Duplex Convenience Outlet (Elev. 0+002.2m)		Lighting Power Panel
	150mmØ LED Pnlight		Circuit Breaker
	1200mm x 300mm LED tube in Troffer Fixture		Utility Service Meter
	100mm x 100mm Ceiling Mounted Exhaust Fan		Circuit Breaker
	One Gang Switch		Grounding
	Two Gang Switch		

2 LEGENDS AND SYMBOLS



GENERAL NOTES

3 CONNECTION DETAIL

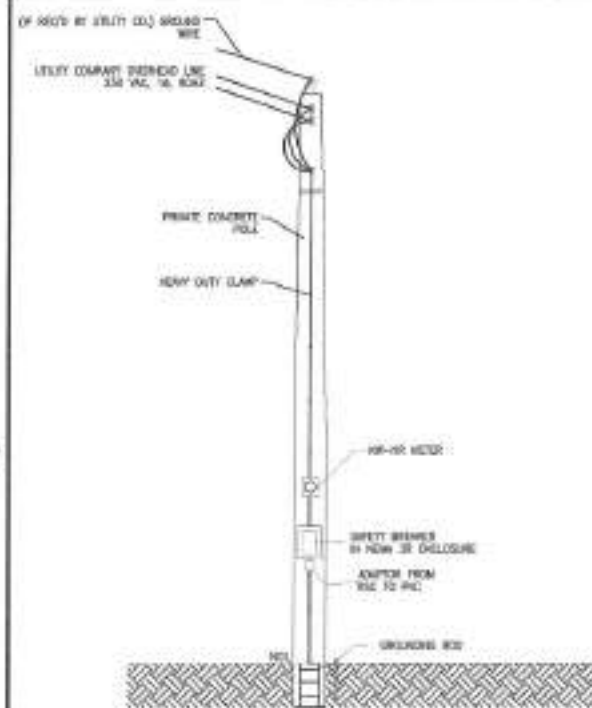
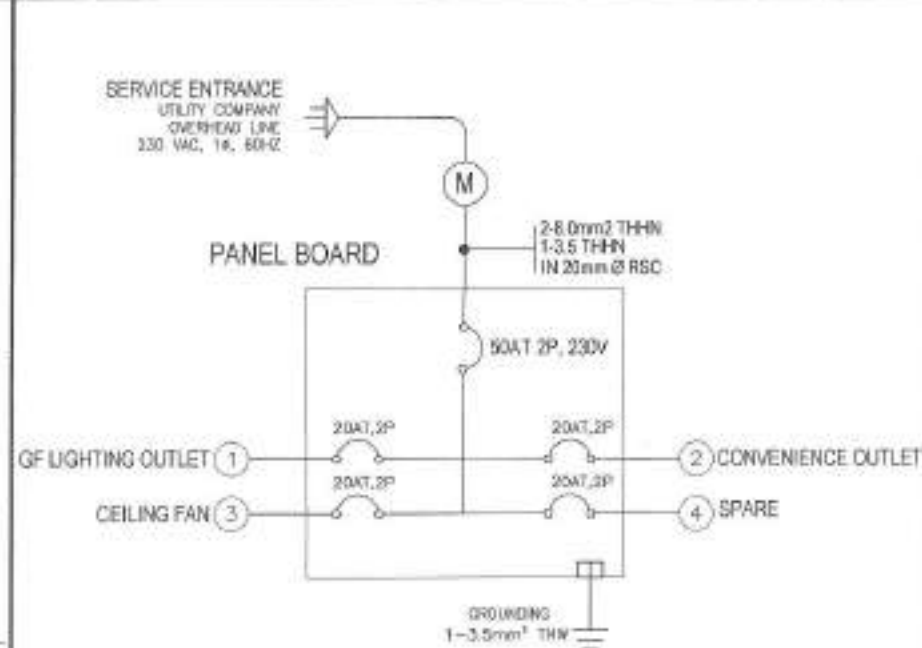
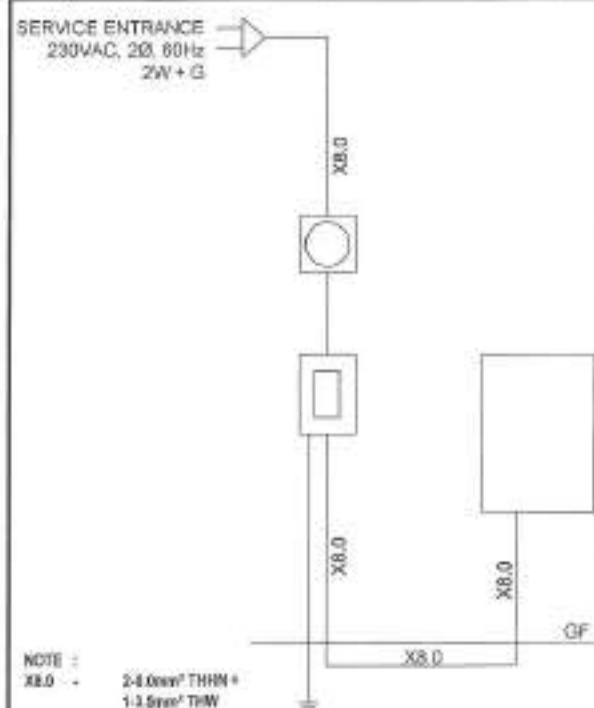


Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE: PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF POOK PAG-ASA DAY CARE CENTER	DRAWN BY: DATE: 2-10-2021 CHECKED BY: Jm	DESIGNED BY:  ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAMMING DIVISION	RECOMMENDED APPROVAL:  ENGR. ISAGANI R. VERZOSA, JR. DIE, CITY ENGINEERING DEPARTMENT	APPROVED BY:  HON. MA. JOSEFINA G. BELMONTE CITY MAJOR, QUEZON CITY	SHEET CONTENT: GENERAL NOTES LEGENDS AND SYMBOL CONNECTION DETAIL	SHEET NO: EL-1 12 / 16
--	--	--	---	---	--	---

PANEL NAME: LPT			RMS: 50AT, 20AT, 2P, 60Hz, 240V, Bolt-on								CONDUIT	
CIR. NO.	DESCRIPTION	RATING			OVER CURRENT PROTECTION				SIZE OF WIRE	MATERIAL	TYPE	
		VA	V	A	AT	AP	P	TYPE				
1	Lighting Outlet	1200	230	5.23	20	180	2	Bolt-on	2-1.5mm ² THHN + 1-2.5mm ² THW	20	PVC	
2	Convenience Outlet	1200	230	5.23	20	180	2	Bolt-on	2-1.5mm ² THHN + 1-2.5mm ² THW	20	PVC	
3	Ceiling Fan	800	230	1.74	20	180	2	Bolt-on	2-1.5mm ² THHN + 1-2.5mm ² THW	20	PVC	
4	Spare	1040	230	4.50	20	180	2	Bolt-on				
TOTAL		4160		16.74								
COMPUTATION			MVA									
$I_L = \frac{4160}{230}$			50AT, 20AT, 2P, 60Hz, 240V, Bolt-on									
$I_L = 18.09A$			FEEDER SIZE:									
$I_{Lc} = 18.09 \times 1.25$			2x1.5mm ² THHN Wire + 1-2.5mm ² THW Wire									
$I_{Lc} = 22.61A = 22.61$			1-20mm ² RSC Conduit									

1 SCHEDULE OF LOADS



2 SINGLE LINE DIAGRAM

NTS

3 PANELBOARD DIAGRAM

NTS

4 SERVICE ENTRANCE DETAIL

NTS



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
**PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND
REHABILITATION OF POOK PAG-ASA
DAY CARE CENTER**

LOCATION:
BAGY, BATASAN HILLS, DISTRICT 2, QUEZON CITY

DRAWN BY: *[Signature]*
DATE: 5-10-2021
CHECKED BY: *[Signature]*

REVISION NO.:

SUBMITTED BY:
[Signature]
ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING & PROGRAM DIVISION

RECOMMENDING OFFICIAL:
[Signature]
ENGR. ISAGANI VERZOSA, JR.
DE. CITY ENGINEERING DEPARTMENT

APPROVED BY:
[Signature]
ENR. RA. JOSEFINA G. BELMONTE
CITY ENGINEER, QUEZON CITY

SHEET CONTENT:
SCHEDULE OF LOADS
SINGLE LINE DIAGRAM
PANEL BOARD
DIAGRAM
SERVICE ENTRANCE
DETAIL

SHEET NO.:
EL-2
13 16

1. All plumbing works and materials indicated herein shall be compliant to the provisions of the latest edition of National Plumbing Code, the rules and regulations of local authorities concerned, the rules and regulations of local utility companies and the provisions of the land developer when and where applicable.

2. The plumbing layout is only diagrammatic; pipes, cleanouts and check valves shall be concealed as much as possible. It is not intended to show the actual dimension of the pipes and fixtures in the drawing but of the pipes and fixtures shall be installed as and where indicated. Any relocation will require proper execution in relation with other trades.

3. The plumbing contractor shall verify all existing utilities at the site and shall coordinate the work with other trades.

4. Pipes shall not be embedded in structural members unless otherwise specified or allowed.

5. Minimum slope for horizontal sewer lines shall be 1% and for drain lines shall be 5%.

6. Proposed plumbing utilities shall conform with the actual location, depth and invert elevation of all existing pipes/utilities.

7. Connection of fixtures to pipes and fittings shall be according to manufacturer's specifications.

8. All floor drains shall be vented individually.

9. All drain out fixtures shall be flush-mounted to wall and shall be provided with polished cover caps. Do not install floor drain-outs except at lines on grade and service areas not subject to traffic.

10. All underground G.I. pipes in direct contact with soil shall be provided with two (2) coats of protection or covering and wrapped with jute cloth thoroughly soaked in tar or asphalt.

11. Provide vent stack and vent pipe thru roof of cast iron service weight as required.

12. All cast iron pipes shall be of approved quality and G.I. pipes for water distribution lines shall be Schedule 40 U.S. standard weight.

13. Provide gate valves to all water supply lines to fixtures.

14. All hot water lines shall be provided with proper insulation where exposed.

15. All individual branches to fixtures or group of fixtures and/or equipments shall be provided with air chambers or capped vertical pipe extensions of dimensions as shown:

H = 450 mm for 15 mm Ø and larger

H = 300 mm for 12 mm Ø and smaller

16. All hose bibbs shall be 15 mm Ø (1/2" Ø) unless otherwise indicated.

17. Inlet pipe of siphon tank is 50 mm higher than the siphon pipe which is 30 mm higher than the outlet pipe.

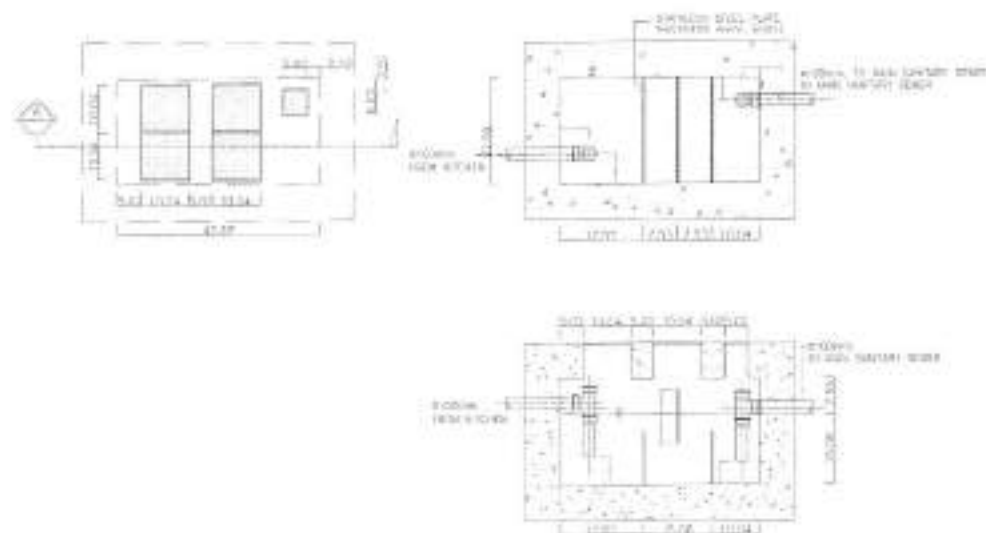
18. All plumbing works and manner of construction shall be under the direct supervision of an able and duly licensed Master Plumber or Registered Sanitary Engineer. Any discrepancies found in plan shall be notified to the same person.

I. FIXTURES AND OTHER LEGEND

FD	FLOOR DRAIN
RD	ROOF DRAIN
SH	SHOWER
WC	WATER CLOSET
LAV	LAVATORY
UB	URINAL
KS	KITCHEN SINK
BD	BUILDING DRAIN
DD	DOG DRAIN
CD	COUNTOUR CLEANOUT
FCD	FLOOR/GROUND CLEANOUT
DS	DOWNDRAUGHT
MM	MANHOLE
Ø	Ø = DIAMETER
SHD	SHOWER DRAIN
CB	CATCH BASIN
MH	MANHOLE
→	DIRECTION OF FLOW

→	UNDERPINNING
→	CHECK VALVE
→	WINDPROOFER
→	BUILDING DRAIN
→	WASTELINE
→	WAX DRAIN/CATCH BASIN
→	FLOOR DRAIN
→	SLAMMER
→	WASTE LINE
→	WATER LINE
→	GATE VALVE
→	SOFT DOWN
→	ELBOW/JOINT
→	PIPE CLEAN
→	PIPE UP
→	WELFACTER
→	GATE VALVE
→	WAX DRAIN/CATCH BASIN
→	WATER CLOSET
→	WATER
→	WASH OUT
→	WASTE LINE
→	UPPER BRANCH LINE
→	VENT LINE
→	VENT STACK/COUNT
→	CONCRETE/TRETTMENT/COVERING
→	VENT STACK/ROOF
→	DIRECTION OF FLOW/SLOPE

2 LEGENDS



1 GENERAL NOTES

3 GREASE TRAP BLOW-UP PLAN

SCALE: NTS



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Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
**PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND
REHABILITATION OF POOK PAG-ASA
DAY CARE CENTER**

LOCATION:
BRGY. BATAWAN HILLS, DISTRICT 2, QUEZON CITY

DRAWN BY: *[Signature]*

DATE: 8/18/2021

CHECKED BY: *[Signature]*

REVISIONS:

SUBMITTED BY:

[Signature]
ENGR. LEO S. DEL ROSARIO
HEAD, PLUMBING PROGRAM DIVISION

RECOMMENDED APPROVAL:

[Signature]
ENGR. ENRIQUE M. VERZOSA, JR.
DE, CITY ENGINEERING DEPARTMENT

APPROVED BY:

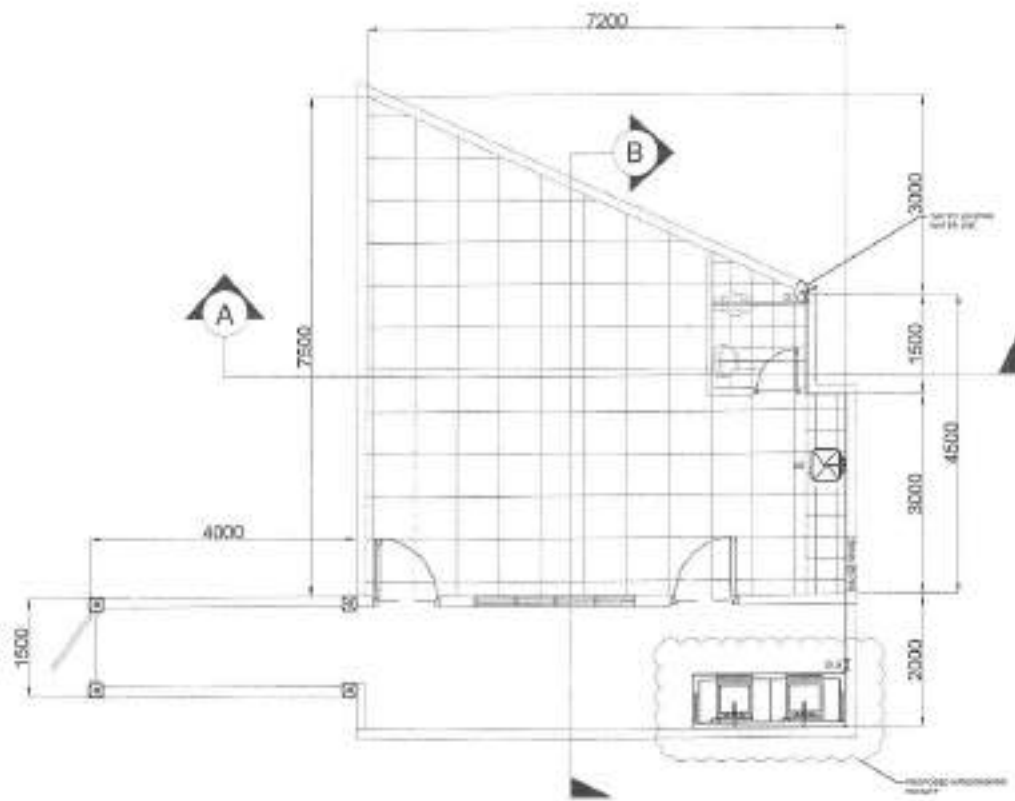
[Signature]
HON. MA. JOSEFINA G. BELMORTE
CITY MGR., QUEZON CITY

SHEET CONTENT:

GENERAL NOTES
LEGENDS AND SYMBOLS
GREASE TRAP
BLOW-UP PLAN

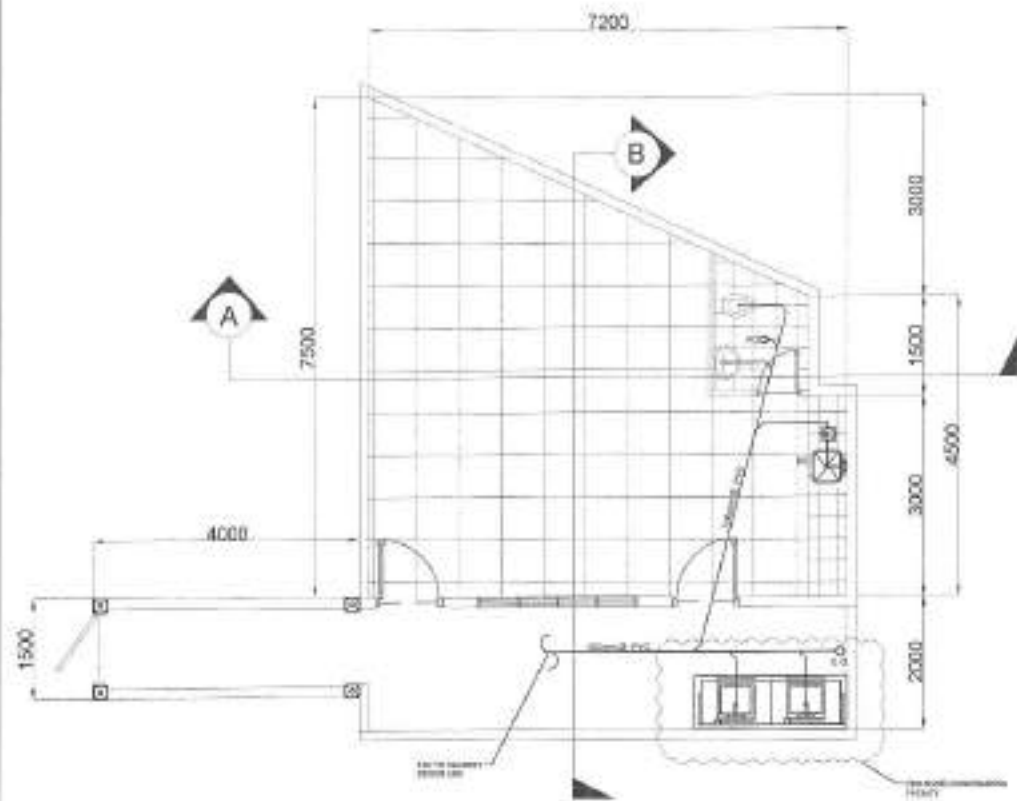
SHEET NO.:

PL-1
10/16



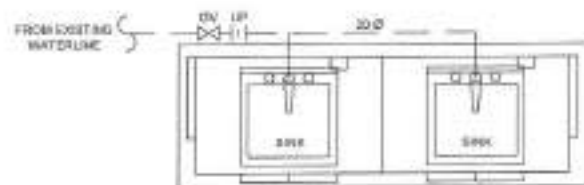
1 GROUND FLOOR WATER LINE LAYOUT

SCALE: 1:80m



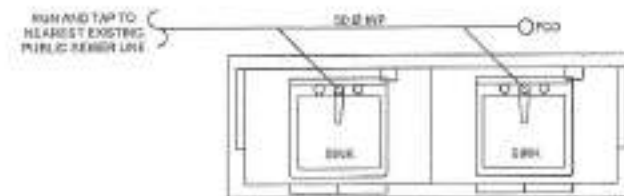
1 GROUND FLOOR SANITARY LINE LAYOUT

SCALE: 1:80m



3 DOUBLE SINK PORTABLE HAND WASHING WATER LINE

SCALE: 1:30m



4 DOUBLE SINK PORTABLE HAND WASHING SANITARY LINE

SCALE: 1:30m



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Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
**PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND
REHABILITATION OF POOK PAG-ASA
DAY CARE CENTER**

LOCATION:
SIKY, BATAAN HILLS, DISTRICT 2, QUEZON CITY

DESIGNED BY:
DATE: 8.18.2021
CHECKED BY: JMS
REVISIONS:

DESIGNED BY:

ENGR. LEO S. DEL ROSARIO
REG. PLANNER & PROFESSIONAL DESIGNER

RECOMMENDING APPROVAL:

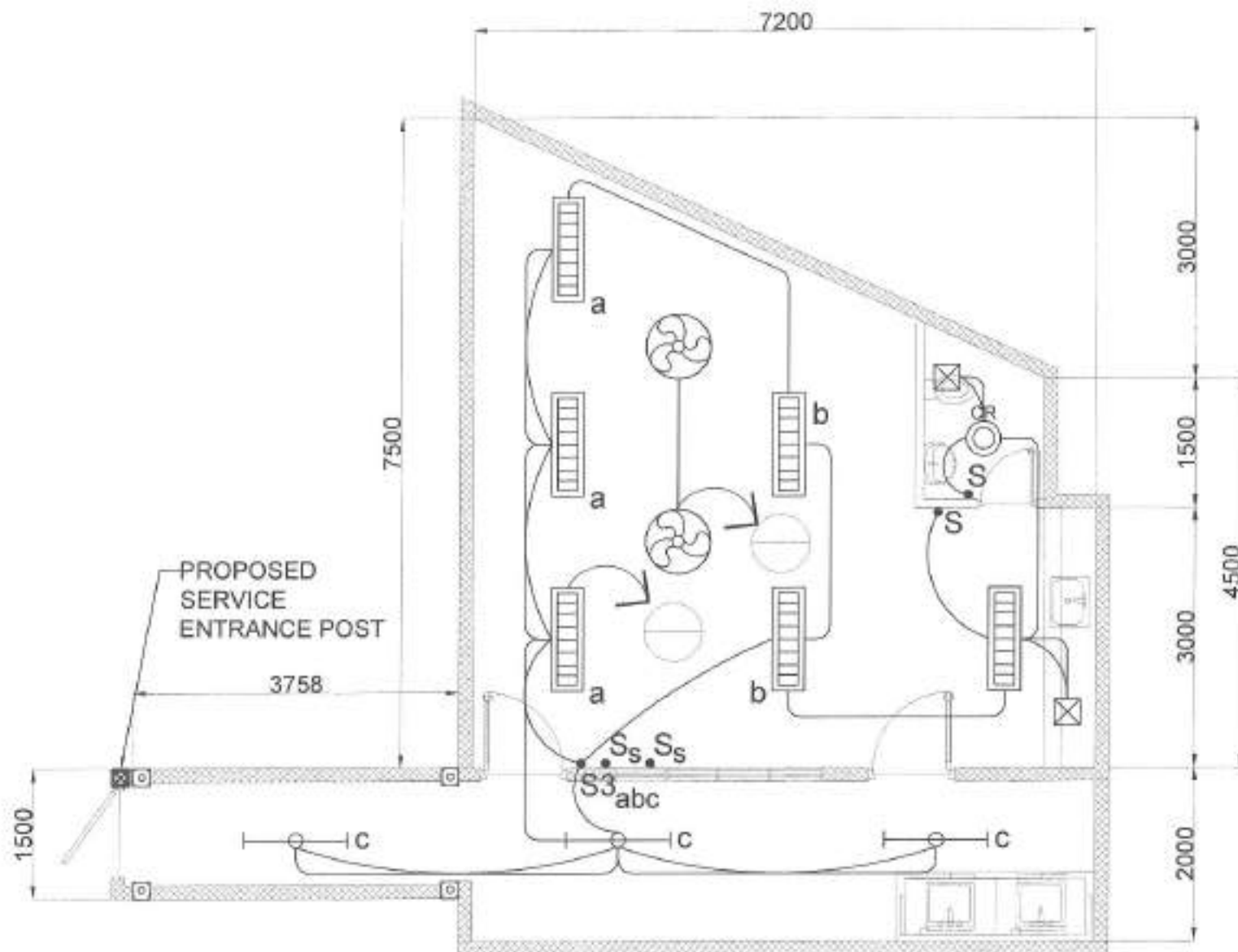
ENGR. RAGAN R. VERZOSA, JR.
DC, CITY ENGINEERING DEPARTMENT

APPROVED BY:

HON. MA. JOSEFINA G. BELMONTTE
CITY MAYOR, QUEZON CITY

SHEET CONTENT:
GROUND FLOOR WATER
LINE LAYOUT
GROUND FLOOR
SANITARY LAYOUT
DOUBLE SINK PORTABLE
HAND WASHING W/L
WATER AND SANITARY
LINE

SHEET NO.
PL-2
11/16



1 PROPOSED LIGHTING LAYOUT

SCALE: 1:50 MTS



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Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND
REHABILITATION OF POOK PAG-ASA
DAY CARE CENTER

LOCATION:

GRF, DATASAN HILLS DISTRICT 9, QUEZON CITY

DRAWN BY:

DATE: 8/10/2021

CHECKED BY:

REVISIONS:

DESIGNED BY:

DATE: 8/10/2021

CHECKED BY:

REVISIONS:

ENGR. LEO S. DEL ROSARIO
HEAT, PLUMBING & MECHANICAL ENGINEER

RECOMMENDING APPROVAL:

DATE: 8/10/2021

CHECKED BY:

REVISIONS:

ENGR. BAGAS B. VERZOSA, JR.
C.E. CITY ENGINEERING DEPARTMENT

APPROVED BY:

DATE: 8/10/2021

CHECKED BY:

REVISIONS:

HON. MA. JOSEFINA S. BELMONTTE
CITY MAYOR, QUEZON CITY

SHEET CONTENT:

DATE: 8/10/2021

CHECKED BY:

REVISIONS:

PROPOSED LIGHTING LAYOUT

SHEET NO.

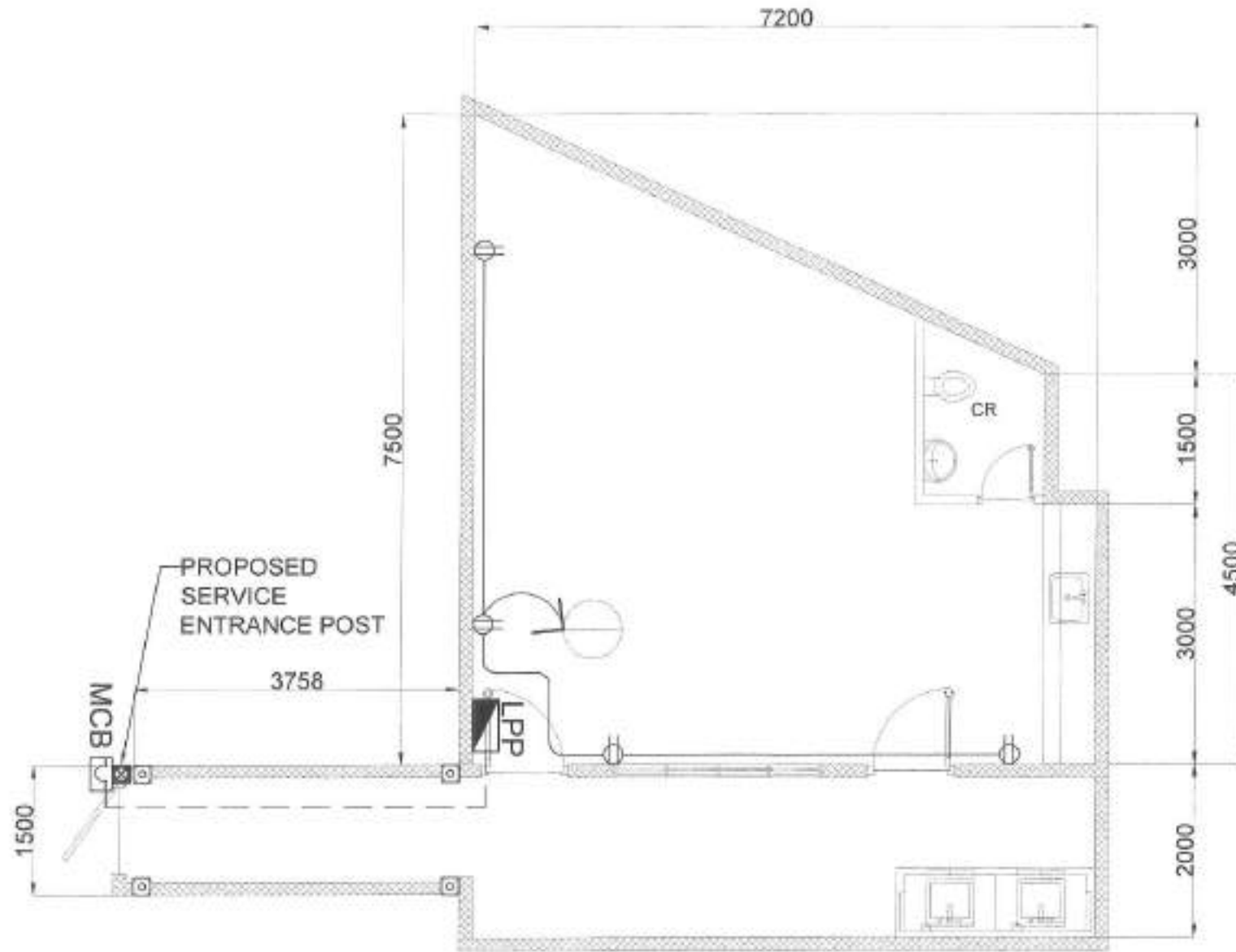
DATE: 8/10/2021

CHECKED BY:

REVISIONS:

EL-3

14/16



1 PROPOSED POWER LAYOUT

SCALE: 1:50 MTS



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Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

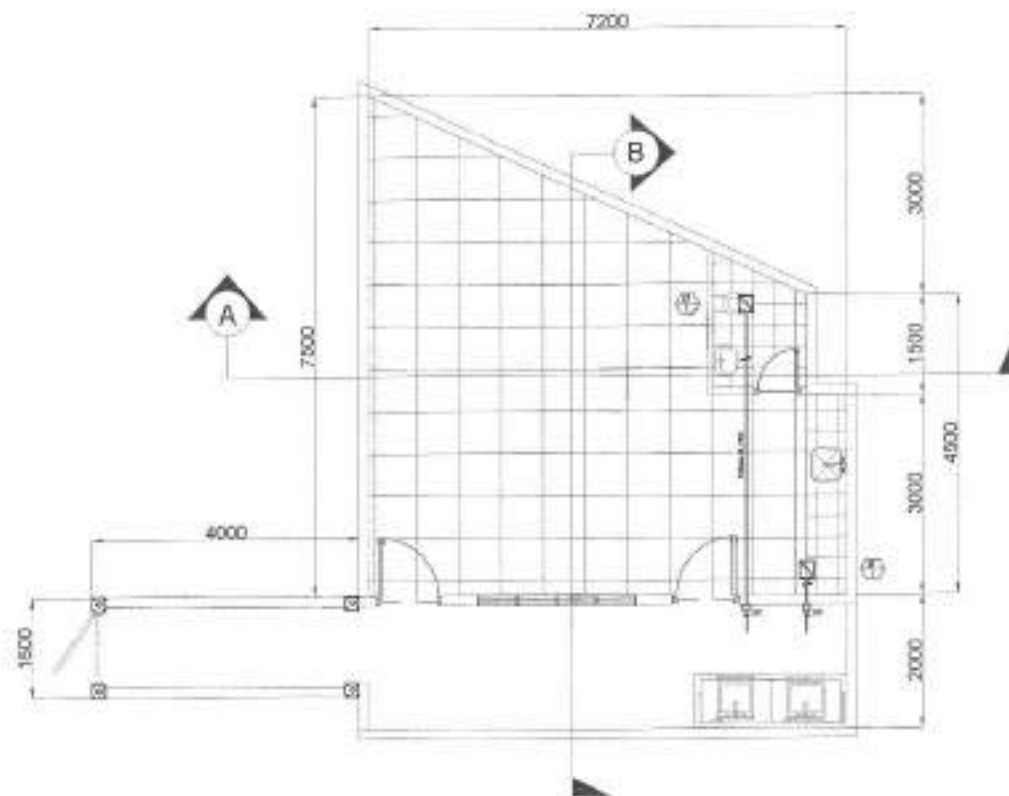
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PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF POOK PAG-ASA DAY CARE CENTER	DATE: 8/18/2021 CHECKED BY: JAA REVISIONS:	ENGR. LEO S. DEL ROSARIO M.B.E. # 10380 & PRC-CUMBERSA LICENSE	ENGR. MARCO R. VERZOSA, JR. C.E. # 10380 & PRC-CUMBERSA LICENSE	HON. MA. JOSEFINA S. BELMONTÉ CITY MAYOR - QUEZON CITY	PROPOSED POWER LAYOUT	EL-4 15/16

ALL MECHANICAL WORKS SHALL BE DONE IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE NATIONAL BUILDING CODE, PSME CODE AND THE RULES AND REGULATIONS OF QUEZON CITY.

- THE SCOPE OF WORK SHALL INCLUDE ALL WORKS DESCRIBED IN PLANS.
- THE WORKS SHALL BE EXECUTED IN CLOSE COORDINATION WITH ALL OTHER TRADERS.
- ALL AIRCONDITIONED SPACES SHALL BE MAINTAINED AT 24°C DB AND 50% RH.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, MANUFACTURERS CATALOGUE, SPECIFICATIONS, SAMPLES, INCLUDING VIBRATION ISOLATORS BEFORE EXECUTION OF WORK.
- ALL FLOOR SLAB MOUNTED VIBRATING EQUIPMENT SHALL BE PROVIDED WITH VIBRATION ISOLATORS TO PREVENT VIBRATIONS AND NOISE TRANSMISSION.
- EXHAUST FAN SHALL BE PROVIDED WITH SUITABLE FLEXIBLE CONNECTIONS TO DISCHARGE DUCT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TESTING AND COMMISSIONING OF THE WHOLE VENTILATION AND AIRCONDITIONING SYSTEM AND INSTALLATION.
- ALL POWER WIRING SHALL BE ELECTRICAL AND TERMINATION TO EQUIPMENT SHALL BE MECHANICAL.
- PROVIDE CONTROL WIRING FOR AIRCONDITIONING EQUIPMENT.
- PROVIDE THERMOSTAT FOR ALL INDOOR UNITS / FAN COIL UNITS.
- VERIFY LOCATION OF CONTROLLERS AND SWITCHES ON ELECTRICAL PLANS.
- ALL PIPE EQUIPMENT CONDENSATE DRAIN SHALL BE CONNECTED TO THE NEAREST FLOOR DRAIN / AD/DB.
- PROVIDE GUIDES, HANGERS, AND SUPPLEMENTAL STEEL SUPPORT FOR ALL PIPING, DUCTING AND EQUIPMENTS.
- PROVIDE PIPE SLEEVES FOR ALL PIPING PASSING THRU BUILDING STRUCTURE.
- ALL PIPE DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE NOTED.

DESIGNATION	LOCATION	QUANTITY	TYPE	AIR VOLUME CMB	POWER INPUT WATTS	ELECTRICAL SUPPLY			REMARKS
						VOLTS	PHASE	HERTZ	
EF 1	AS SHOWN ON PLANS	2 SET	CEILING MOUNTED	14-10	25	230	1Ø	60	UNITS SHALL BE EQUIPPED WITH DISCHARGE OUTLET, TAPERED OUT ADAPTER, ONE-TOUCH SPRING TYPE LATCH & AN ADAPTER CONTAINING A REVERSE FLOW PREVENTION SHUTTER.

3 SCHEDULE OF EQUIPMENT



1 GENERAL NOTES

	- EQUIPMENT DESIGNATION		- AIR COOLED CONDENSING UNIT
	- REFRIGERANT PIPE		- ELBOW UP
	- BALL MOUNTED INDOOR UNIT		- ELBOW DOWN
	- WINDOW TYPE AIR CONDITIONER		- FAN COIL UNIT

2 LEGENDS

4 EQUIPMENT LAYOUT

SCALE: 1:80 MTS



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND
REHABILITATION OF POOK PAG-ASA
DAY CARE CENTER

LOCATION:
BPOV, BATAVIAN HILLS, DISTRICT 7, QUEZON CITY

DRAWN BY:

DATE: 8/10/2021

CHECKED BY: JAM

REVISION NO.:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING & PRECONSTRUCTION DIVISION

RECOMMENDED APPROVAL:

ENGR. ISAGONE R. VERZOSA, JR.
DE. CITY ENGINEERING DEPARTMENT

APPROVED BY:

HON. MA. JOSEFINA G. BELMONTÉ
CITY MAYOR, QUEZON CITY

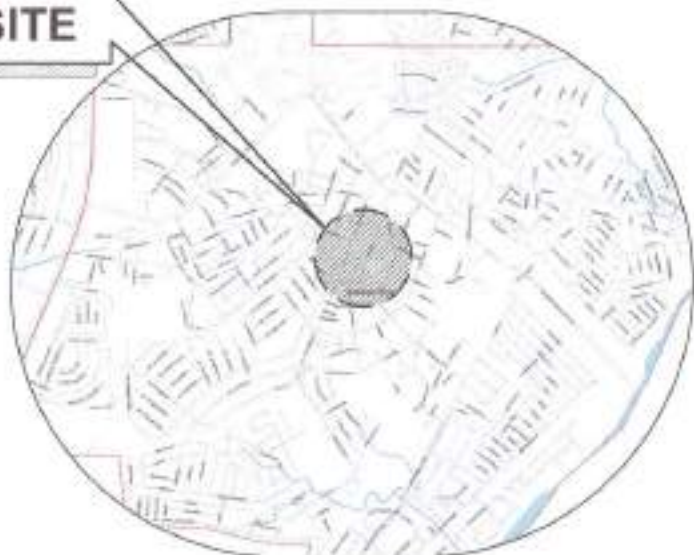
SHEET CONTENT:

GENERAL NOTES,
LEGENDS AND SYMBOLS,
SCHEDULE OF EQUIPMENT,
EQUIPMENT LAYOUT

SHEET NO.:

ME-1
16/16

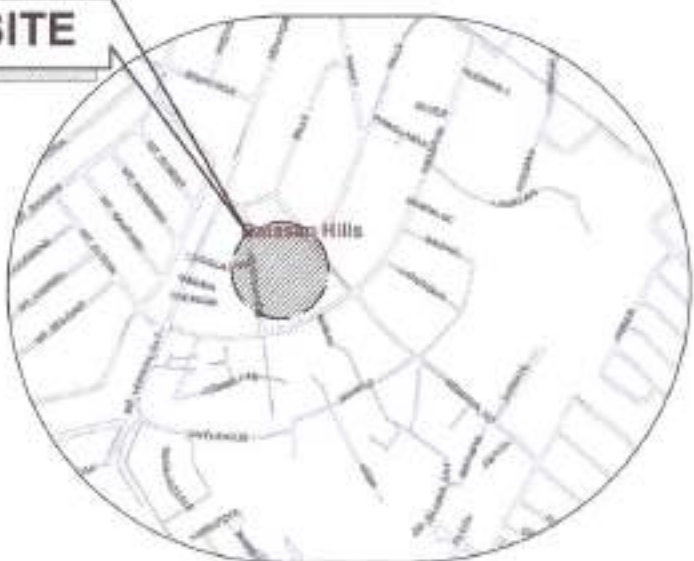
SITE



1 VICINITY MAP

SCALE: NTS

SITE



2 LOCATION PLAN

SCALE: NTS

3 PERSPECTIVE

SCALE: NTS



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Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE
**PROPOSED CONSTRUCTION OF
HAND WASHING FACILITY AND
REHABILITATION OF
TALANAY DAYCARE CENTER**

LOCATION
BARANGAY BATAAN HILLS DISTRICT 3, QUEZON CITY

DRAWN BY: *[Signature]*
DATE: AUG. 01, 2021
CHECKED BY: JAM
REVISION NO.: 1

SUBMITTED BY:
[Signature]
ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING & PROGRAMMING DIVISION

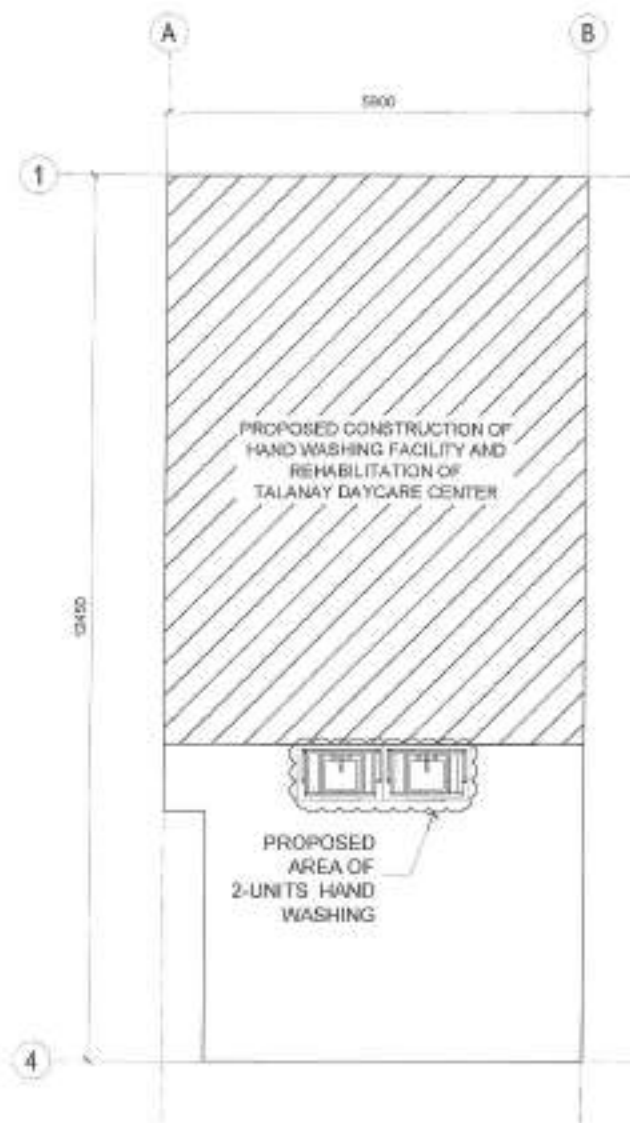
RECOMMENDED BY:
[Signature]
ENGR. MARGANIE R. VERZOSA, JR.
CHIEF, OFFICE PLANNING DIVISION

APPROVED BY:
[Signature]
HON. MA. JOSEFINA G. BELMONTE
CITY MAJOR, QUEZON CITY

SHEET CONTENT
VICINITY MAP
LOCATION PLAN
PERSPECTIVE

SHEET NO.

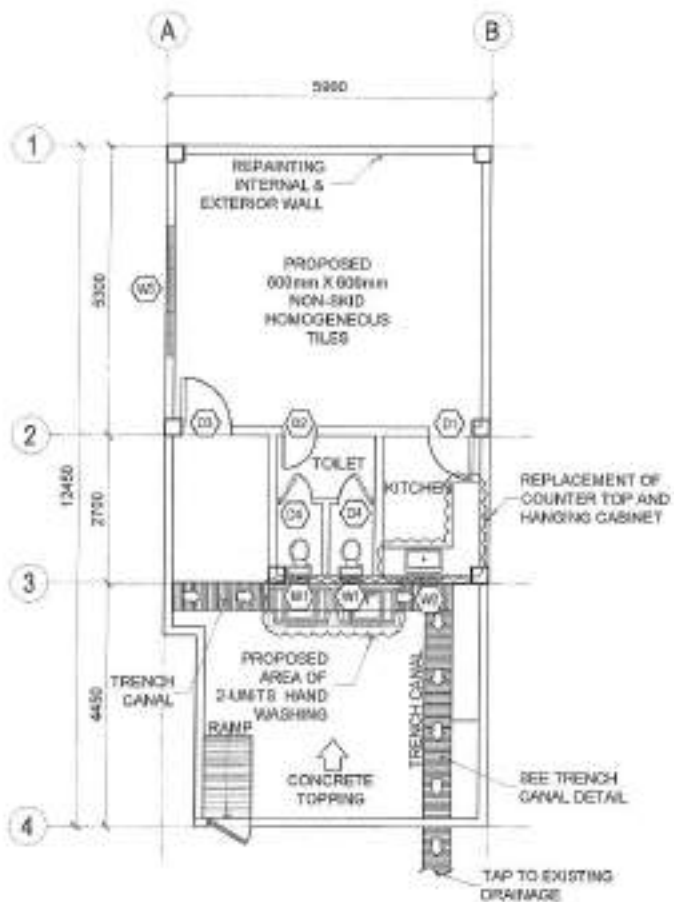
AR-01
01/12



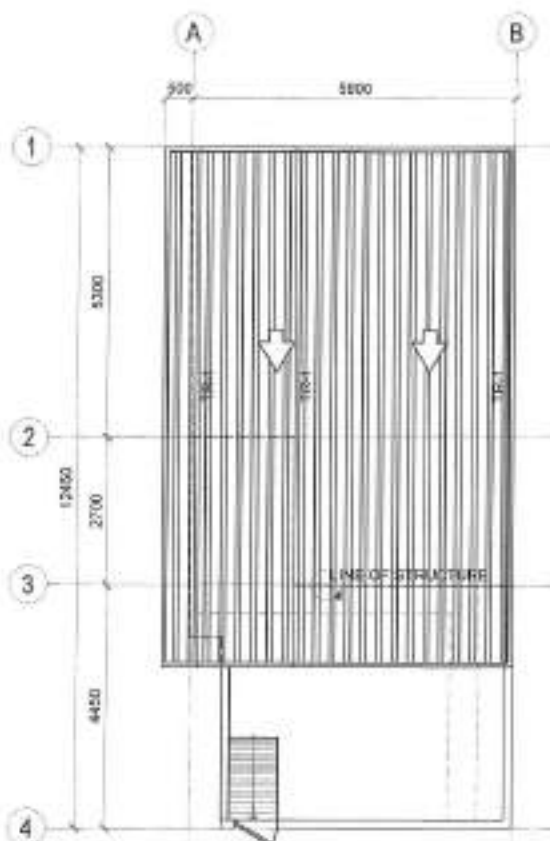
1 SITE DEVELOPMENT PLAN

SCALE: 1/8"=1'-0"

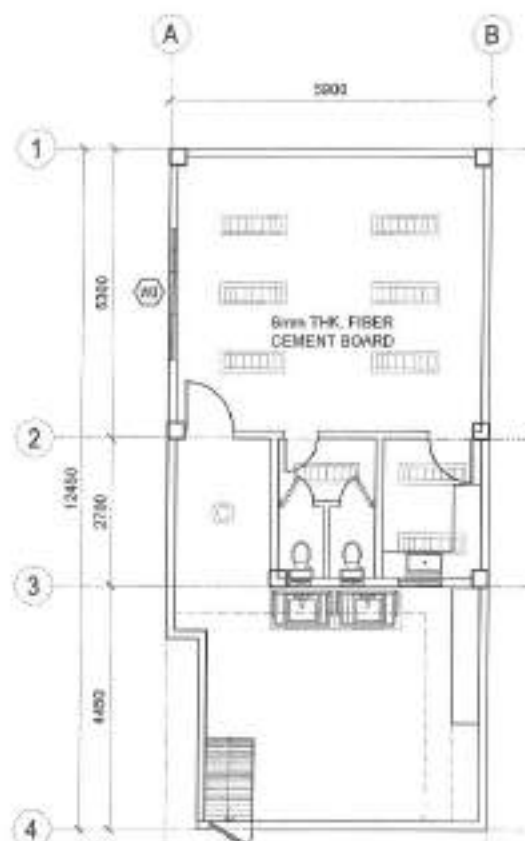
 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DRAWN BY: 	DESIGNED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.:	
	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF TALANAY DAYCARE CENTER	DATE: AUG. 02, 2021	CHECKED BY: 				SITE DEVELOPMENT PLAN	AR-02 02/12
	LOCATION: BUNGWAG BATAWAG HILLS DISTRICT 2, QUEZON CITY	REVISION NO.: 1	ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAMMING DIVISION	ENGR. JOSEAN R. VERZOSA, JR. DIR. CITY ENGINEERING DEPARTMENT	HON. MA. JOSEFINA G. BELMONTE CITY MAYOR, QUEZON CITY			



SCOPE OF WORKS:
- EXTERIOR WALL AND INTERIOR WALL TO BE REPAINTED
- MURAL PAINTING AT FRONT ELEVATION



SCOPE OF WORKS:
- REPLACEMENT OF DILAPIDATED ROOFING



1 PROPOSED G/F PLAN

SCALE: 1:100 METERS

2 ROOF PLAN

SCALE: 1:100 METERS

3 REFLECTED CEILING PLAN

SCALE: 1:100 METERS



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
**PROPOSED CONSTRUCTION OF
HAND WASHING FACILITY AND
REHABILITATION OF
TALANAY DAYCARE CENTER**

LOCATION:
BARANGAY BATAWAN HILLS DISTRICT 2, QUEZON CITY

DESIGN BY: EAC
DATE: APR. 01, 2021
CHECKED BY: JRM
REVISION NO.: 1

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
REG. PROFESSIONAL ENGINEER

RECOMMENDING APPROVAL:

ENGR. ISAGANI R. VERZOSA, JR.
CIC CITY ENGINEERING DEPARTMENT

APPROVED BY:

HON. MA. JOSEFINA G. BELMONTE
CITY MAYOR, QUEZON CITY

SHEET CONTENT:
PROPOSED GROUND
FLOOR
ROOFING PLAN
REFLECTED CEILING
PLAN

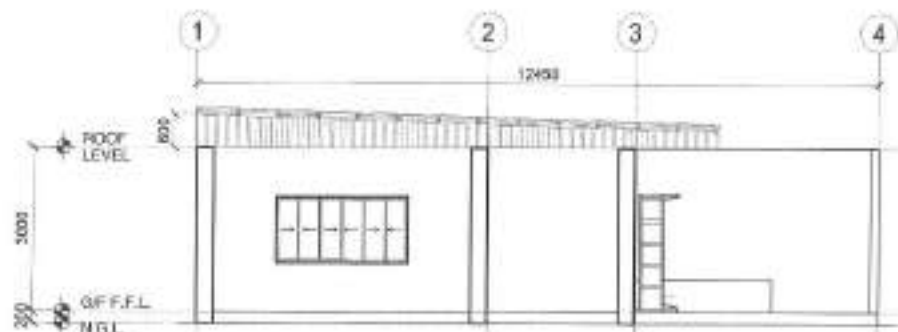
SHEET NO.
AR-03
03/12



SCOPE OF WORKS:
-EXTERIOR WALL AND INTERIOR WALL TO BE REPAINTED
-MURAL PAINTING AT FRONT ELEVATION

1 FRONT ELEVATION

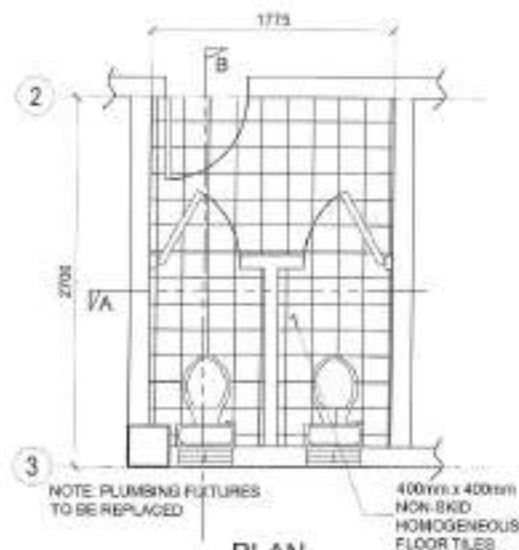
SCALE: 1:100 METERS



SCOPE OF WORKS:
-EXTERIOR WALL AND INTERIOR WALL TO BE REPAINTED
-MURAL PAINTING AT FRONT ELEVATION

2 LEFT SIDE ELEVATION

SCALE: 1:100 METERS



PLAN



SECTION - A



SECTION - B

3 TOILET PLAN & DETAIL

SCALE: 1:100 METERS



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
**PROPOSED CONSTRUCTION OF
HAND WASHING FACILITY AND
REHABILITATION OF
TALANAY DAYCARE CENTER**

LOCATION:
BAYANGAY BATAWAN HILLS DISTRICT 1, QUEZON CITY

DESIGNER: *[Signature]*
DATE: AUG. 27, 2021
CHECKED BY: *[Signature]*
REVISION NO.: 1

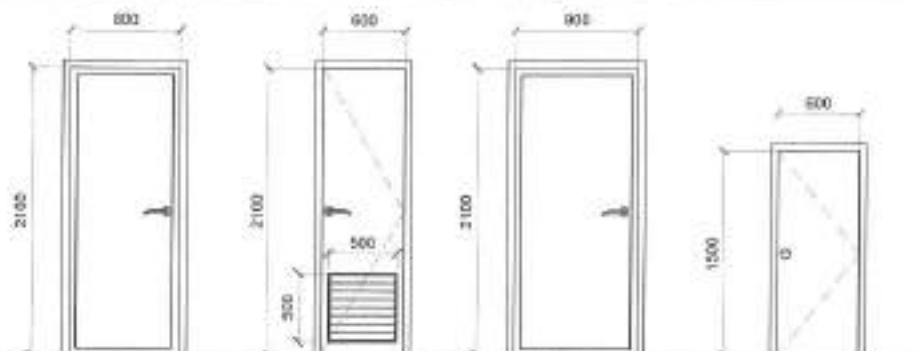
SUBMITTED BY:
[Signature]
ENGR. LEO S. DEL ROSARIO
HEAD, PLUMBING & PROCEEDING DIVISION

RECOMMENDING APPROVAL:
[Signature]
ENGR. JOSEMAN R. VERZOSA, JR.
CHIEF, PLUMBING DEPARTMENT

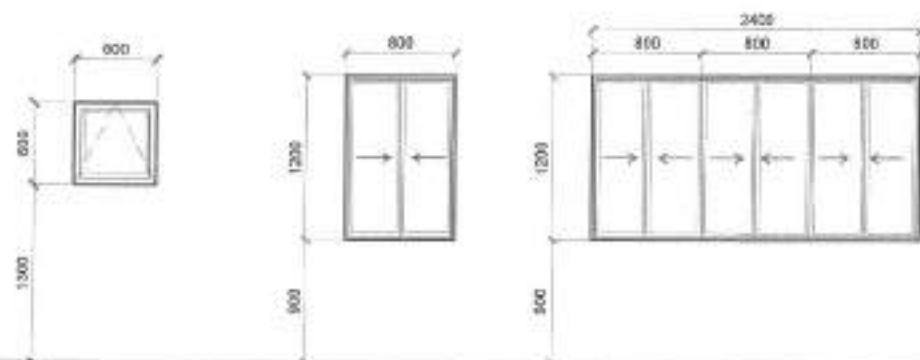
APPROVED BY:
[Signature]
HON. MA. JOSEFINA O. BELMONTE
CITY MAYOR, QUEZON CITY

BHEET CONTENT:
FRONT ELEVATION
LEFT SIDE ELEVATION
TOILET DETAIL

SHEET NO.
AR-04
04/12



NAME	(D1)	(D2)	(D3)	(D4)
NO. OF SETS	1	1	1	2
DESCRIPTION	FLUSH DOOR	PVC FLUSH DOOR W/ LOUVERS	PANEL DOOR	PVC DOOR
LOCATION	GROUND FLOOR	GROUND FLOOR	GROUND FLOOR	GROUND FLOOR

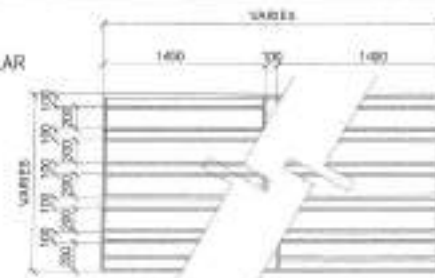


NAME	(W1)	(W2)	(W3)
NO. OF SETS	2	1	1
DESCRIPTION	ALUMINUM FRAME POWDER COATED AWNING WINDOW WITH 6mm THK CLEAR GLASS	ALUMINUM FRAME POWDER COATED SLIDING WINDOW / GRILLES WITH 6mm THK CLEAR GLASS	ALUMINUM FRAME POWDER COATED SLIDING WINDOW / GRILLES WITH 6mm THK CLEAR GLASS
LOCATION	GROUND FLOOR	GROUND FLOOR	GROUND FLOOR

1 DOORS AND WINDOWS SCHEDULE

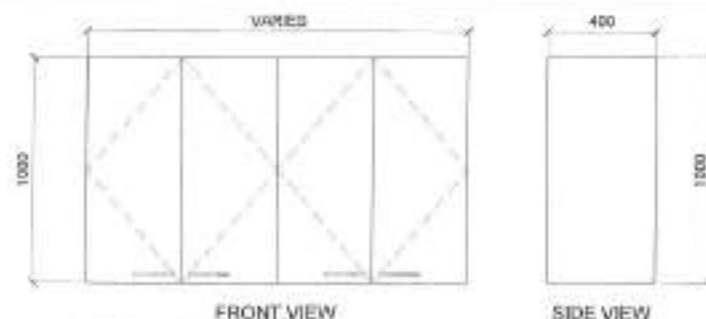
SCALE: 1:50 METERS

TYPICAL GRILLES FOR SLIDING WINDOWS
25mm x 25mm x 2mm TUBULAR



2 WINDOW ACCESSORIES DETAIL

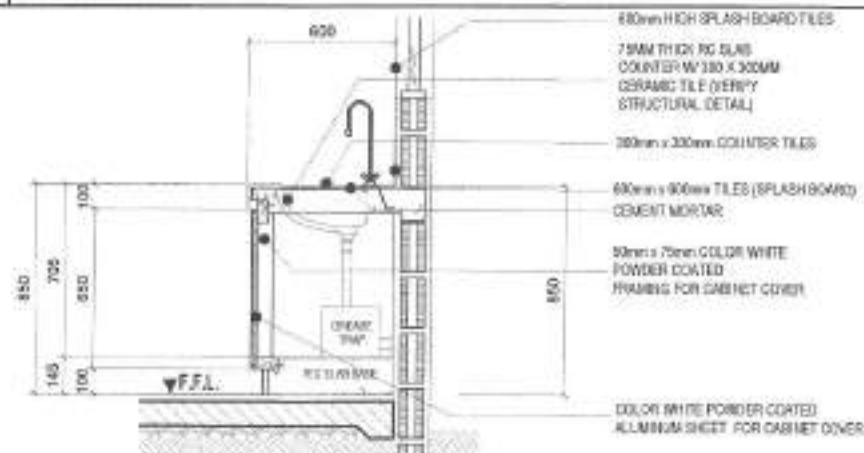
SCALE: 1:50 METERS



PROP HANGING CABINET 18mm THK MARINE PLYWOOD
PAINTED FINISH w/ LOCKING MECHANISM

3 HANGING CABINET DETAIL

SCALE: 1:50 METERS



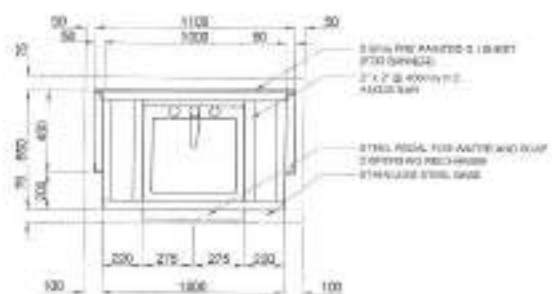
4 COUNTERTOP WITH SINK DETAILS

SCALE: 1:50 METERS

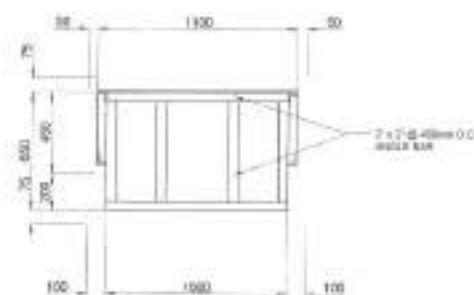


Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE: PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF TALANAY DAYCARE CENTER	DRAWN BY: <i>[Signature]</i> DATE: JUL 14, 2021 CHECKED BY: <i>[Signature]</i> REVISION NO.: 1	SUBMITTED BY: <i>[Signature]</i> ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAMMING DIVISION	RECOMMENDING APPROVAL: <i>[Signature]</i> ENGR. ISATAM R. VERZOSA, JR. CHIEF, CITY ENGINEERING DEPARTMENT	APPROVED BY: <i>[Signature]</i> HON. MA. JOSEFINA G. BELMONTE CITY MAYOR, QUEZON CITY	SHEET CONTENT: DOORS AND WINDOWS SCHEDULE WINDOW ACCESSORIES DETAIL HANGING CABINET DETAIL COUNTERTOP W/ SINK	SHEET NO.: AR-05 05/12
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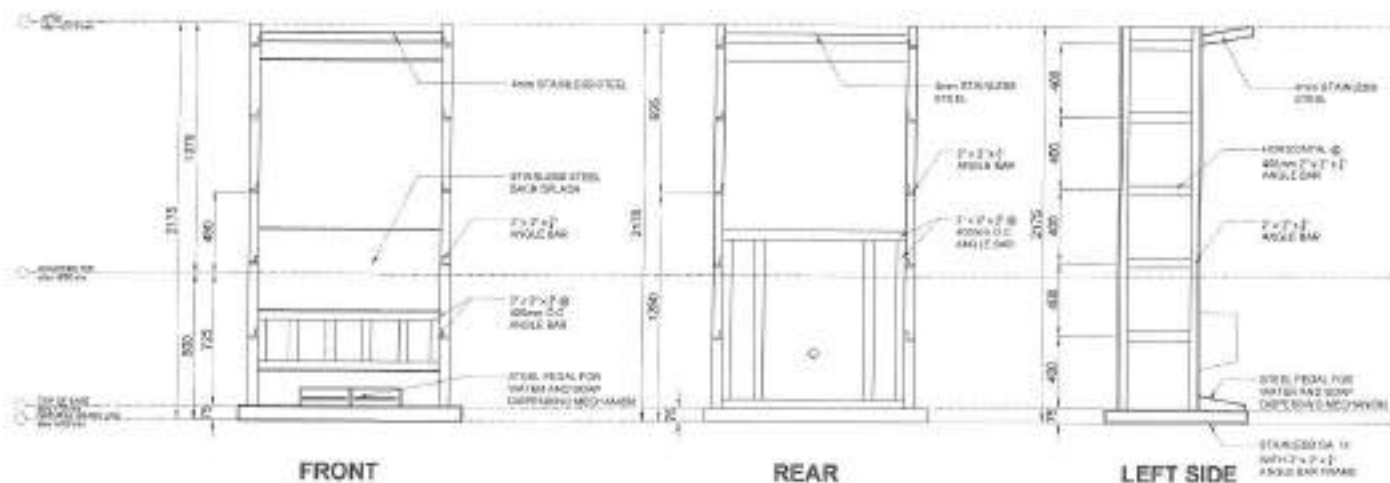
PLAN



ROOF PLAN

1 SINGLE SINK PORTABLE HAND WASHING STALL PLAN

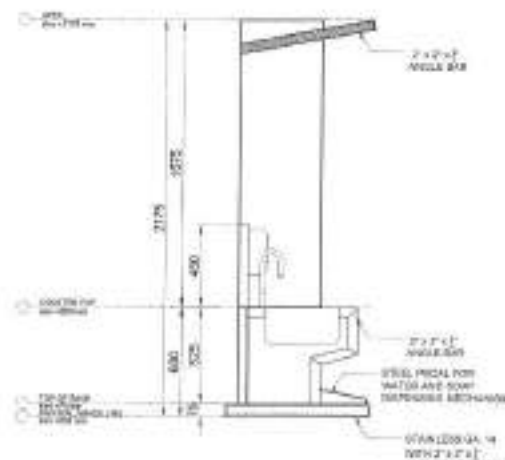
SCALE: 1:30ms



FRONT

REAR

LEFT SIDE



3 TYPICAL SECTION

SCALE: 1:30ms

2 ELEVATIONS

SCALE: 1:30ms



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
**PROPOSED CONSTRUCTION OF
HAND WASHING FACILITY AND
REHABILITATION OF
TALANAY DAYCARE CENTER**
LOCATION:
SAMPALAY BATAAN HILLS DISTRICT 2, QUEZON CITY

DRAWN BY: CME
DATE: MAR. 07, 2021
CHECKED BY: [Signature]
REVISION NO.: 1

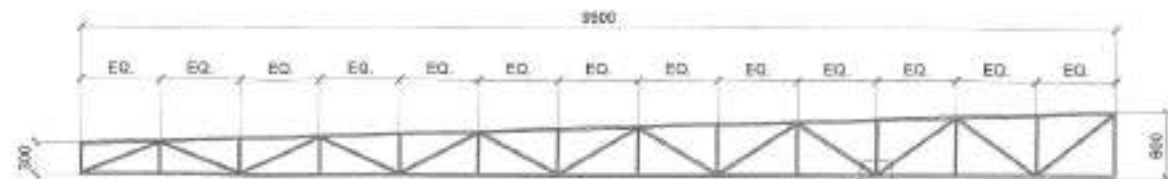
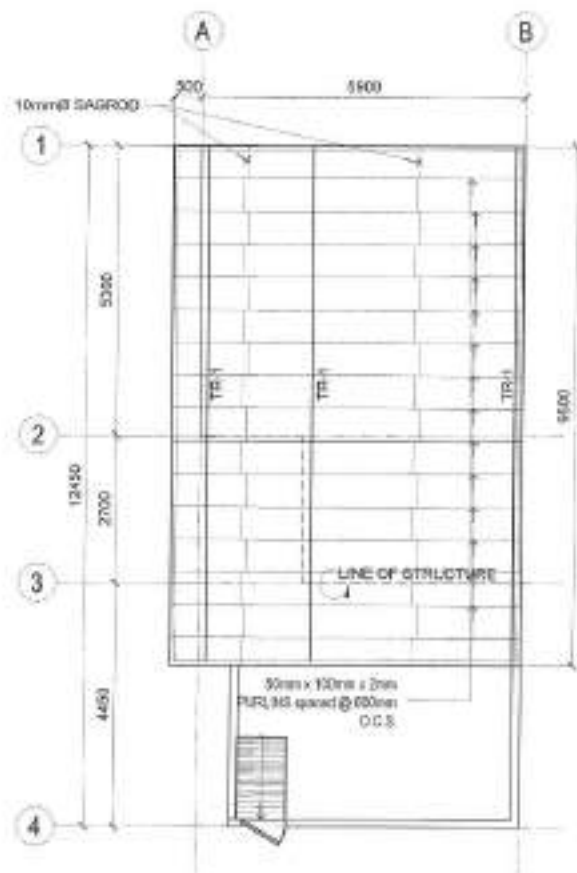
SUBMITTED BY:
[Signature]
ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING PROGRAM DESIGN

RECOMMENDING APPROVAL:
[Signature]
ENGR. JORDANI R. VERZOSA, JR.
DC, CITY ENGINEERING DEPARTMENT

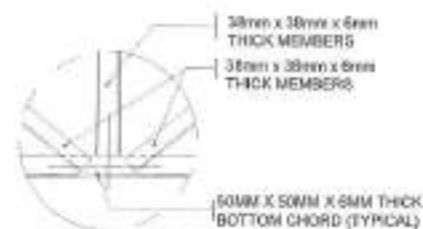
APPROVED BY:
[Signature]
HON. MA. JOSEFINA G. BELMONTÉ
CITY ENGINEER, QUEZON CITY

SHEET CONTENT:
DOUBLE SINK PORTABLE
HAND WASHING STALL
PLAN
ELEVATIONS & SECTION

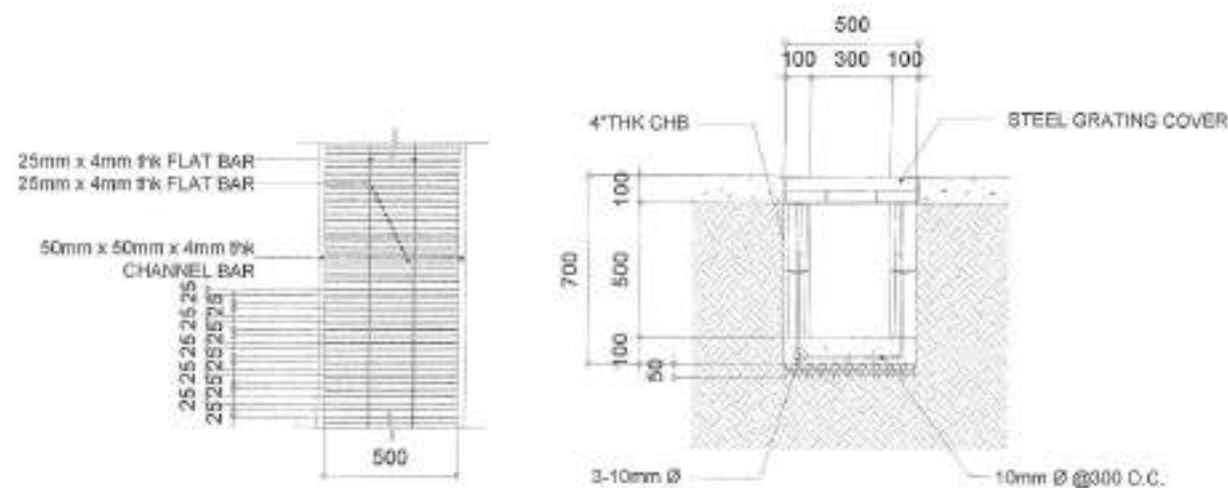
SHEET NO.
ST-01
06/12



- * 2 - 50mm x 50mm x 6mm THICK ANGLE BAR (TOP & BOTTOM CHORD)
- * 2 - 38mm x 38mm x 6mm ANGLE BAR (WEB MEMBER)
- * PROVIDE 100mm x 100mm x 6mm THK. GUSSET PLATE ON EVERY TRUSS CONNECTION



2 TRUSS DETAIL (TR-1)



1 ROOF FRAMING PLAN

SCALE: 1:100 METERS

3 TRENCH CANAL DETAIL

SCALE: NTS



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
**PROPOSED CONSTRUCTION OF
HAND WASHING FACILITY AND
REHABILITATION OF
TALANAY DAYCARE CENTER**

LOCATION:
BARANGAY BATAWAN HILLS DISTRICT 2 QUEZON CITY

DESIGNED BY: DMC
DATE: AUG. 07, 2021
CHECKED BY: JAL
REVISION NO.: 1

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING PROGRAM DIVISION

RECOMMENDED APPROVAL:

ENGR. ROGAN R. VERZOSA, JR.
DCC CITY ENGINEERING DEPARTMENT

APPROVED BY:

HON. MA. JOSEFINA G. BELMONTTE
CITY MAYOR, QUEZON CITY

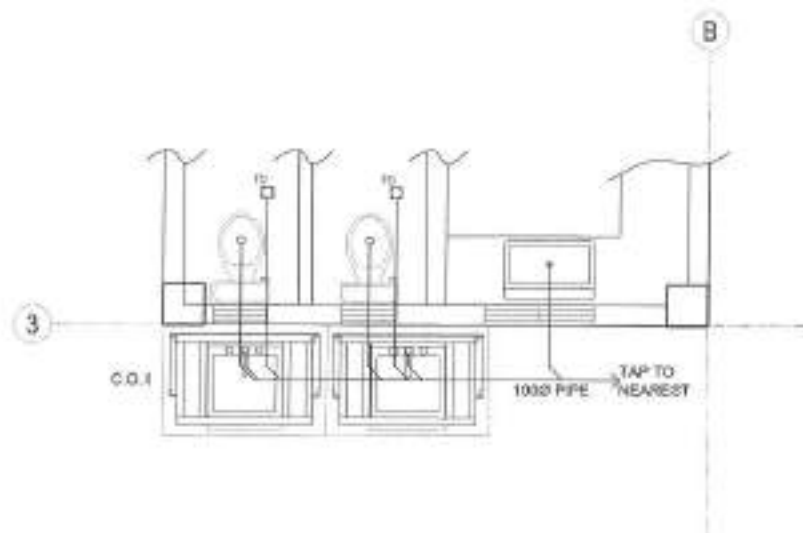
SHEET CONTENT:
ROOF PLAN DETAIL
(TRUSS)
TRUSS DETAIL (TR-1)
TRENCH CANAL
DETAIL

SHEET NO.

ST-02
07/12

GENERAL NOTES:

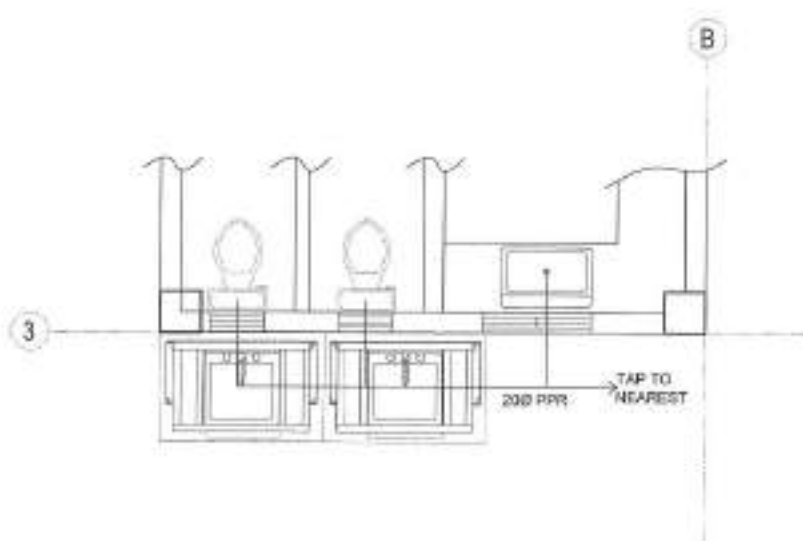
1. ALL THE PLUMBING/SANITARY WORK INVOLVED HEREIN IS-BELL, BUCKLE AND ACCORDING TO THE PROVISIONS OF THE PHILIPPINE PLUMBING CODE, THE NATIONAL BUILDING CODE, RULES AND REGULATION OF QUEZON CITY.
2. COORDINATE THE DRAWING WITH OTHER RELATED DRAWINGS AND SPECIFICATIONS PROVIDED BY THE ARCHITECTURAL SERVICES IMMEDIATELY OF ANY GOVERNMENT/PRIVATE FIRM.
3. ALL PIPES SHALL BE INSTALLED AS SHOWN OR PLUMB ANY ALLOCATION REQUIRED FOR PROPER OPERATION OF THE MECHANICAL SYSTEM PRIOR APPROVAL OF THE INSURANCE AND TEST.
4. PROPOSED SANITARY FITTINGS SHALL BE CONFORM TO THE ACTUAL LOCATION, DEPTH AND SPACING OF EXISTING STRUCTURES AND FITTINGS AS SHOWN BY THE CONTRACTOR.
5. ALL SLOPE FOR HORIZONTAL DRAINAGE SHALL MINIMUM FLASH UNLESS OTHERWISE NOTED.
6. SIZE OF WATER SUPPLY PIPES TO FIXTURES SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION.
7. THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES AND COORDINATE THE WORK WITH THE SEWER/UTILITY/STREET/DRINKING WATER/PHONE LINE SERVICE CONNECTING POINT.
8. ALL WATER PIPES AND WATER TANKS SHALL BE THOROUGHLY FLUSHED AND (DISINFECTED) WITH 500-PPM CHLORINE OR HYPOCHLORITE SOLUTION.
9. ALL WATER PIPES SHALL BE HYDROSTATICALLY TESTED TO 4 POUNDS PER THE DESIGN PRESSURE OF THE SYSTEM.
10. ALL SANITARY AND STORM DRAINAGE PIPES SHALL BE INDICATED FULLY ROUNDED LIPS AND SHALL BE MARKED WITH THE APPROPRIATE IDENTIFICATION.
11. ALL DIMENSIONS ARE IN METERS AND ALL PIPES SIZE ARE IN MILLIMETER UNLESS OTHERWISE SPECIFIED.
12. ALL FITTINGS INDICATED ON PLANS REFER TO PIPES 800C DIA/100.

**1 GENERAL NOTES****1. SANITARY AND VENT SYSTEM**

— — — — —	SP. TAP	100 P.P.P. (1000 P.P.P.)	⊙	80	80L FITTING
- - - - -	V.P.P.P.C.	VENT PIP. (VENT AT GROUND)	⊠	10	1000 P.P.P.
- - - - -	SP	STORM DRAIN P.P.P.	⊠	10	CATCH BASIN
⊙	1000 P.P.P.	FLOOR CLEANOUT (GROUND CLEANOUT)	⊠	40	400L SINK
— —	200	SEWING CLEANOUT	⊠		STALL TYPE URINAL
⊙	100	DRAINING FITTING CLEANOUT	⊠		GRAB BAR
⊙	V.P.P.	VENT FITTING PENETRATES THROUGH ROOF			

1. WATER DISTRIBUTION SYSTEM

— — — — —	C.W.	COLD WATER LINE
⊙	100	COLD WATER TAP
⊙	100	WATER TAP
⊙	100	WATER TAP
⊙	100	WATER TAP
⊙	100	WATER TAP

3 WASTE/ SEWER LAYOUT**2 LEGEND AND SYMBOLS****4 WATERLINE LAYOUT**

SCALE: 1/100 METERS



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
**PROPOSED CONSTRUCTION OF
HAND WASHING FACILITY AND
REHABILITATION OF
TALANAY DAYCARE CENTER**

LOCATION:
BAYANANG BAYANAN HILLS DISTRICT 2, QUEZON CITY

DESIGNED BY: *[Signature]*
DATE: 14.02.2021
CHECKED BY: *[Signature]*
REVISION NO.: 1

SUBMITTALS:
[Signature]
ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING & PROGRAMMING DIVISION

RECOMMENDING APPROVAL:
[Signature]
ENGR. JORDAN R. VERZOSA, JR.
DE. CIVIL ENGINEERING DEPARTMENT

APPROVED BY:
[Signature]
HON. MA. JOSEFINA O. BELMONTÉ
CITY MAYOR, QUEZON CITY

SHEET CONTENT:
GENERAL NOTES
LEGEND AND
SYMBOLS
WASTE/SEWER
LAYOUT
WATERLINE LAYOUT

SHEET NO:
PL-01
08/12

GENERAL NOTES:

- ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, THE LAWS AND ORDINANCES OF THE LOCAL CODE ENFORCING AUTHORITIES AND THE REQUIREMENTS OF THE LOCAL POWER AND TELEPHONE UTILITY COMPANY.
- THE CONTRACTOR SHALL SECURE ALL PERMITS AND PAY ALL FEES REQUIRED FOR THE WORK AND SHALL FURNISH THE OWNER THROUGH THE ENGINEER, FINAL CERTIFICATES OF ELECTRICAL INSPECTION AND APPROVAL FROM PROPER GOVERNMENT AUTHORITIES FOR COMPLETION OF WORK.
- ALL BRANCHED BRANCH CIRCUITS SHALL BE PVC CONDUITS AND FOR EXPOSED INSTALLATION SHALL BE MC SUPPORTED BY CONDUIT CLAMPS EVERY 300 MILLIMETER.
- PULL BOXES SHALL BE PROVIDED BY THE CONTRACTOR WHEREVER NECESSARY TO FACILITATE WIRE PULLING EVEN IF THERE ARE NOT INDICATED ON THE PLANS. SIZES OF ALL PULLBOXES SHALL BE COMPLIED BASED ON THE CODE REQUIREMENTS. SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION. LOCATION OF PULLBOXES SHALL BE APPROVED BY THE ARCHITECT/ENGINEER AND MUST BE REFLECTED ON THE "AS-BUILT" PLAN.
- ALL POWER OUTLETS AND SWITCHES SHALL BE GROUNDING-TYPE WITH PARALLEL SLOTS FOR 220V.
- PROVIDE CIRCUIT FAULT CURRENT INTERRUPTER CIRCUIT BREAKER FOR LOADS MARKED "GFCI" ON THE PLAN.
- ALL METALLIC CONDUITS, CABLES AND EQUIPMENT SHALL BE PROPERLY GROUNDING AND BONDED.
- UNLESS OTHERWISE NOTED, BRANDING HEIGHT FOR WALL MOUNTED DEVICES SHALL BE AS FOLLOWS:

RECEPTACLE OUTLET - 306 MM AFF. (18MM ABOVE WORKING SURFACE)
 TELEPHONE OUTLET - 300 MM AFF.
 CATV OUTLET - 300 MM AFF.
 LIGHTING SWITCH - 1400 MM AFF.
 HAND BOARD - 1000 MM AFF.

- REFER TO MECHANICAL, PLUMBING AND PIPE PROTECTION DRAWINGS FOR RATINGS AND LOCATIONS OF EQUIPMENT AS WELL AS THEIR CONTROL, ACCESSIBILITY AS SPECIFIED AND OR SHOWN UNDER THEIR RESPECTIVE SECTIONS.
- ALL MATERIALS TO BE USED SHALL BE OF THE BEST QUALITY, BRAND NEW AS SPECIFIED.
- THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO PRESENT GENERAL LAYOUT AND BROAD OUTLINE DESCRIPTION OF THE PROJECT BUT DO NOT NECESSARILY INDICATE DISCREPANCY ACTUAL LOCATIONS, LEVELS AND DIMENSIONS OF THE EQUIPMENT. THE CONTRACTOR IS HEREBY REQUIRED TO MAKE SURE ADJUSTMENT AT THE JOBSITE AS LOCATION, DIMENSIONS AND LEVELS ARE GOVERNED BY ACTUAL FIELD CONDITIONS.
- ANY DISCREPANCY BETWEEN THE PLANS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION OR CORRECTION.
- ALL LIGHTING AND COMMUNICATION OUTLET CONDUITS SHALL BE 3/4" ØC 90° DWV THAWED COPPER WIRE UNLESS OTHERWISE NOTED. MINIMUM SIZE OF WIRE SHALL BE 16 AWG. COPPER WIRE. ALL WIRING AND CABLES SHALL BE COLOR CODED AS FOLLOWS:

LINE 1 - RED
 LINE 2 - YELLOW
 NEUTRAL - WHITE
 GROUND - GREEN

- BOXES, WIRE CUTTERS, ENCLOSURE SHALL BE FABRICATED FROM STEEL WITH THICKNESS AS FOLLOWS:
 MINIMUM WIDTH OF THE WIDEST SURFACE STEEL:
 UP TO INCLUDING 90.00 MM GA 16 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
 OVER 90.00 MM BUT NOT OVER 407.30 GA 14 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
 OVER 407.30 MM BUT NOT OVER 762.00 MM GA 12 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
 OVER 762.00 MM GA 10 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
- ALL ELECTRICAL WORKS HEREIN SHALL BE EXECUTED BY OR SUPERVISED BY UNDER THE DIRECT SUPERVISION OF A FULL-TIME LICENSED ELECTRICAL ENGINEER AND A FULLY ACCREDITED ELECTRICAL CONTRACTOR BY PCAB. WORKS SHALL BE NEATLY PLACED, SECURELY FASTENED AND PROPERLY FINISHED.
- TYPE OF SERVICE ENTRANCE SHALL BE SINGLE-PHASE, TWO-WIRE PLUS GROUND, 60 HERTZ, 220V AC NOMINAL.
- CONDUITS IN NO CASE SHALL THERE BE MORE THAN THE EQUIVALENT OF FOUR QUARTER BENDS IN ANY ONE RUN. ALL CONDUIT BENDS SHALL BE FIELD MADE BY USING HYDRAULIC BENDERS. MINIMUM BENDING RADIUS MUST BE IN ACCORDANCE TO THE CODE REQUIREMENTS.
- UPON COMPLETION OF ELECTRICAL CONSTRUCTION WORK, INSULATION RESISTANCE TEST AND FUNCTIONALITY TEST SHALL BE PERFORMED BY THE CONTRACTOR INCLUDING THE INSTALLATION TO BE REPORTED IN DETAILS ON FORMS APPROVED BY THE QUEZON CITY ENGINEERING DEPARTMENT REPRESENTATIVE. THE CIRCUIT RESISTANCE FOR ELECTRICAL SYSTEMS SHALL NOT BE MORE THAN 5 OHMS. COMMUNICATION GROUNDING RESISTANCE SHALL NOT EXCEED 5 OHMS.

	Duplex Convenience Outlet		Old Fan with Deluxa Switch
	Duplex Convenience Outlet (New 2-POE)		Lighting/Floor Panel
	18-watt LED Fixture		Ground Hammer
	1200mm x 300mm LED Light Fixture		Utility Service Meter
	100mm x 100mm Ceiling Mounted Flood Fix		Ground Breaker
	One Gang Switch		Grounding
	Two Gang Switch		

2 LEGEND & SYMBOLS

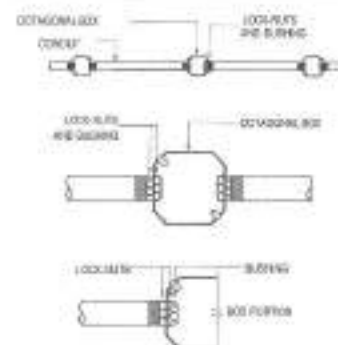
SCALE NTS



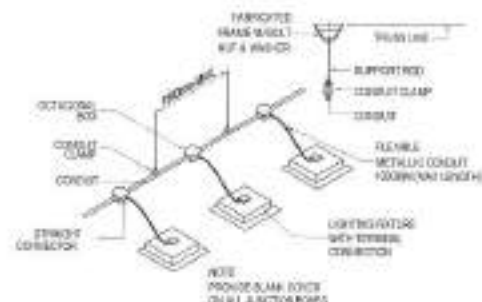
BENDING RADIUS DETAIL



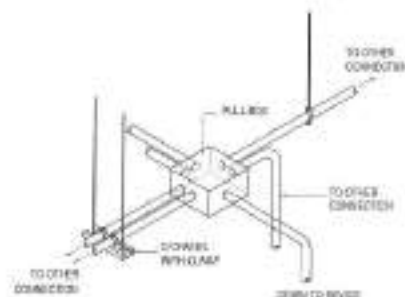
SPOT DETAIL OF CONDUIT RUN AND BOX



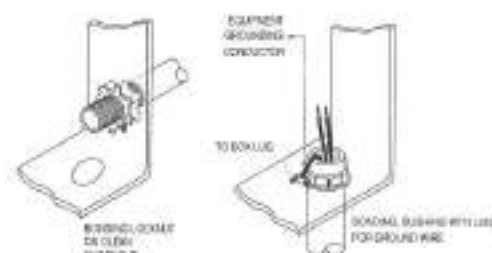
SPOT DETAIL OF CONDUIT RUN AND BOX



CONDUIT RUN FOR LIGHTING DISTRIBUTION IN ONE CIRCUIT (FOR EXPOSED BY HIDE DROP-CEILING INSTALLATION)



PROPER CONDUIT LAYOUT IN PULL BOX



BONDED RACEWAY TERMINATION FOR SHEET METAL

1 GENERAL NOTES

SCALE NTS

3 MISCELLANEOUS DETAILS

SCALE NTS



Republic of the Philippines
 Lungsod ng Quezon
 CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
**PROPOSED CONSTRUCTION OF
 HAND WASHING FACILITY AND
 REHABILITATION OF
 TALANAY DAYCARE CENTER**

LOCATION:
 BAKANGAY BATAWAN II-III DISTRICT 2, QUEZON CITY

DESIGNED BY: **EM**
 DATE: **MAY 27, 2021**
 CHECKED BY: **JM**
 PERSON NO.: **1**

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
 HEAD, PLANNING & PROJECTS DIVISION

RECOMMENDING APPROVAL:

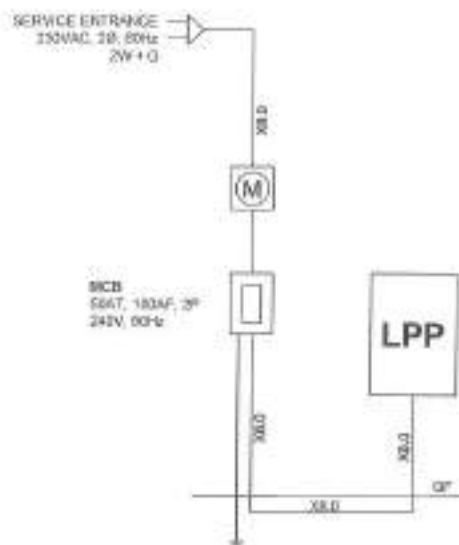
ENGR. MORGAN R. VERZOSA, JR.
 CHIEF, CITY ENGINEERING DEPARTMENT

APPROVED BY:

HON. MA. JOSEFINA G. BELMONTE
 CITY MAYER, QUEZON CITY

SHEET CONTENT:
 GENERAL NOTES
 LEGEND AND SYMBOLS
 MISCELLANEOUS
 DETAILS

SHEET NO:
EL-01
09/12



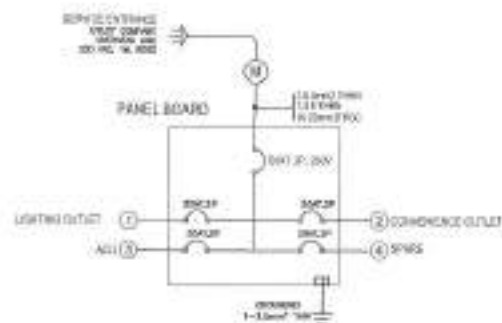
1 SINGLE LINE DIAGRAM

SCALE: NTS

PANEL NAME: LPP		MATERIAL: 50kV, 2000A, 20, 40M, 180V, 60Hz, 2W+0									
CIRCUIT NO.	DESCRIPTION	RATING			OVER-CURRENT PROTECTION				CONDUIT		
		VA	V	A	AL	AF	F	TYPE	SIZE	TYPE	
1	Lighting Outlet	1400	230	6.00	30	100	2	50kV-01	2-1.50m ² THHN + 1-2.00m ² THW	30	PVC
2	Convenience Outlet	1000	230	4.35	30	100	2	50kV-01	2-1.50m ² THHN + 1-2.00m ² THW	30	PVC
3	ACU Outlet	1300	230	15.00	30	100	2	50kV-01	2-1.50m ² THHN + 1-2.00m ² THW	30	PVC
4	Spare	1000	230	5.00	30	100	2	50kV-01			
TOTAL		6000		25.25							
COMPLETION		LADG		MATERIAL							
$I_L = \frac{6000}{230} = 26.09 \text{ A}$ $I_L = 31.28 \text{ A}$ $I_{Lc} = 31.28 \times 125\%$ $I_{Lc} = 39.10 \text{ A} = 60 \text{ A}$		$I_{Lc} = 31.28 \times 125\%$ $I_{Lc} = 39.10 \text{ A} = 60 \text{ A}$		2-1.50m ² THHN + 1-2.00m ² THW + 20mm ² PVC Conduit							

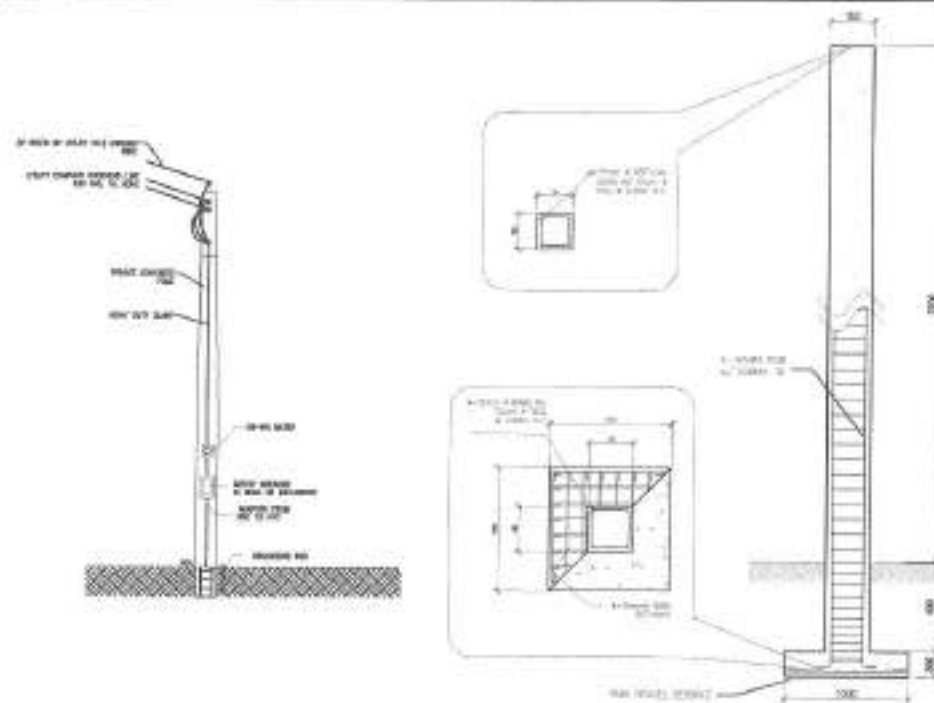
2 SCHEDULE OF LOAD

SCALE: NTS



3 PANEL BOARD DIAGRAM

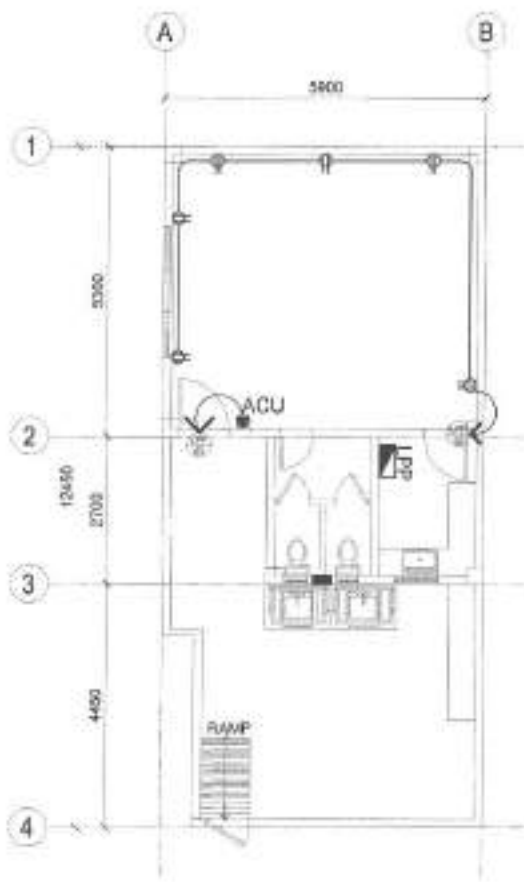
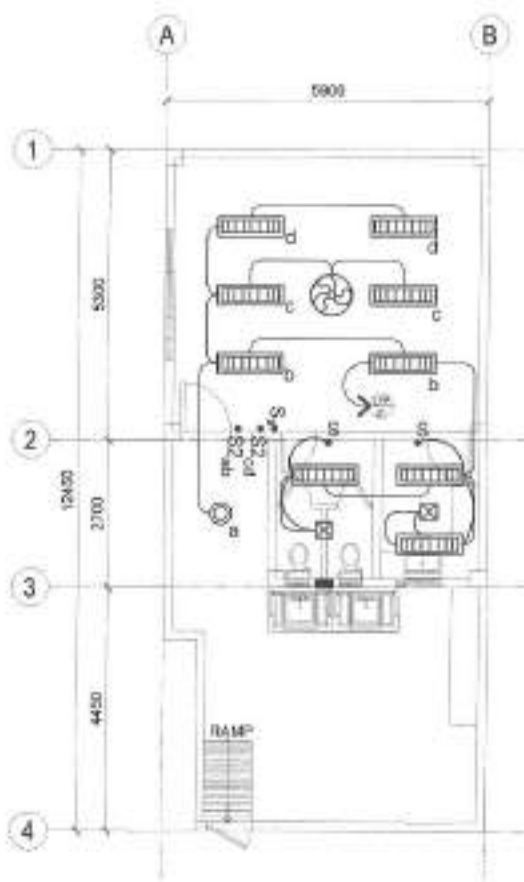
SCALE: NTS



4 ELECTRICAL SERVICE ENTRANCE DETAIL

SCALE: NTS

<p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE: PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF TALANAY DAYCARE CENTER	DRAWN BY: <i>[Signature]</i> DATE (LAST OF 2021): CHECKED BY: <i>[Signature]</i> REVISION NO.: 1	SUBMITTED BY: <i>[Signature]</i> ENGR. LEO S. DEL ROSARIO HEAD, PLANNING AND DESIGN DIVISION	RECOMMENDING APPROVAL: <i>[Signature]</i> ENGR. ISAGANI R. VERZOSA, JR. CH. ENGR., PLANNING AND DESIGN DIVISION	APPROVED BY: <i>[Signature]</i> HON. MA. JOSEFINA G. BELMONTÉ CITY MAYOR, QUEZON CITY	SHEET CONTENT: SINGLE LINE DIAGRAM SCHEDULE OF LOAD PANEL BOARD DIAGRAM ELECTRICAL SERVICE ENTRANCE POST	SHEET NO: EL-02 10/12
	LOCATION: BAWANGAY SAKAYAN HILLS DISTRICT 3, QUEZON CITY						



1 LIGHTING LAYOUT

SCALE: 1:100 METERS

2 POWER LAYOUT

SCALE: 1:100 METERS

Republika ng Pilipinas
 Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
**PROPOSED CONSTRUCTION OF
 HAND WASHING FACILITY AND
 REHABILITATION OF
 TALANAY DAYCARE CENTER**

LOCATION:
 BAYANWAY DATASAN HILLS DISTRICT 2, QUEZON CITY

DRAWN BY: DMC
 DATE: MAR 07, 2021
 CHECKED BY: JJA
 REVISIONS: 1

SUBMITTED BY

ENGR. LEO S. DEL ROSARIO
 HEAD, ELECTRICAL PROGRAM DIVISION

RECOMMENDING APPROVAL:

ENGR. ISABELA R. VERZOSA, JR.
 DEC. CHIEF, ELECTRICAL DIVISION

APPROVED BY:

HON. RA. JOSEFINA G. BELMONTE
 CITY MANOR, QUEZON CITY

SHEET CONTENT:
 LIGHTING LAYOUT
 POWER LAYOUT

SHEET NO.:
EL-03
11/12

- ALL MECHANICAL WORKS SHALL BE DONE IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE NATIONAL BUILDING CODE, PSME CODE AND THE RULES AND REGULATIONS OF QUEZON CITY.
- THE SCOPE OF WORK SHALL INCLUDE ALL WORKS DESCRIBED IN PLANS.
- THE WORKS SHALL BE EXECUTED IN CLOSE COORDINATION WITH ALL OTHER TRADES.
- ALL AIRCONDITIONED SPACES SHALL BE MAINTAINED AT 24°C DB AND 50% RH.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, MANUFACTURERS CATALOGUE, SPECIFICATIONS, SAMPLES, INCLUDING VIBRATION ISOLATORS BEFORE EXECUTION OF WORK.
- ALL FLOOR SLAB MOUNTED VIBRATING EQUIPMENT SHALL BE PROVIDED WITH VIBRATION ISOLATORS TO PREVENT VIBRATIONS AND NOISE TRANSMISSION.
- EXHAUST FAN SHALL BE PROVIDED WITH SUITABLE FLEXIBLE CONNECTIONS TO DISCHARGE DUCT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TESTING AND COMMISSIONING OF THE WHOLE VENTILATION AND AIRCONDITIONING SYSTEM AND INSTALLATION.
- ALL POWER WIRING SHALL BE ELECTRICAL AND TERMINATION TO EQUIPMENT SHALL BE MECHANICAL.
- PROVIDE CONTROL WIRING FOR AIRCONDITIONING EQUIPMENT.
- PROVIDE THERMOSTAT FOR ALL INDOOR UNITS / FAN COIL UNITS.
- VERIFY LOCATION OF CONTROLLERS AND SWITCHES ON ELECTRICAL PLANS.
- ALL PIPE EQUIPMENT CONDENSATE DRAIN SHALL BE CONNECTED TO THE NEAREST FLOOR DRAIN / ADJAC.
- PROVIDE GUIDES, HANGERS, AND SUPPLEMENTAL STEEL SUPPORT FOR ALL PIPING, DUCTING AND EQUIPMENTS.
- PROVIDE PIPE SLEEVES FOR ALL PIPING PASSING THRU BUILDING STRUCTURE.
- ALL PIPE DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE NOTED.

- | | | | |
|--|-----------------------------|--|----------------------------|
| | EQUIPMENT DESIGNATION | | AIR-COOLED CONDENSING UNIT |
| | REFRIGERANT PIPE | | ELBOW UP |
| | WALL MOUNTED INDOOR UNIT | | ELBOW DOWN |
| | WINDOW TYPE AIR CONDITIONER | | FAN COIL UNIT |

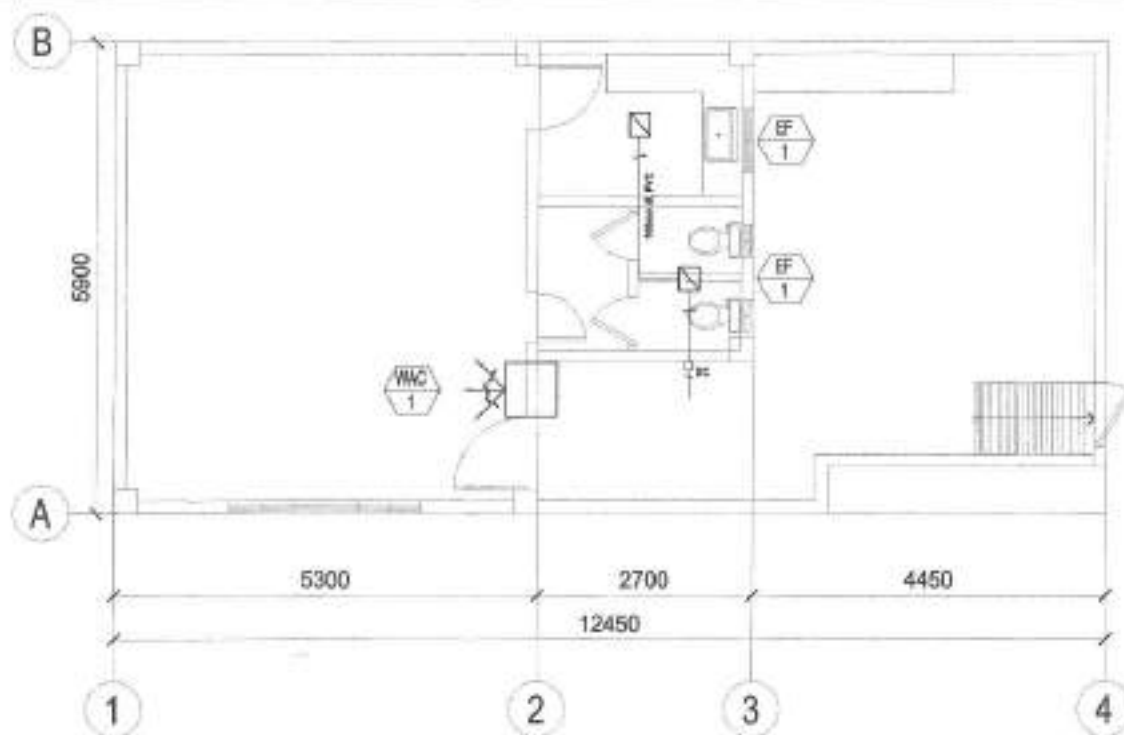
WINDOW TYPE AIR-CONDITIONER
AIR-COOLED CONDENSING UNITS

DESIGNATION	LOCATION	QUANTITY	COOLING CAPACITY		AIR CIRCULATION	POWER INPUT WATTS	ELECTRICAL SUPPLY			REMARKS
			HP	KJHR			VOLTS	PHASE	HERTZ	
	AS SHOWN ON PLANS	1 SET	3.5 HP	26.50	801 CFM	250	230.0	1Ø	60.0	REMOVABLE INTAKE (SPALLE, EASY TO CLEAN) ANTI-DAC FILTER, BY MECHANICAL ONOFF TAGOR

EXHAUST FAN

DESIGNATION	LOCATION	QUANTITY	TYPE	AIR VOLUME CMH	POWER INPUT WATTS	ELECTRICAL SUPPLY			REMARKS
						VOLTS	PHASE	HERTZ	
	AS SHOWN ON PLANS	1 SET	CEILING MOUNTED	140-150	28	230.0	1Ø	60.0	UNITS SHALL BE EQUIPPED WITH DISCHARGE OUTLET TAPERED OUT ADAPTER, ONE-TOUCH SPRING TYPE LOUVER & AN ADAPTER CONTAINING A REVERSE FLOW PREVENTION VALVE

2 SCHEDULE OF EQUIPMENT



1 GENERAL NOTES AND LEGENDS

3 GROUND FLOOR EQUIPMENT LAYOUT

SCALE: NTS



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
PROPOSED CONSTRUCTION OF
HAND WASHING FACILITY AND
REHABILITATION OF
TALANAY DAYCARE CENTER
LOCATION:
BARANGAY DATASAN HILLS, DISTRICT II, QUEZON CITY

DATE: August 12, 2021
CHECKED BY: JRS
REVISION:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
MECH. PLUMBING ENGINEER

RECOMMENDING APPROVAL:

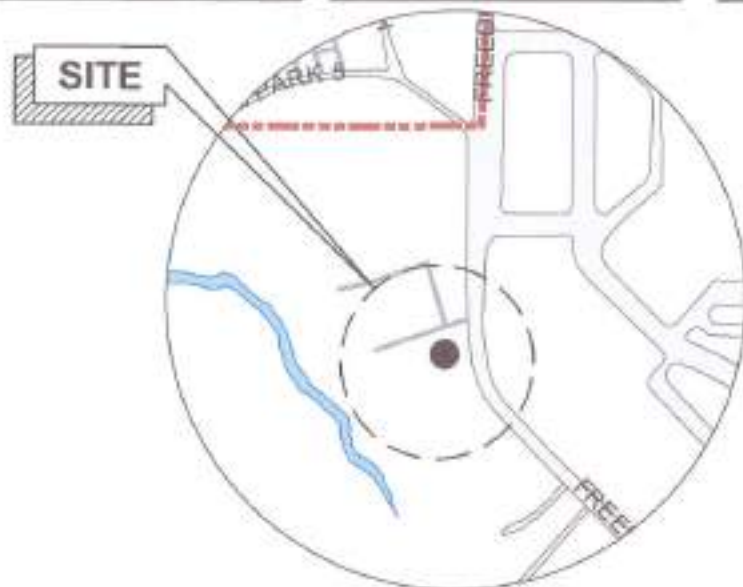
ENGR. SADWIN R. VERZOSA, JR.
CITY ENGINEER

APPROVED BY:

HON. MA. JOSEFINA G. BELMONTE
CITYAORN

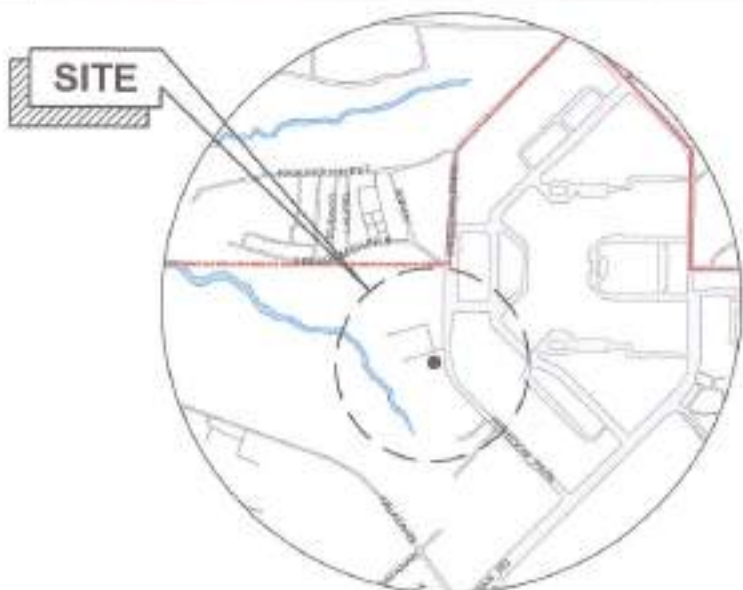
SHEET CONTENT
GENERAL NOTES
LEGENDS AND SYMBOLS
EQUIPMENT LAYOUT

SHEET NO.
ME-01
12/12



1 LOCATION MAP

SCALE: NTS



2 VICINITY MAP

SCALE: NTS



3 SITE DEVELOPMENT PLAN

ROSE STREET

TABLE OF CONTENTS

ARCHITECTURAL

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AR-4	FRONT ELEVATION LEFT SIDE ELEVATION SECTION THRU 'A' SECTION THRU 'B'
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STRUCTURAL

ST-1	FIRE EXIT LADDER
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PLUMBING

PL-1	GENERAL NOTES & LEGENDS GROUND FLOOR WATER LINE LAYOUT
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ELECTRICAL

EL-1	GENERAL NOTES LEGENDS AND SYMBOLS CONNECTION DETAILS
EL-2	SCHEDULE OF LOADS SINGLE LINE DIAGRAM PANEL BOARD DIAGRAM SERVICE ENTRANCE DETAILS
EL-3	GROUND FLOOR LIGHTING LAYOUT SECOND FLOOR LIGHTING LAYOUT
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Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE

PROPOSED REHABILITATION OF
FREEDOM PARK III & IV DAY CARE
CENTER

LOCATION

5RD V. BATANG HILLS, DISTRICT 3, QUEZON CITY

DRAWN BY

DATE: 8/21/2021

CHECKED BY

REVISION NO.

DESIGNED BY

ENGR. LEO S. DEL ROSARIO
HEAVY PLANNING & ENGINEERING DIVISION

RECOMMENDING APPROVAL

ENGR. ISAAC N. R. VERZOSA, JR.
SEC. CHIEF, ENGINEERING DEPARTMENT

APPROVED BY

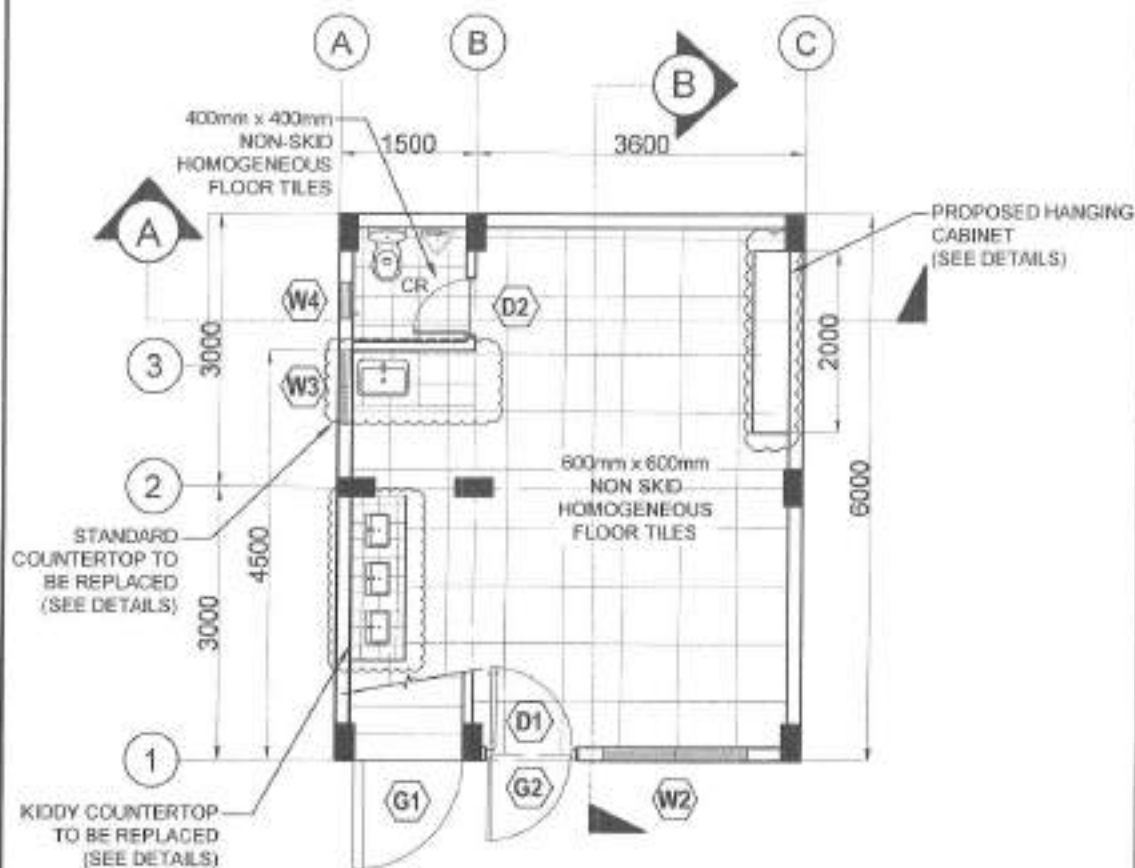
HON. MA. JOSEFINA G. BELMONTE
CITY MAJOR, QUEZON CITY

SHEET CONTENT

VICINITY MAP
LOCATION MAP
SITE DEVELOPMENT PLAN

SHEET NO.

AR-1
0114

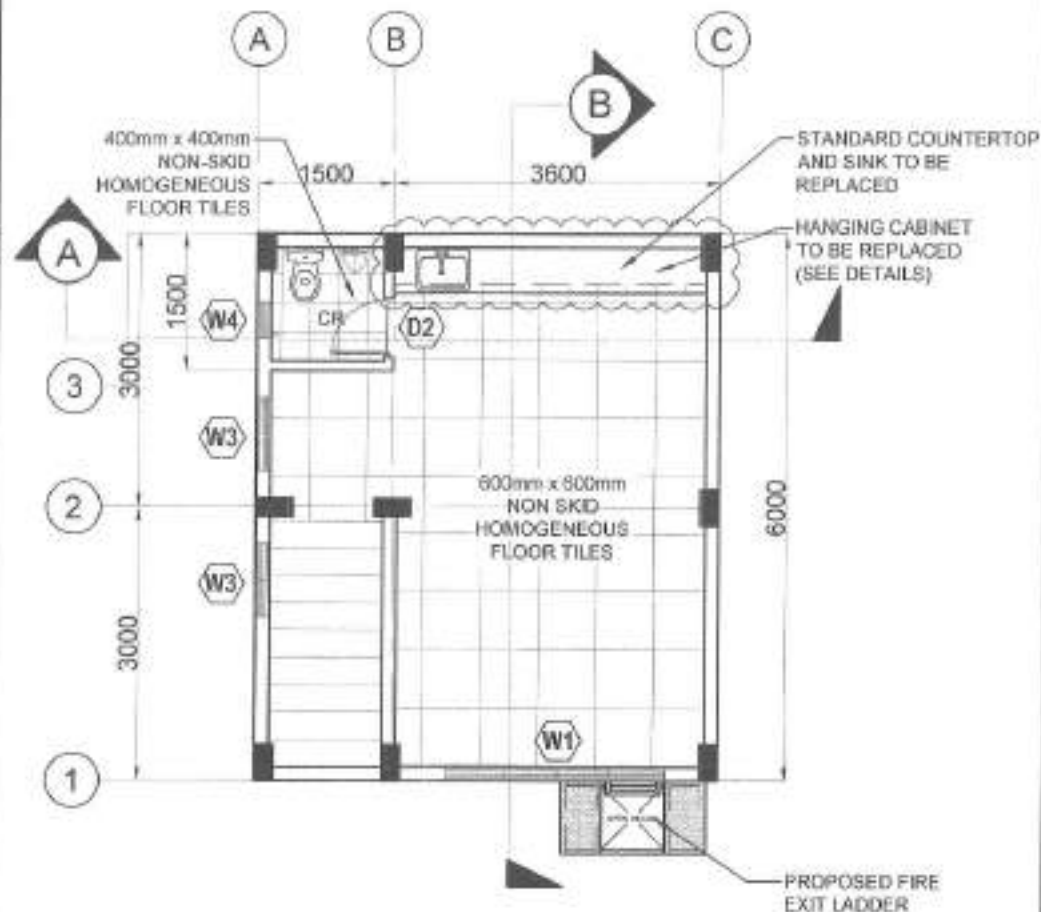


NOTE:

- WHOLE STRUCTURE TO BE REPAINTED
- DOOR AND WINDOWS TO BE REPLACED
- ALL GATES TO BE REPLACED
- PLUMBING FIXTURES TO BE REPLACED
- TOILET WALL TILES TO BE REPLACED
- FLOOR TILES TO BE REPLACED
- PROPOSED WINDOW GRILLES ON ALL WINDOWS

1 GROUND FLOOR PLAN

SCALE: 1:50M



NOTE:

- WHOLE STRUCTURE TO BE REPAINTED
- DOORS AND WINDOWS TO BE REPLACED
- PLUMBING FIXTURES TO BE REPLACED

2 SECOND FLOOR PLAN

SCALE: 1:50M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED REHABILITATION OF
FREEDOM PARK III & IV DAY CARE
CENTER

LOCATION:

WALY, BACARAN HILLS, DISTRICT 7, QUEZON CITY

DRAWN BY:

DATE: 8/31/2021

CHECKED BY:

REVISION NO.:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING & PROGRAMS DIVISION

RECOMMENDED APPROVAL:

ENGR. ISMAEL R. VERZOSA, JR.
CITY ENGINEERING DEPARTMENT

APPROVED BY:

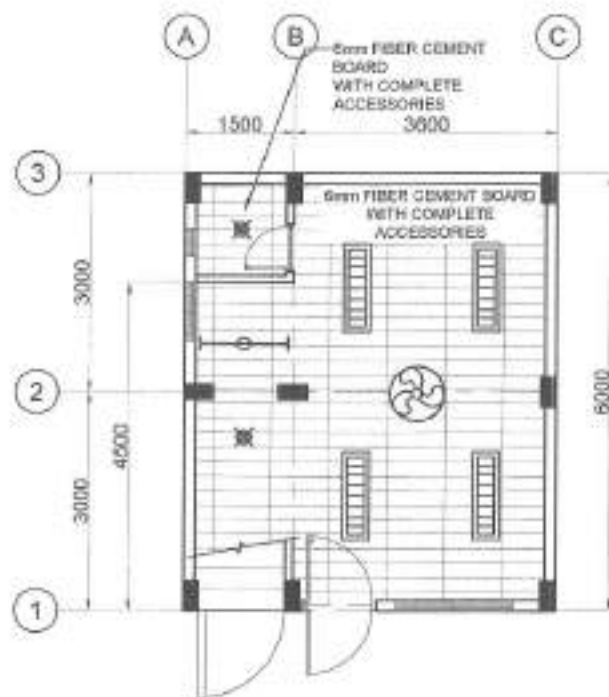
HON. MA. JOSEFINA G. BELMONTE
CITY MAYOR, QUEZON CITY

SHEET CONTENT:

GROUND FLOOR PLAN
SECOND FLOOR PLAN

SHEET NO.:

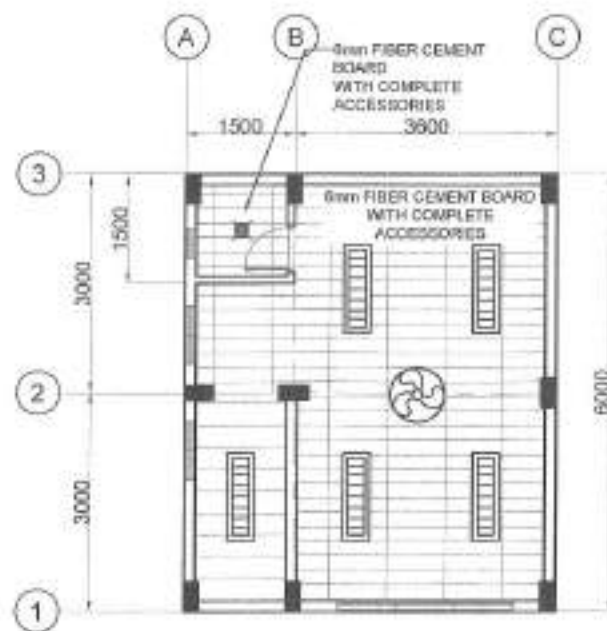
AR-2
02/14



NOTE:
• CEILING TO BE REPLACED

1 GROUND FLOOR REFLECTED CEILING PLAN

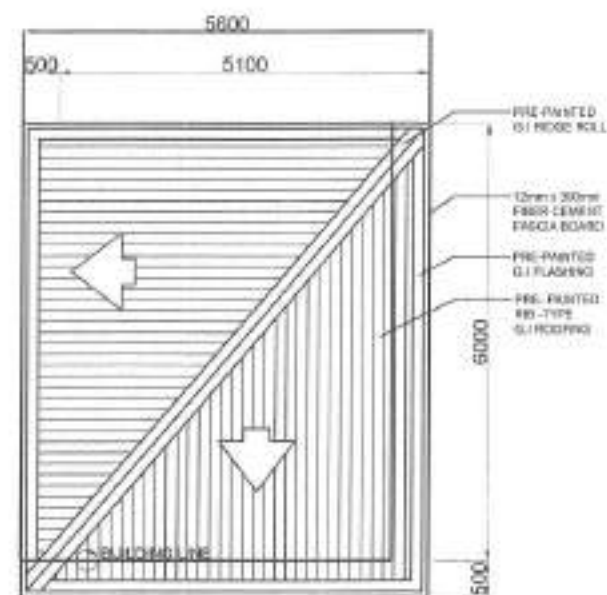
SCALE: 1:75M



NOTE:
• CEILING TO BE REPLACED

2 SECOND FLOOR REFLECTED CEILING PLAN

SCALE: 1:75M



NOTE:
• ROOFING TO BE REPLACED

3 ROOF PLAN

SCALE: 1:75M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
**PROPOSED REHABILITATION OF
FREEDOM PARK III & IV DAY CARE
CENTER**

LOCATION:
BRGY. DATARAN HILLS, DISTRICT 7, QUEZON CITY

DRAWN BY:
DATE: 03.10.21
CHECKED BY:
REVISION NO.:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
HEAD PLANNING & PROGRAMMING DIVISION

RECOMMENDING APPROVAL:

ENGR. ISMAEL R. VERZOSA, JR.
CITY ENGINEERING DEPARTMENT

APPROVED BY:

HON. MA. JOSEFINA S. BELMONTE
CITY MAYOR, QUEZON CITY

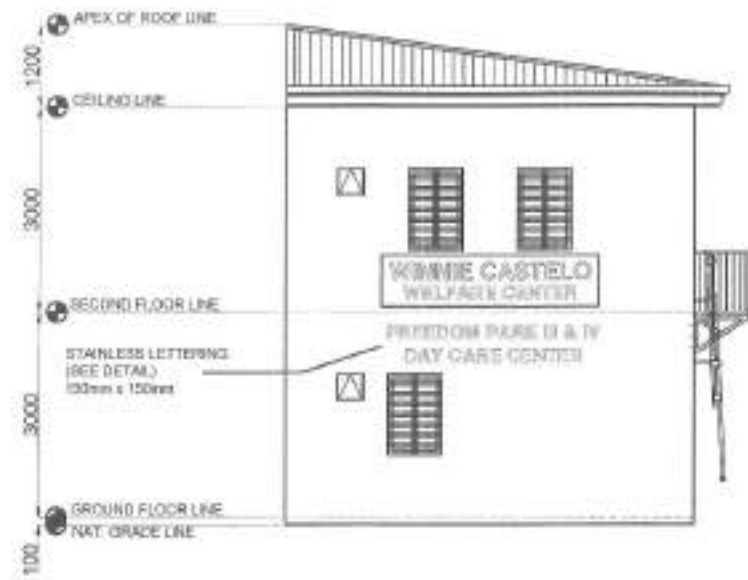
SHEET CONTENT:
GROUND FLOOR PLAN
REFLECTED CEILING
PLAN
SECOND FLOOR
REFLECTED CEILING
PLAN
ROOF PLAN

SHEET NO.
AR-3
03/14



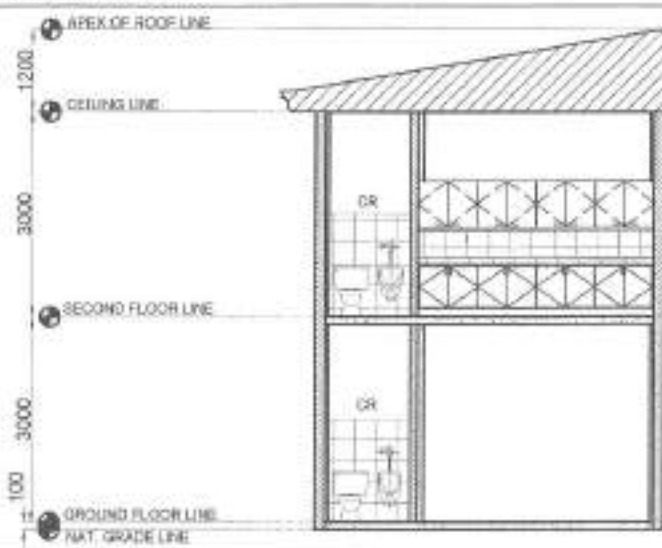
1 FRONT ELEVATION

SCALE: 1/75M



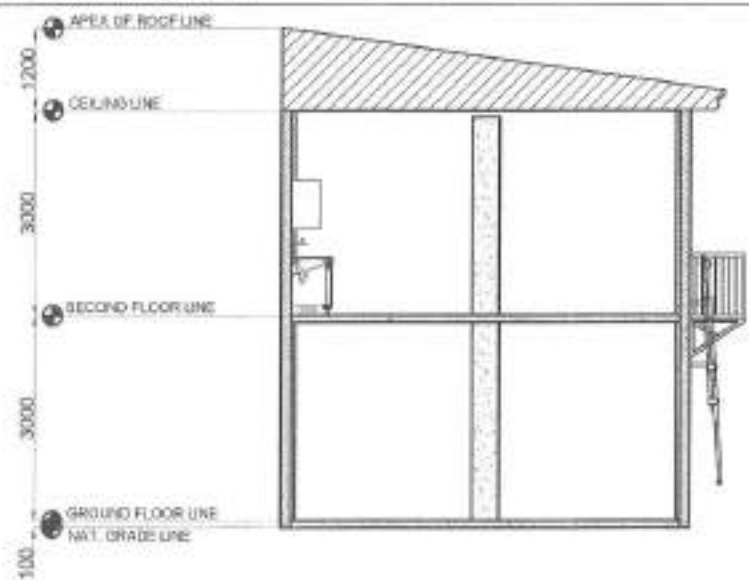
2 LEFT SIDE ELEVATION

SCALE: 1/75M



3 SECTION THRU "A"

SCALE: 1/25M



4 SECTION THRU "B"

SCALE: 1/75M

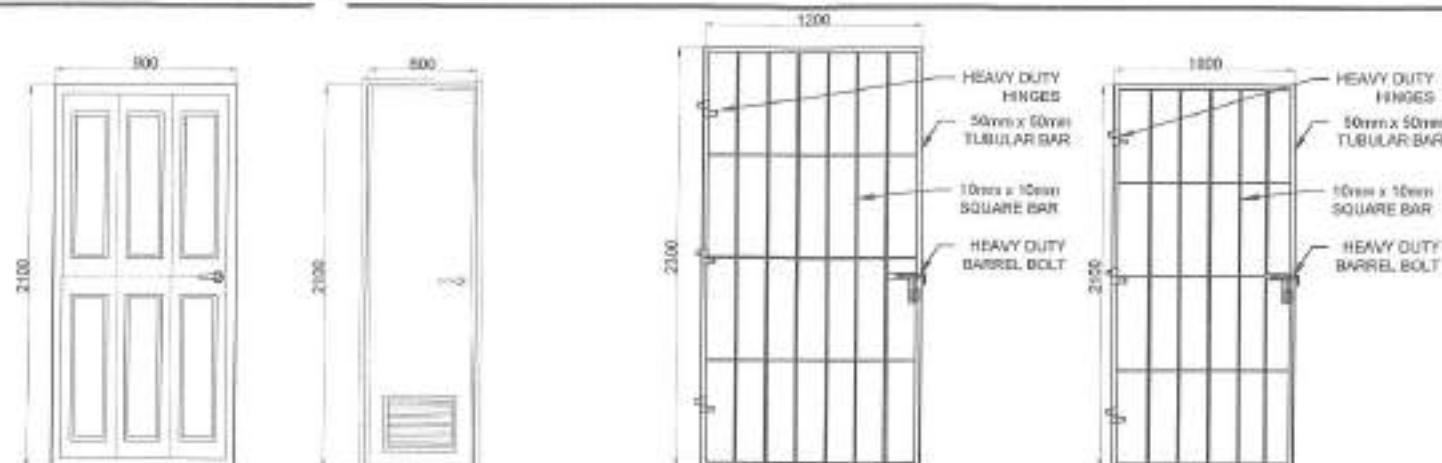
NOTE:
 * WHOLE EXTERIOR AND INTERIOR OF BUILDING TO BE REPAINTED

Republic of the Philippines
 Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE: PROPOSED REHABILITATION OF FREEDOM PARK III & IV DAY CARE CENTER	DESIGN BY: DATE: 8.11.2021 CHECKED BY: REVISION NO.:	SUBMIT DATE: ENGR. LEO S. DEL ROSARIO HEAT, PLUMBING & MECHANICAL DIVISION
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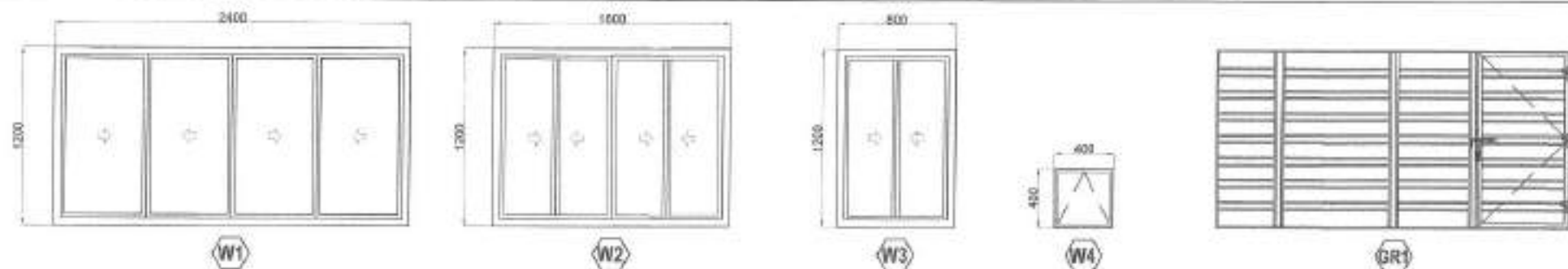
RECOMMENDING APPROVAL: ENGR. ISABELA R. VERZOSA, JR. OIC CHIEF ENGINEER (PLUMBING)	APPROVED BY: HON. MA. JOSEFA O. BELMONTE CITY ENGINEER (GENERALIST)
---	--

SHEET CONTENT: FRONT ELEVATION LEFT SIDE ELEVATION SECTION THRU "A" SECTION THRU "B"	SHEET NO.: AR-4 04/14
--	---



	D-1	D-2	G-1	G-2
LOCATION	FRONT DOOR	COMFORT ROOM	FRONT	FRONT DOOR
SPECIFICATIONS	PANEL DOOR	PVC DOOR WITH LOUVER	50mm x 50mm x 2mm TUBULAR BAR WITH 10mm x 10mm SQUARE BAR	50mm x 50mm x 2mm TUBULAR BAR WITH 10mm x 10mm SQUARE BAR
HARDWARE / GLAZING	COMPLETE ACCESSORIES	COMPLETE ACCESSORIES	HEAVY DUTY BARREL BOLT AND HINGES	HEAVY DUTY BARREL BOLT AND HINGES
NO. OF SETS	1	2	1	1

1 SCHEDULE OF DOORS AND GATES



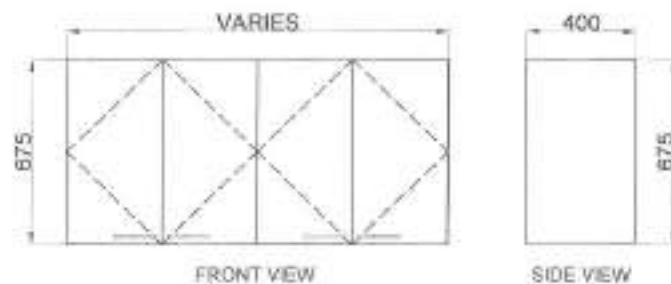
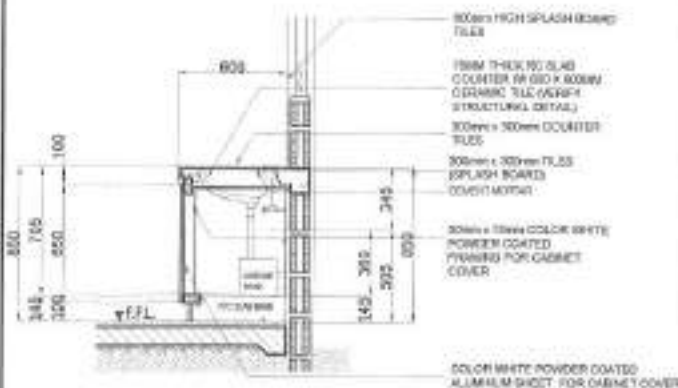
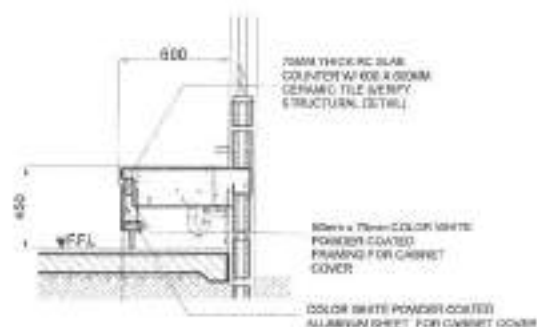
	W-1	W-2	W-3	W-4	GR-1
LOCATION	DAY CARE	DAY CARE	DAY CARE	COMFORT ROOM	FIRE EXIT GRILLES
SPECIFICATIONS	SLIDING WINDOW 8mm THK CLEAR TEMPERED GLASS ON WHITE COLOR POWDER COATED ALUMINUM FRAMES	SLIDING WINDOW 8mm THK CLEAR TEMPERED GLASS ON WHITE COLOR POWDER COATED ALUMINUM FRAMES	SLIDING WINDOW 8mm THK CLEAR TEMPERED GLASS ON WHITE COLOR POWDER COATED ALUMINUM FRAMES	AWNING WINDOW, 8mm THK CLEAR TEMPERED GLASS ON WHITE COLOR POWDER COATED ALUMINUM FRAMES	25mm x 25mm x 2mm HORIZONTAL AND VERTICAL TUBULAR BAR
HARDWARE / GLAZING	COMPLETE ACCESSORIES	COMPLETE ACCESSORIES	COMPLETE ACCESSORIES	COMPLETE ACCESSORIES	HEAVY DUTY HINGES AND BARREL BOLT
NO. OF SETS	1	1	3	2	1

2 SCHEDULE OF WINDOWS AND FIRE EXIT GRILLES



Republic of the Philippines
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:	DRAWN BY:	SUBMITTED BY:	RECOMMENDED APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
PROPOSED REHABILITATION OF FREEDOM PARK III & IV DAY CARE CENTER	DATE: 03/20/21				SCHEDULE OF DOORS AND GATE SCHEDULE OF WINDOWS AND FIRE EXIT GRILLES	AR-5 05/14
LOCATION: BRDY, GATAGAN HILLS, DISTRICT 3, QUEZON CITY	DESIGNED BY:	ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROJECT MANAGEMENT	ENGR. JOHANN R. VERZOSA, JR. CITY ENGINEERING DEPARTMENT	HON. NA. JOSEFINA G. BELMONTE CITY MAYOR, QUEZON CITY		



PROP HANGING CABINET
18mm THK ORDINARY PLYWOOD
PAINTED FINISH
w/ LOCKING MECHANISM

1 KIDDY COUNTERTOP
DETAILS

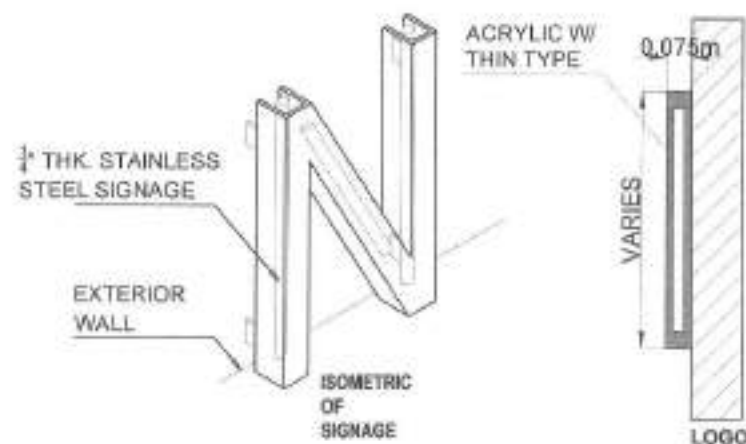
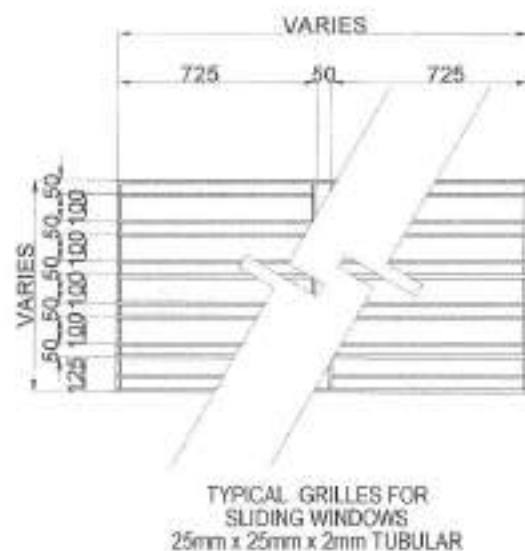
SCALE: 1:30M

2 STANDARD COUNTERTOP
WITH SINK DETAILS

SCALE: 1:30M

3 HANGING CABINET DETAILS

SCALE: 1:20M



4 TYPICAL GRILLES FOR
SLIDING WINDOWS

SCALE: 1:20M

5 STANDARD LETTERING DETAILS

SCALE: 1:15M



Republic of the Philippines
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED REHABILITATION OF
FREEDOM PARK III & IV DAY CARE
CENTER

LOCATION:

DR. V. BATAAN HILLS, DISTRICT 3, QUEZON CITY

DRAWN BY:

DATE: 8/31/2021

CHECKED BY:

REVISION NO.:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING & PREPARATION DIVISION

RECOMMENDED APPROVAL:

ENGR. ISAAC R. VERZOSA, JR.
DC, CITY ENGINEERING DEPARTMENT

APPROVED BY:

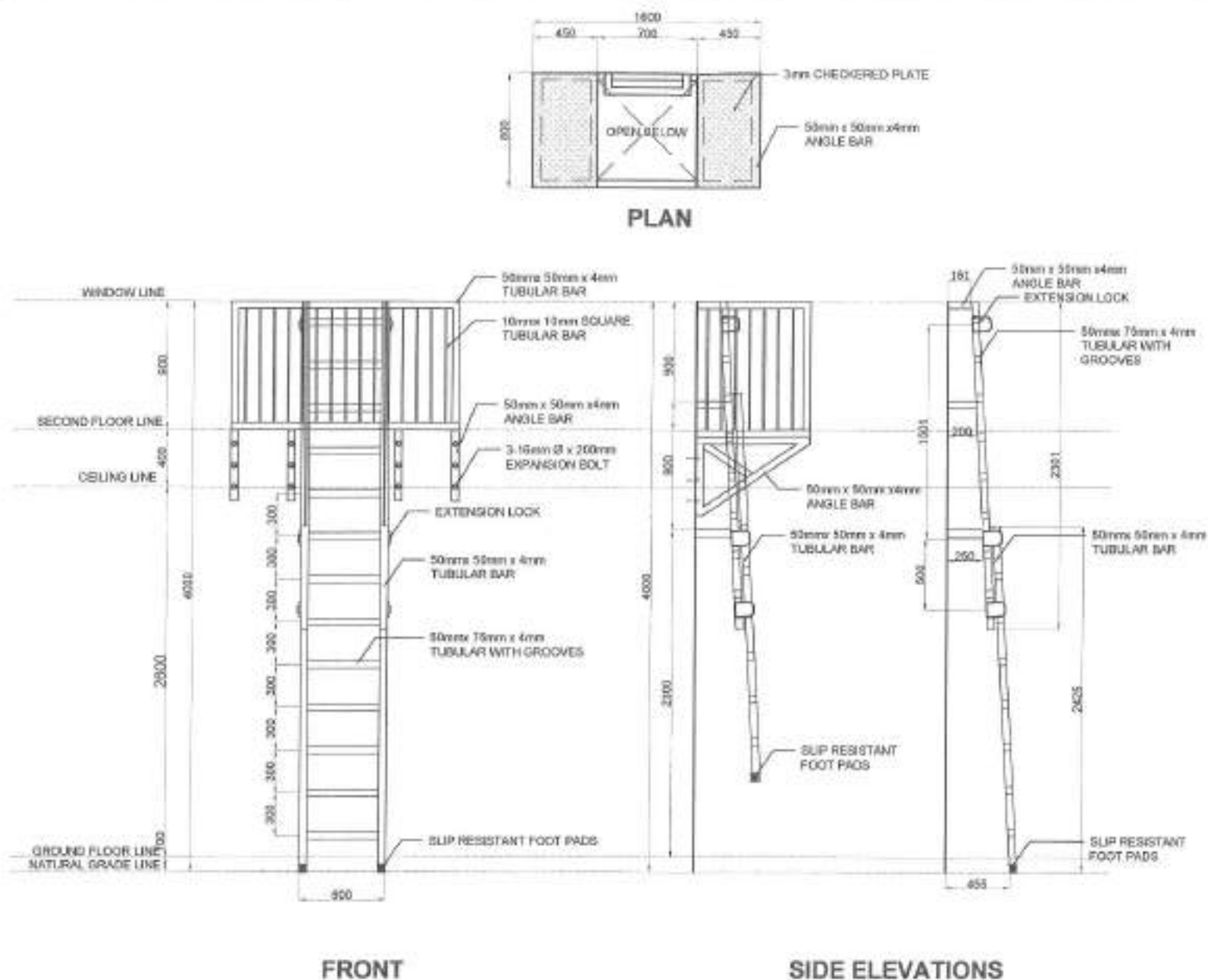
HON. RA. JOSEFINA G. BELMONTTE
CITY MAYOR - QUEZON CITY

DRAWING CONTENT:

KIDDY COUNTERTOP
DETAILS
STANDARD
COUNTERTOP DETAILS
HANGING CABINET
DETAILS
TYPICAL GRILLES
DETAILS
STANDARD LETTERING
DETAILS

DRAWING NO.:

AR-6
06/14



1 FIRE EXIT LADDER DETAILS

SCALE: 1:30M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE	DRAWN BY	SUBMITTED BY	RECOMMENDING APPROVAL	APPROVED BY	SHEET CONTENT	SHEET NO.
PROPOSED REHABILITATION OF FREEDOM PARK III & IV DAY CARE CENTER	DATE: 6/20/21 CHECKED BY: JAW	 ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAMMING DIVISION	 ENGR. ISAGANI R. VERZOSA, JR. DPL, CITY ENGINEERING DEPARTMENT	 HON. MA. JOSEFINA G. BELMONTE CITY MANOR, QUEZON CITY	FIRE EXIT LADDER DETAILS	ST-1 07/14
LOCATION: BREV. BATAANHILLS, DISTRICT 2, QUEZON CITY	REVISION NO.					

1. All plumbing work and materials installed herein shall be compliant to the provisions of the latest edition of National Plumbing Code, its rules and regulations if code isn't fully covered, the rules and regulations of local utility companies and the provisions of the local ordinances wherever applicable.

2. The plumbing layout is only a general guide. Pipes, elbows and stacks when not considered as structural, should be installed to show the actual dimension of the pipes and fittings in this drawing but at the same time, the actual dimension of the pipes and fittings shall be indicated. Any structure will require proper foundation in place with other loads.

3. The plumbing contractor shall verify existing utilities at the site and shall coordinate the work with other trades.

4. Pipes shall be installed in structural members unless otherwise specified or allowed.

5. Minimum slope for horizontal down lines shall be 1% and for hot water lines shall be 3%.

6. Proposed plumbing valves shall conform with the actual location, depth and level elevation of all existing services.

7. Connection of lines to pipes and fittings shall be according to manufacturer's specifications.

8. All floor drains shall be vented separately.

9. All clean-out fittings shall be 1/2" diameter and shall be provided with gaskets under caps. Clean-out shall be every 50 feet of line or grade and never above roof level.

10. All underground (U) pipes or clean-out shall not be provided with less than (2) inch of protection in trench or covered with pipe-jack through concrete or base coat.

11. P-traps and stack and vent pipe should be cast iron or equivalent as required.

12. All vent materials shall be of approved quality and (U) pipes for water shall be conform to the Schedule 40, 25, 20 and 15.

13. If any gas pipe subject to all water supply lines to fixtures.

14. Hot water lines shall be provided with proper insulation where exposed.

15. All individuals connected to fixtures or group of fixtures and/or equipment shall be provided with a shutoff or shutoff is supplied without pipe extension if in remote location.

16. 4" min for 1/2" min if average.

17. 2" min for 1/2" min if average.

18. All floor drains shall be 1/2" min (2" if 1/2" if not otherwise indicated).

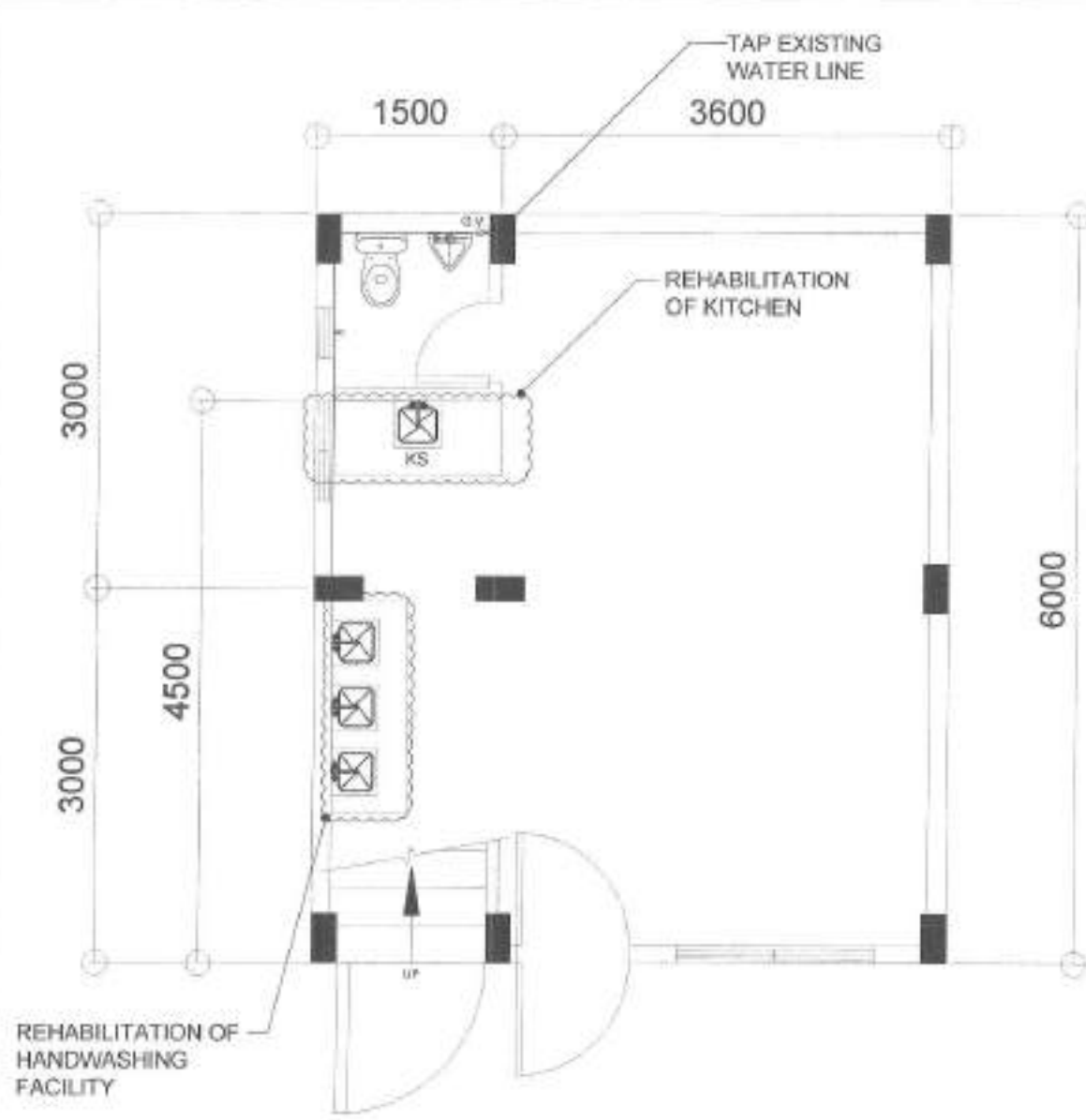
19. All pipe of plastic shall be 1/2" min higher than the copper pipe which is 3/8" min higher than the casted pipe.

20. All plumbing work and material of contractor shall be under the direct supervision of a site weekly termed Master Plumber or Registered Society Engineer. Any discrepancy found in plan shall be noted to the supervisor.

1. FEATURES AND OTHER LEGEND

FD	FLOOR DRAIN
RD	ROOF DRAIN
SD	SHOWER
WC	WASH CLOSET
LC	LAVATORY
UR	URINAL
KS	KITCHEN SINK
ED	QUILDRIN BATH
TD	TOILET DRAIN
EDD	CHILD CLOSET
FD	FLOOR DRAIN
DK	DRAIN POINT
SS	SINK
S	SINK DRAIN
S-D	SHOWER DRAIN
CB	CATCH BASIN
M	MANHOLE
→	DIRECTION OF FLOW
⊗	CLEANING TRAP

+	DOWN PIPING
↑	UP PIPING
→	RIGHT SIDE
←	LEFT SIDE
↖	UP AND LEFT SIDE
↗	UP AND RIGHT SIDE
↘	DOWN AND RIGHT SIDE
↙	DOWN AND LEFT SIDE
○	CLEANING TRAP
⊗	CLEANING TRAP
□	TOILET
⊠	TOILET
⊡	TOILET
⊣	TOILET
⊤	TOILET
⊥	TOILET
⊦	TOILET
⊧	TOILET
⊨	TOILET
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⊽	TOILET
⊾	TOILET
⊿	TOILET



1

GENERAL NOTES AND LEGENDS

2

GROUND FLOOR WATER LINE LAYOUT

SCALE: 1/4"=1'-0"



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE :

PROPOSED REHABILITATION OF
FREEDOM PARK III & IV DAY CARE
CENTER

LOCATION:
BRDY, SATARAN HILLS, DISTRICT 2, QUCZON CITY

DRAWN BY :

DATE: 03/2021

CHECKED BY :

REVISION NO.:

DESIGNED BY :

ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING & PERFORMANCE DIVISION

RECOMMENDING APPROVAL :

ENGR. RAFAEL R. VERZOSA, JR.
CH. ENG. (PLUMBING & PIPEFITTING)

APPROVED BY :

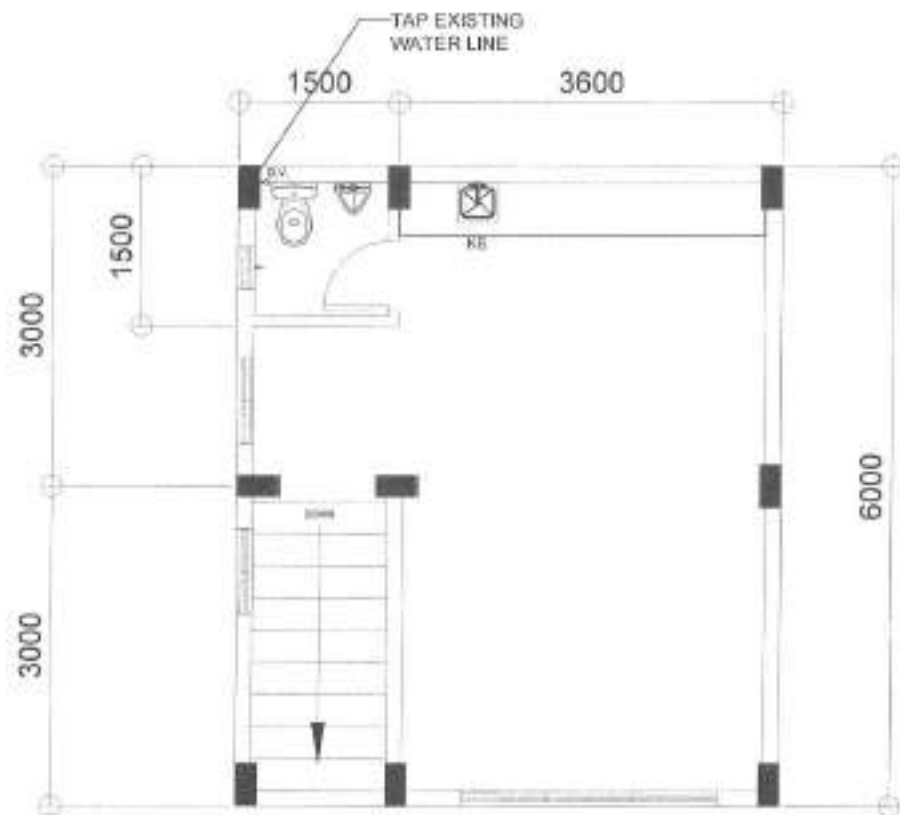
ENGR. MA. JOSEFINA G. BELMONTI
CITY MASTER, QUCZON CITY

ISSUED CONTENT :

GENERAL NOTES &
LEGEND
GROUND FLOOR WATER
LINE LAYOUT

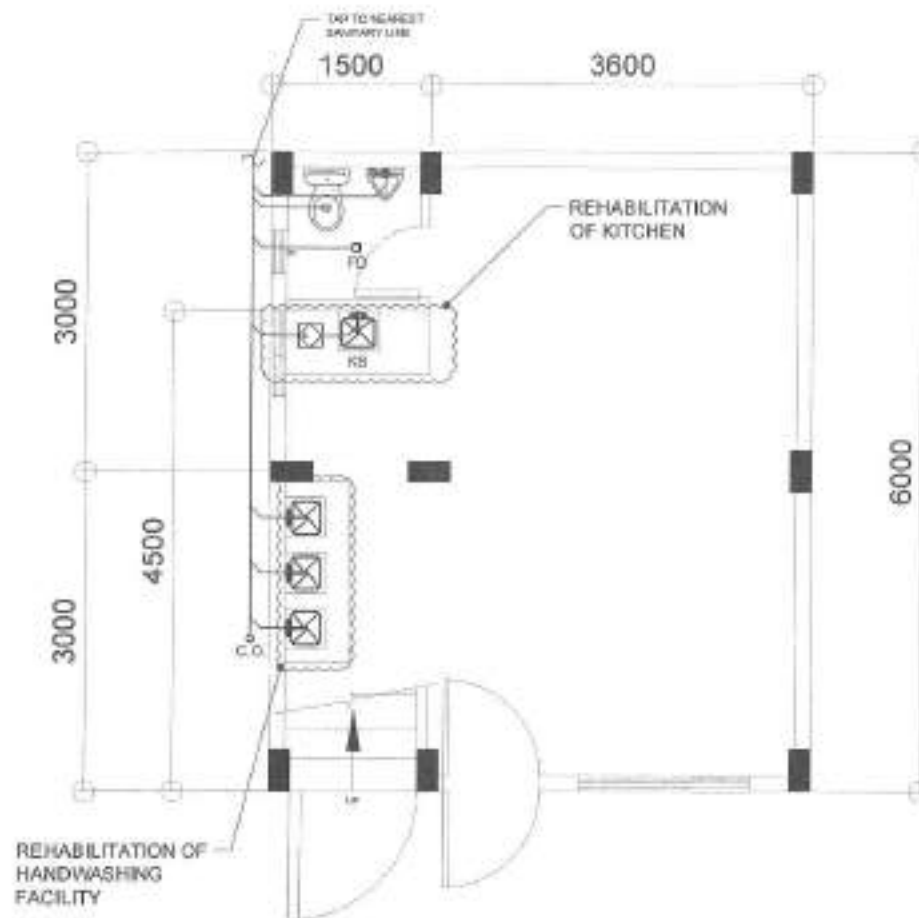
SHEET NO. :

PL-01
08/14



1 SECOND FLOOR WATER LINE LAYOUT

SCALE: 1:50M



2 GROUND FLOOR SANITARY LINE LAYOUT

SCALE: 1:50M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE :

PROPOSED REHABILITATION OF
FREEDOM PARK III & IV DAY CARE
CENTER

LOCATION :

BRGY. BATAKIANHILLS, DISTRICT 7, QUEZON CITY

DRAWN BY :

DATE : 03.2021

CHECKED BY :

REVISION NO. :

SUBMITTED BY :

ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING & PROGRAMMING DIVISION

RECOMMENDING APPROVAL :

ENGR. RAFAEL R. VERZOSA, JR.
CHIEF, CITY ENGINEERING DEPARTMENT

APPROVED BY :

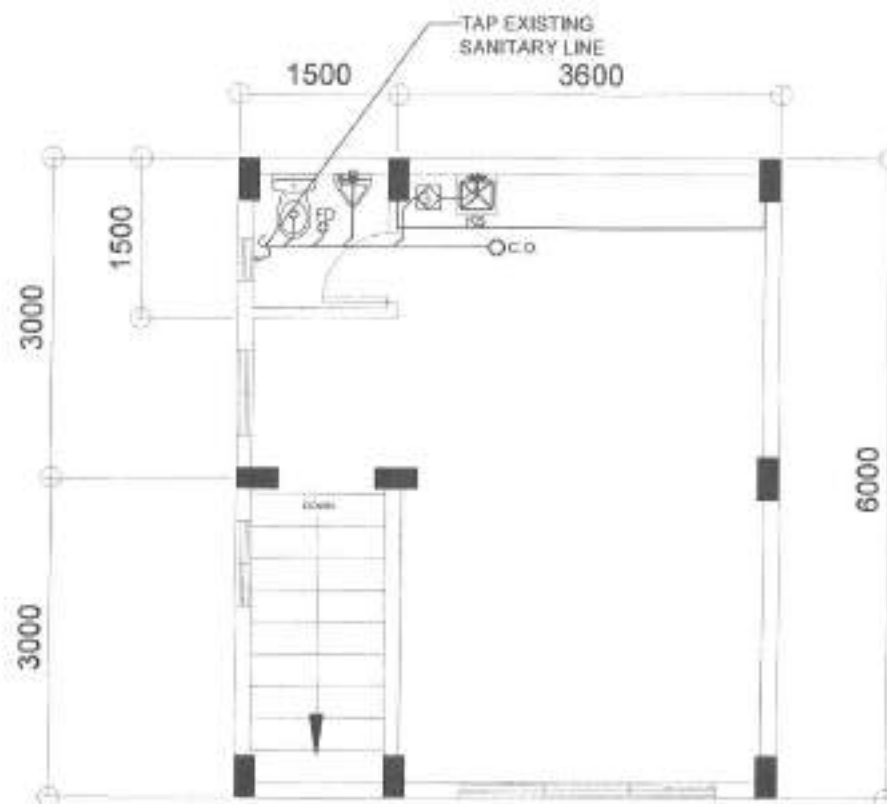
HON. MA. JOSEFINA G. BELMONTE
CITY MANOR, QUEZON CITY

SHEET CONTENT :

SECOND FLOOR WATER
LINE LAYOUT
GROUND FLOOR
SANITARY LAYOUT

SHEET NO. :

PL-02
09/14



1 SANITARY FLOOR WATER LINE LAYOUT

SCALE: 1/8"=1'-0"



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:	DRAWN BY:	SUBMITTED BY:	RECOMMENDED APPROVAL:	APPROVED BY:	SHEET NUMBER	SHEET NO.
PROPOSED REHABILITATION OF FREEDOM PARK III & IV DAY CARE CENTER	DATE: 12.2021 CHECKED BY: [Signature]	[Signature] ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAMMING DIVISION	[Signature] ENGR. EUGENIO R. VERZOSA, JR. CC, CITY ENGINEERING DEPARTMENT	[Signature] HON. MA. JOSEFINA G. BELMONTTE CITY MAYOR, QUEZON CITY	SECOND FLOOR SANITARY LINE LAYOUT	PL-03 10/14
LOCATION: BRGY. BATAAN-HILLS, DISTRICT 2, QUEZON CITY	DESIGNED BY:					

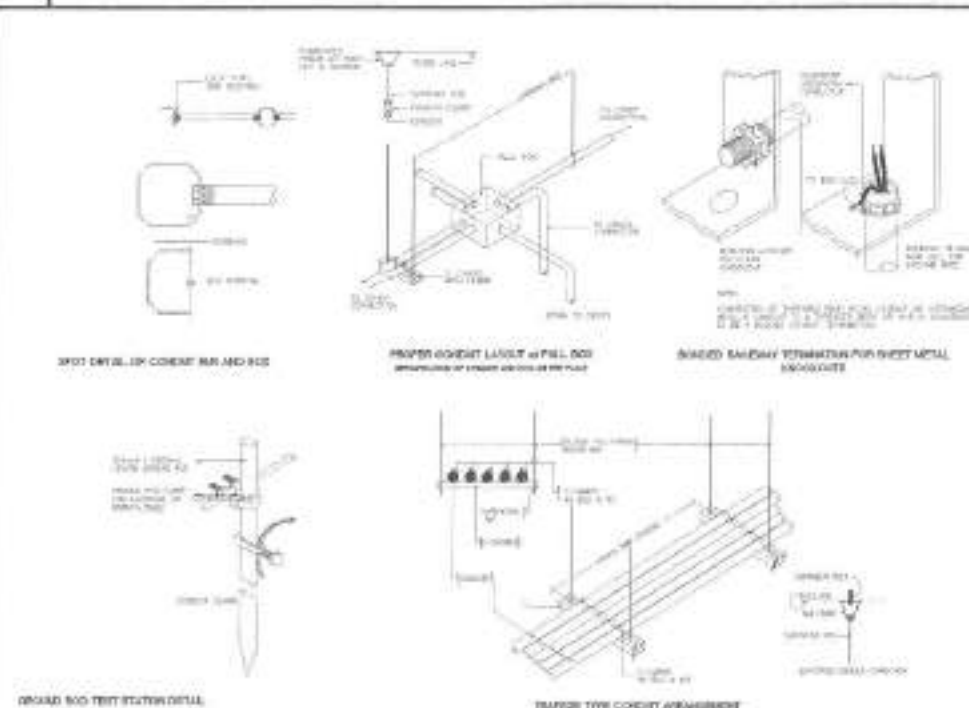
- ALL ELECTRICAL WORKS SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, THE LAWS AND ORDINANCES OF THE LOCAL CODE ENFORCING AUTHORITIES AND THE REQUIREMENTS OF THE LOCAL POWER AND TELEPHONE UTILITY COMPANY.
- THE CONTRACTOR SHALL SECURE ALL PERMITS AND PAY ALL FEES REQUIRED FOR THE WORK AND SHALL FURNISH THE OWNER THROUGH THE ENGINEER, FROM CERTIFICATES OF ELECTRICAL INSPECTION AND APPROVAL, FROM PROPER GOVERNMENT AUTHORITIES FOR COMPLETION OF WORK.
- ALL EMBEDDED BRANCH CIRCUITS SHALL BE PVC CONDUITS AND FOR EXPOSED INSTALLATION SHALL BE SMF OR IMC SUPPORTED BY CONDUIT CLAMPS EVERY 700 MM CENTER.
- PULL BOXES SHALL BE PROVIDED BY THE CONTRACTOR WHENEVER NECESSARY TO FACILITATE WIRE PULLING EVEN IF THESE ARE NOT INDICATED ON THE PLANS. SIZING OF ALL PULLBOXES SHALL BE COMPUTED BASED ON THE CODE REQUIREMENTS. SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION. LOCATION OF PULLBOXES SHALL BE APPROVED BY THE ARCHITECT/ENGINEER AND MUST BE REFLECTED ON THE "AS-BUILT" PLAN.
- ALL POWER OUTLETS AND SWITCHES SHALL BE GROUNDING TYPE WITH PARALLEL SLOTS FOR 250V.
- PROVIDE GROUND FAULT CURRENT INTERRUPTER (GFCI) CIRCUIT BREAKER FOR LOADS MARKED "GFCI" ON THE PLAN.
- ALL METALLIC CONDUITS, CABINETS AND COMPACTS SHALL BE PROPERLY GROUNDED AND BONDED.
- UNLESS OTHERWISE NOTED, MOUNTING HEIGHT FOR WALL MOUNTED DEVICES SHALL BE AS FOLLOWS:
RECEPTACLE OUTLET - 200 MM AFT, 150MM ABOVE WORKING COUNTER
LIGHTING SWITCH - 180 MM AFT
PANELBOARD - 1800 MM AFT
- REFER TO MECHANICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR RATINGS AND LOADINGS OF EQUIPMENT AS WELL AS THEIR CONTROL SEQUENCES AS SPECIFIED AND OR SHOWN UNDER THEIR RESPECTIVE SECTIONS.
- ALL MATERIALS TO BE USED SHALL BE OF THE BEST QUALITY, BRAND NEW AS SPECIFIED.
- THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO PRESENT GENERAL LAYOUT AND BROAD OUTLINE NECESSARY FROM OF THE PROJECT BUT DO NOT NECESSARILY INDICATE DESCRIBED ACTUAL LOCATION, LEVEL, AND DISTANCES OF THE EQUIPMENT. THE CONTRACTOR IS HEREBY REQUIRED TO MAKE SUCH ADJUSTMENT AT THE JOBSITE AS LOCATION, DISTANCES AND LEVELS ARE GOVERNED BY ACTUAL FIELD CONDITIONS.
- ANY DISCREPANCY BETWEEN THE PLANS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION DECISION.
- ALL LIGHTING AND CONVENIENCE OUTLET CIRCUITS SHALL BE 3.5 SQ. MM THINW 2 COPPER WIRE UNLESS OTHERWISE NOTED. MINIMUM SIZE OF WIRE SHALL BE 3.5 SQ. MM COPPER WIRE. ALL WIRES AND CABLES SHALL BE COLOR CODED AS FOLLOWS:

LINE 1 - RED
LINE 2 - YELLOW
NEUTRAL - WHITE
GROUND - GREEN

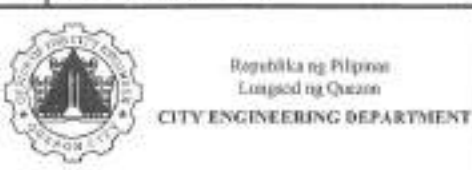
- BOXES, WIRE, CLUTTERS, ENCLOSURE SHALL BE FABRICATED FROM STEEL WITH THICKNESS AS FOLLOWS:
MINIMUM WIDTH OF THE WIDEST SURFACE STEEL:
UP TO 150.0MM 192.40 MM GA 16 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
OVER 152.40 MM BUT NOT OVER 187.30 GA 14 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
OVER 187.30 MM BUT NOT OVER 228.60 GA 12 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
OVER 228.60 MM GA 10 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
- ALL ELECTRICAL WORKS HEREIN SHALL BE EXECUTED BY EXPERIENCED MEN UNDER THE DIRECT SUPERVISION OF A FULL-TIME LICENSED ELECTRICAL ENGINEER AND A DULY ACCREDITED ELECTRICAL CONTRACTOR BY PCAL. WORKS SHALL BE NEATLY PLACED, SECURELY FASTENED AND PROPERLY FINISHED.
- TYPE OF SERVICE ENTRANCE SHALL BE SINGLE-PHASE, TWO-WIRE PLUS GROUND, 60 HERTZ, 200V AC NOMINAL.
- CONDUITS IN NO CASE SHALL THERE BE MORE THAN THE EQUIVALENT OF FOUR QUARTER BENDS IN ANY ONE RUN. ALL CONDUIT BENDS SHALL BE FIELD MADE BY USING HYDRAULIC BENDERS. MINIMUM BENDING RADIUS MUST BE IN ACCORDANCE TO THE CODE REQUIREMENTS.
- UPON COMPLETION OF ELECTRICAL CONSTRUCTION WORK, INSULATION RESISTANCE TEST AND FUNCTIONALITY TEST SHALL BE PERFORMED BY THE CONTRACTOR INCLUDING OF THE INSTALLATION TO BE REPORTED IN DETAILS ON FORMS APPROVED BY THE QUEZON CITY ENGINEERING DEPARTMENT REPRESENTATIVE. THE GROUND RESISTANCE FOR ELECTRICAL SYSTEMS SHALL NOT BE MORE THAN 5 OHMS. COMMUNICATION GROUNDING RESISTANCE SHALL NOT EXCEED 2 OHMS.

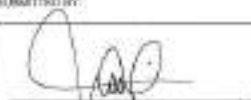
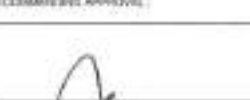

	Duplex Convenience Outlet		Orbit Fan with Selector Switch
	14w LED Bulb in 50mmØ Plastic Receptacle		Lighting/Power Panel
	1200mm x 300mm LED tube in Troffer Fixture		Circuit Harmonic
	1200mm x 300mm LED tube in Box Type Fixture		Utility Service Meter
	One Gang Switch		Circuit Breaker
	Two Gang Switch		Grounding
	100mm x 100mm Ceiling Mounted Exhaust Fan		

2 LEGENDS AND SYMBOLS



1 GENERAL NOTES



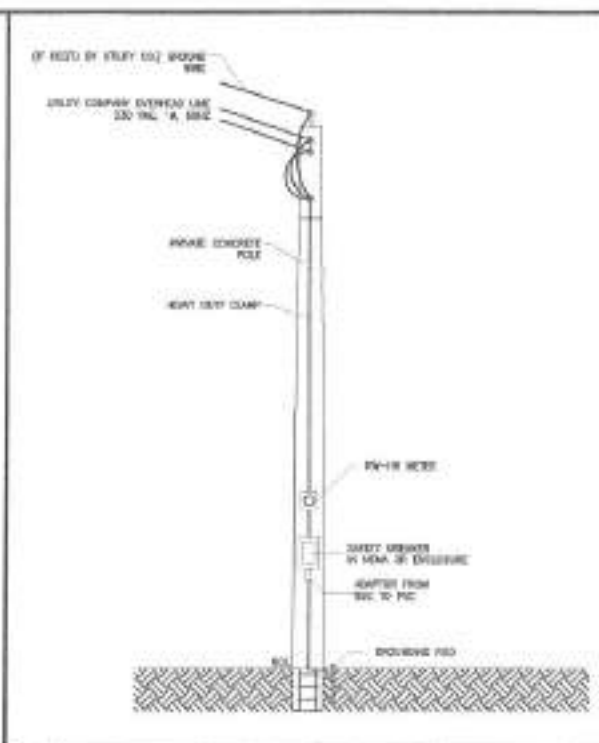
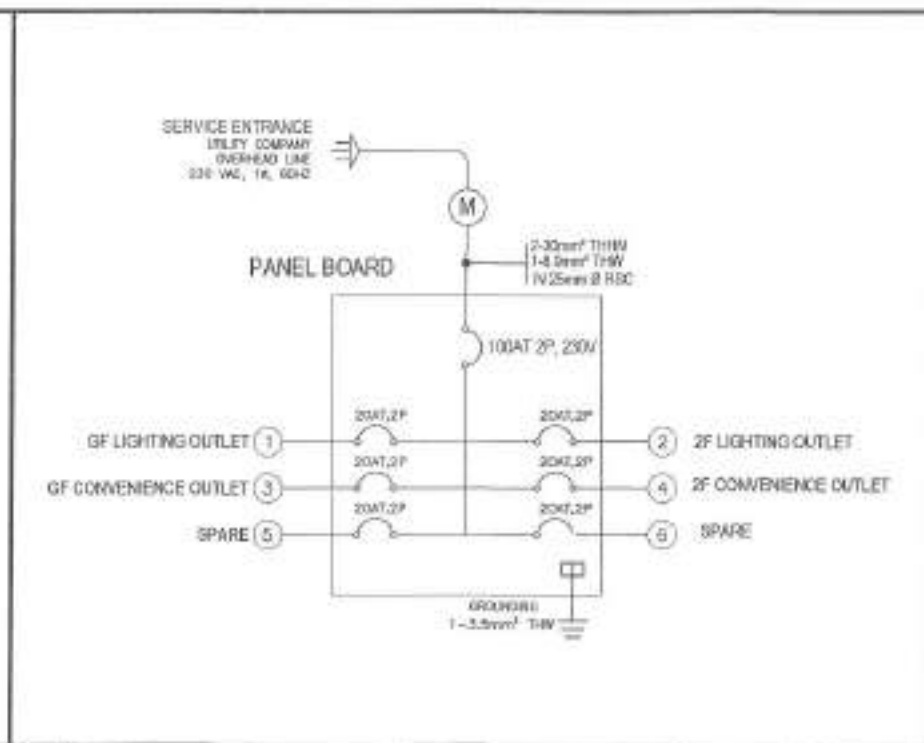
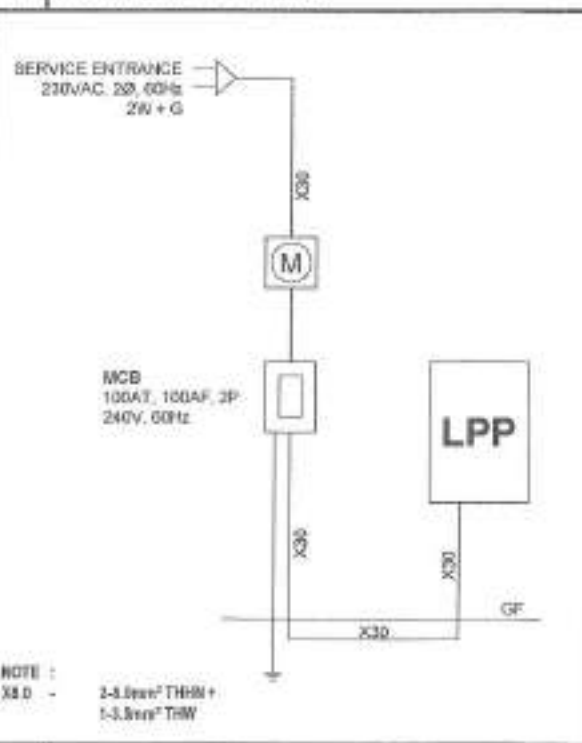
PROJECT TITLE	DESIGNED BY	SUBMITTED BY	RECOMMENDED APPROVAL	APPROVED BY	SHEET CONTENT	SHEET NO.
PROPOSED REHABILITATION OF FREEDOM PARK III & IV DAY CARE CENTER	MAYC - 8/28/2021				GENERAL NOTES LEGENDS AND SYMBOLS CONNECTION DETAIL	EL-01 11/24
LOCATION DRIVE, SATAGAN HILLS, DISTRICT 2, QUEZON CITY	CHECKED BY	REVISION NO.				

3 CONNECTION DETAIL

QTY	DESCRIPTION	SERIES			FRAME			OVERALL DIM PROJECTION			CONDUIT	
		IN	Y	A	HT	WT	D	TYPE	SIZE OF PIPE	SIZE	TYPE	
1	GF Lighting Cabinet	500	200	475	20	500	2	Std. in.	1.5 Conduit 3/4" + 1.5 Conduit 1/2"	20	PLC	
1	GF Conveyance Cabinet	500	200	475	20	500	2	Std. in.	1.5 Conduit 3/4" + 1.5 Conduit 1/2"	20	PLC	
1	2F Convenience Cabinet	700	250	375	30	700	2	Std. in.	1.5 Conduit 3/4" + 1.5 Conduit 1/2"	20	PLC	
1	2F Convenience Cabinet	700	250	375	30	700	2	Std. in.	1.5 Conduit 3/4" + 1.5 Conduit 1/2"	20	PLC	
1	Panel	1200	200	600	30	1200	2	Std. in.				
1	Panel	1200	200	600	30	1200	2	Std. in.				

CONSTRUCTION: FRAME: 20 GA. GALV. STEEL
FINISH: 2-3.5mm² THW + 1.5mm² THW + 1.5mm² THW
GROUNDING: 1-3.5mm² THW

1 SCHEDULE OF LOADS



2 SINGLE LINE DIAGRAM

3 PANELBOARD DIAGRAM

4 SERVICE ENTRANCE DETAIL

Republic of the Philippines
 Lungsod ng Quezon City
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
**PROPOSED REHABILITATION OF
 FREEDOM PARK III & IV DAY CARE
 CENTER**

LOCATION:
 BRGY. BAYAMBA HILLS, DISTRICT 2, QUEZON CITY

DRAWN BY: [Signature]
 DATE: 6/23/21
 CHECKED BY: [Signature]
 REVISION NO.:

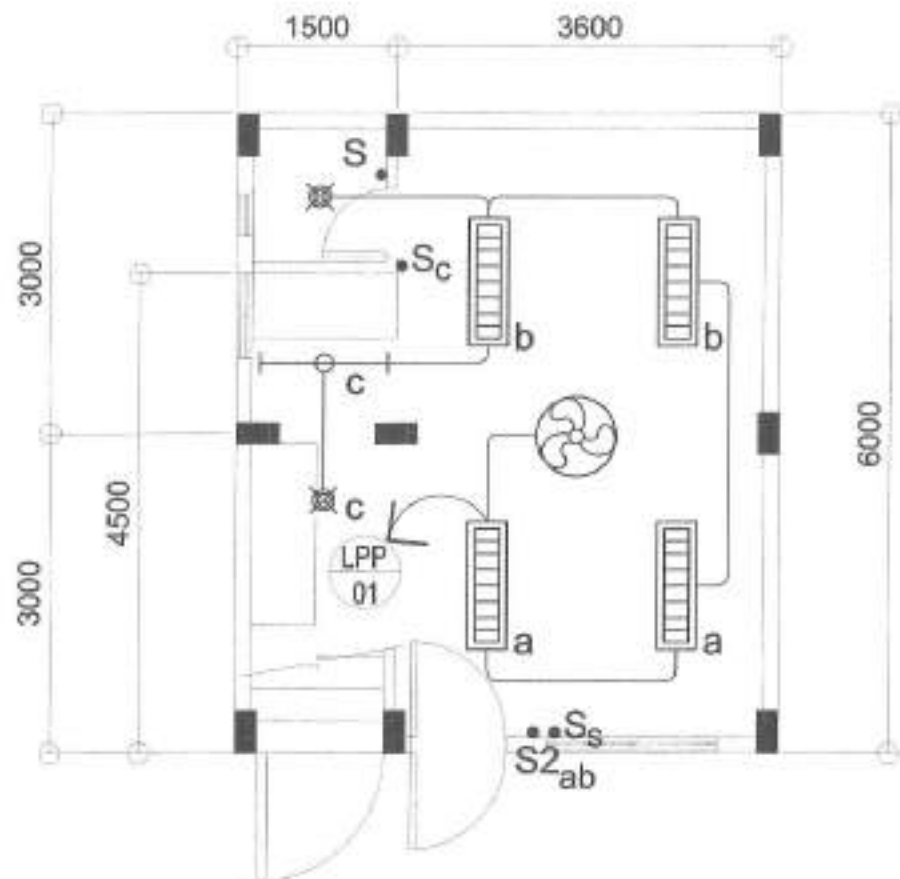
SUBMITTED BY:
 [Signature]
ENGR. LEO S. DEL ROSARIO
 HEAD, PLANNING PROGRAM DIVISION

RECOMMENDED APPROVAL:
 [Signature]
ENGR. MARICEL R. VERZOSA, JR.
 SEC. CITY ENGINEERING DEPARTMENT

APPROVED BY:
NON. MA. JOSEFINA G. BELMONTE
 CITY MANAGER, QUEZON CITY

SHEET CONTENT:
 SCHEDULE OF LOADS
 SINGLE LINE DIAGRAM
 PANELBOARD
 DIAGRAM
 SERVICE ENTRANCE
 DETAIL

SHEET NO.:
EL-02
12/14



1 GROUND FLOOR LIGHTING LAYOUT

SCALE: 1/50M

2 SECOND FLOOR LIGHTING LAYOUT

SCALE: 1/50M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED REHABILITATION OF
FREEDOM PARK III & IV DAY CARE
CENTER

LOCATION:

3RD FL. BATAWAN HILLS DISTRICT 7, QUEZON CITY

DRAWN BY:

DATE: 6/23/2021

CHECKED BY:

REVISION NO.:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING & PROGRAM DIVISION

RECOMMENDING APPROVAL:

ENGR. ISAGAN R. VERZOSA, JR.
CC. OFF. ENGINEERING DIVISION

APPROVED BY:

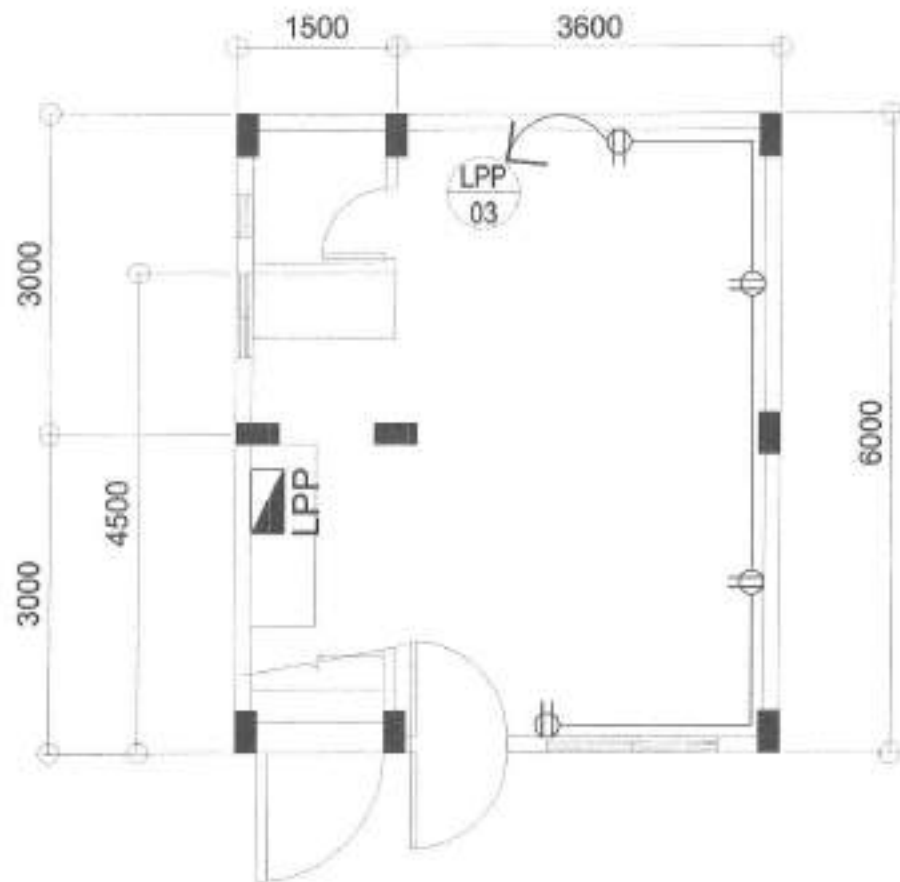
HON. MA. JOSEFINA G. BELMONTÉ
CITY MAYOR, QUEZON CITY

SHEET CONTENT:

PROPOSED GROUND
FLOOR LIGHTING
LAYOUT
PROPOSED SECOND
FLOOR LIGHTING
LAYOUT

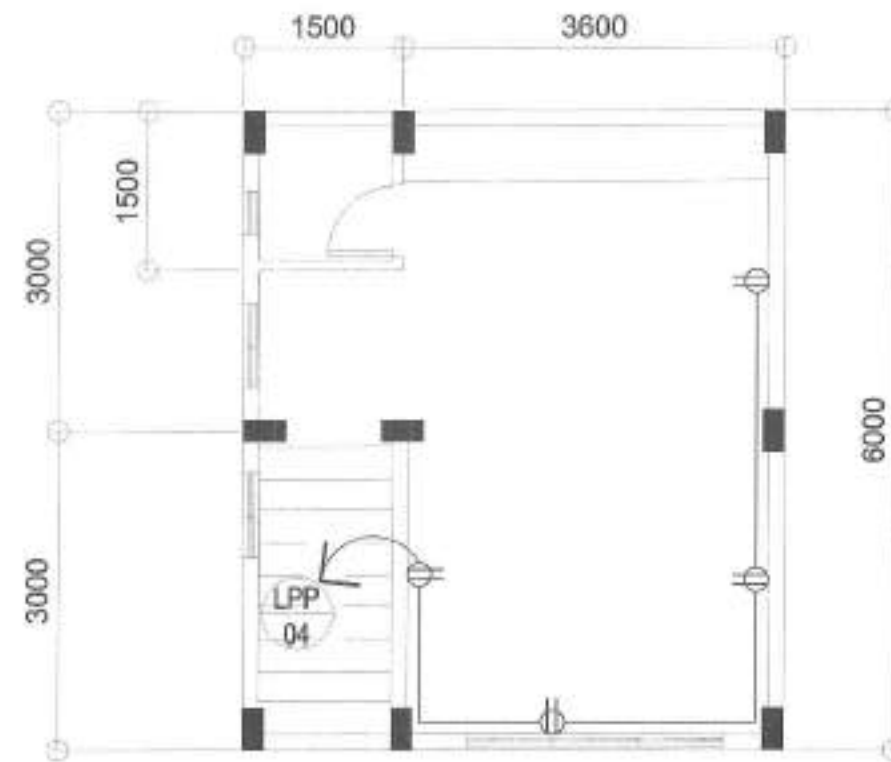
SHEET NO.:

EL-03
13/14



1 GROUND FLOOR POWER LAYOUT

SCALE: 1:50M



2 SECOND FLOOR POWER LAYOUT

SCALE: 1:50M



Republica ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED REHABILITATION OF
FREEDOM PARK III & IV DAY CARE
CENTER

LOCATION:

BLK. 1, BATAWAN HILLS, DISTRICT 7, QUEZON CITY

DRAWN BY:

DATE: 6/28/2021

CHECKED BY: JAW

DESIGNED:

SUBMITTED BY:

ENGR. AEO S. DEL ROSARIO
HEAD, PLANNING & PROGRAMMING DIVISION

RECOMMENDED APPROVAL:

ENGR. SEAGUI R. VERZOSA, JR.
CH. OF CIVIL ENGINEERING DIVISION

APPROVED BY:

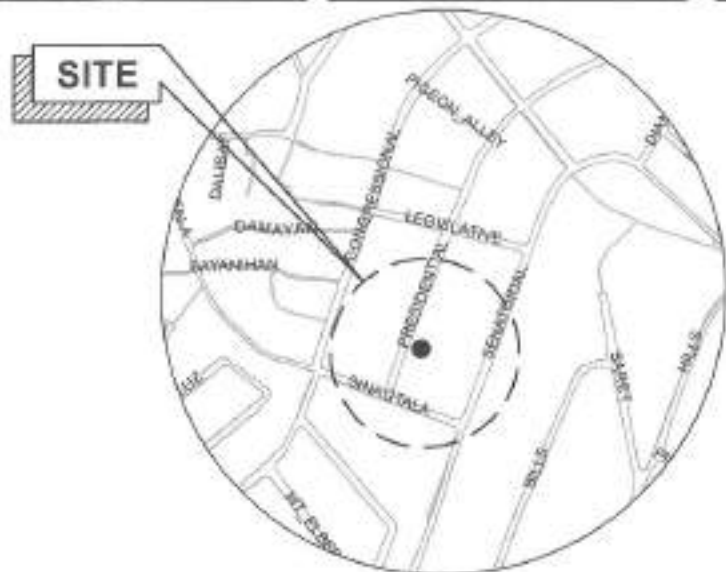
HON. MA. JOSEFINA G. BELMONTÉ
CITY ENGINEER, QUEZON CITY

SHEET CONTENT:

PROPOSED GROUND
FLOOR POWER
LAYOUT
PROPOSED SECOND
FLOOR POWER
LAYOUT

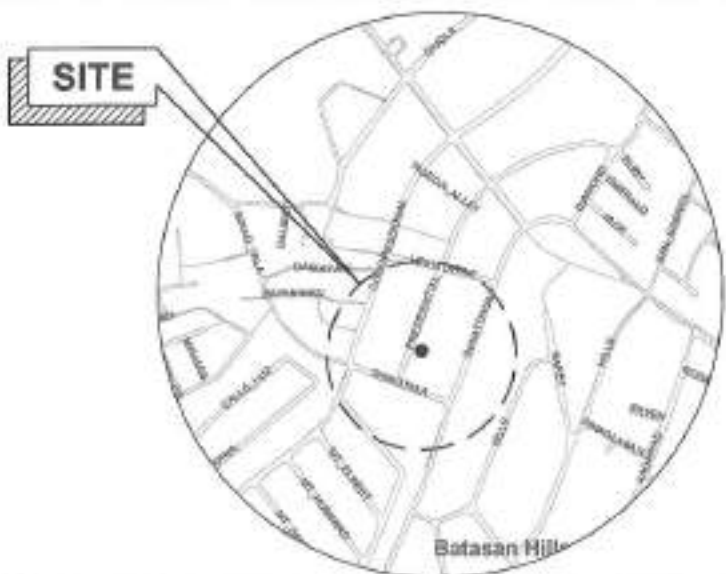
SHEET NO.:

EL-04
14/14



1 LOCATION MAP

SCALE: NTS



2 VICINITY MAP

SCALE: NTS



PRESIDENTIAL ROAD

SERVICE ENTRANCE
SEE SEC. 34, 35B

ALLEY

3 SITE DEVELOPMENT PLAN

SCALE: 1:750'S

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Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED REHABILITATION OF
CONSTITUTIONAL DAY CARE CENTER

LOCATION:
BRGY. BATAAN HILLS, DISTRICT 7, QUEZON CITY

DRAWN BY:

DATE: 03/2021

CHECKED BY:

REVISION NO.:

SUBMITTER:

ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING & PROGRAMMING DIVISION

RECOMMENDING APPROVAL:

ENGR. JOHANN B. VERZOSA, JR.
CHIEF, PLANNING DEPARTMENT

APPROVED BY:

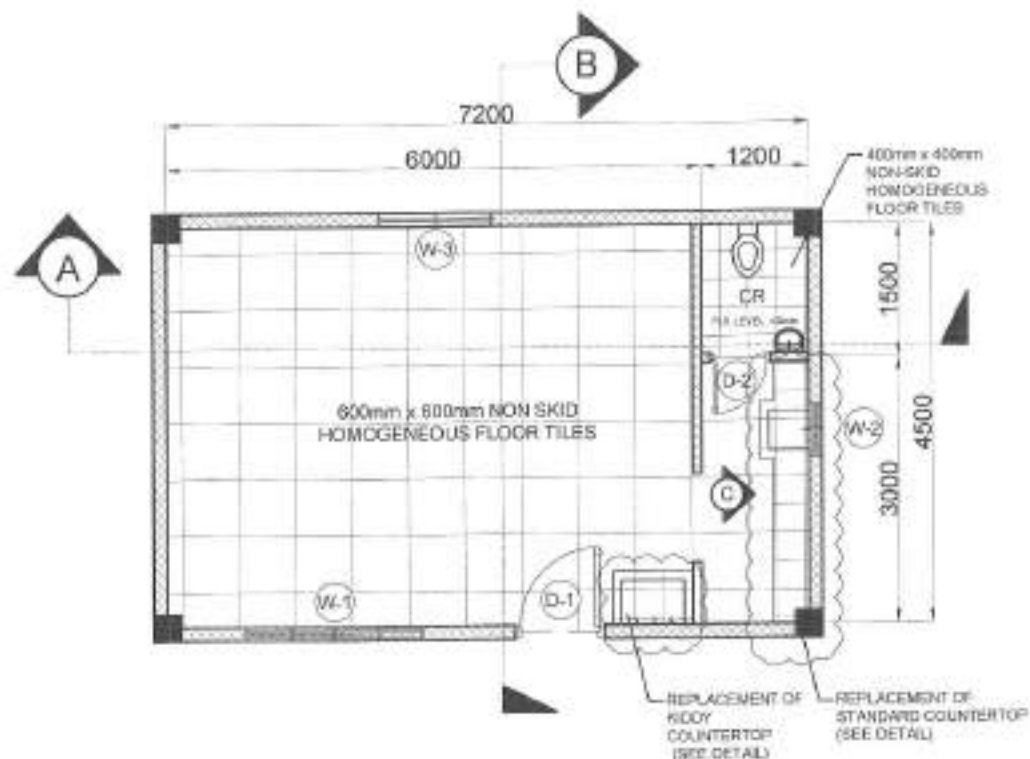
HON. MA. JOSEFINA G. BELMONTÉ
CITY MAYOR, QUEZON CITY

SHEET CONTENT:

VICINITY MAP
LOCATION MAP
SITE DEVELOPMENT PLAN

SHEET NO.:

AR-1
01/14

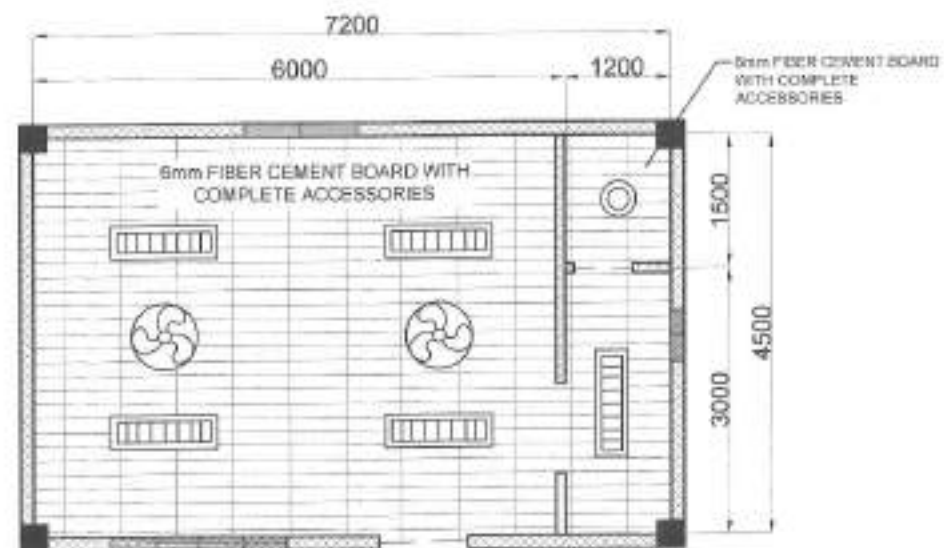


NOTE:

- WHOLE INTERIOR AND EXTERIOR OF BUILDING TO BE REPAINTED
- WINDOWS AND DOORS TO BE REPLACED
- COMFORT ROOM FIXTURES AND TILES TO BE REPLACED
- COUNTERTOP TILES TO BE REPLACED

1 GROUND FLOOR PLAN

SCALE: 1:50 mm



NOTE:

- CEILING TO BE REPLACED

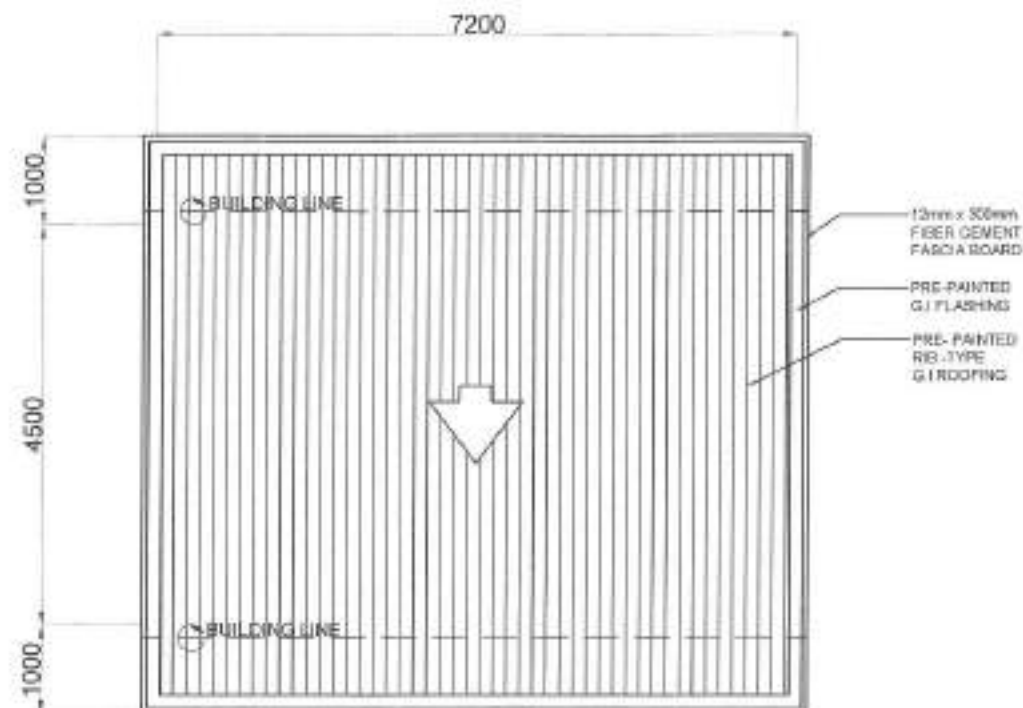
2 GROUND FLOOR REFLECTED CEILING PLAN

SCALE: 1:50 mm



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:	DRAWN BY:	REVISITORY:	RECOMMENDING OFFICIAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.
PROPOSED REHABILITATION OF CONSTITUTIONAL DAY CARE CENTER	DATE: 05.2020 CHECKED BY: [Signature]	[Signature] ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAM DIVISION	[Signature] ENGR. MARGAN R. YERZOSA, JR. OC, CITY ENGINEERING DEPARTMENT	[Signature] HON. RA. JOSEFINA G. BELMONTÉ CITY MAYOR, QUEZON CITY	GROUND FLOOR PLAN REFLECTED FLOOR PLAN	AR-2 02 14
LOCATION: BPOV, BATAAN HILLS DISTRICT 2, QUEZON CITY	REVISION NO.:					



NOTE
 • ROOFING TO BE REPLACED

1 ROOF PLAN

SCALE: 1:50x1x



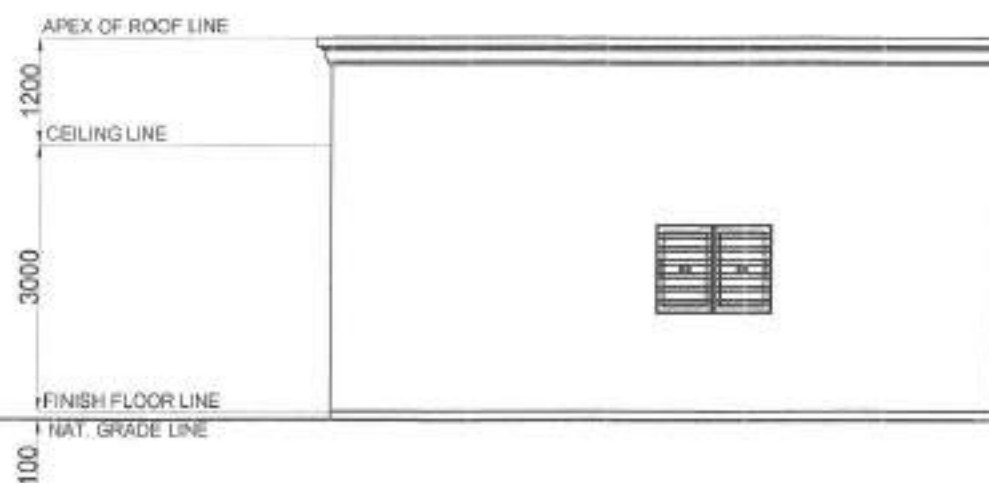
Republika ng Pilipinas
 Lungsod ng Quezon
 CITY ENGINEERING DEPARTMENT

PROJECT TITLE	DRAWN BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
PROPOSED REHABILITATION OF CONSTITUTIONAL DAY CARE CENTER	DATE: 6-8-2021 DRAWN BY: J.S.	ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAMS DIVISION	ENGR. MAGANI R. VERZOSA, JR. CITY ENGINEER	HON. MA. JOSEFINA G. BELMONTE CITY ENGINEER	ROOF PLAN	AR-3 03/14
LOCATION BPOV, BATAVIAHILLS, DISTRICT 2, QUEZON CITY	REVISIONS:					



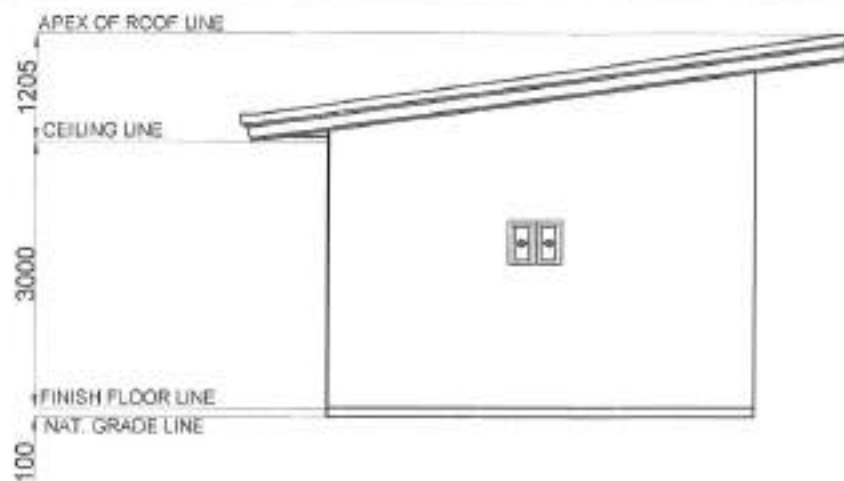
1 FRONT ELEVATION

SCALE: 1:100mm



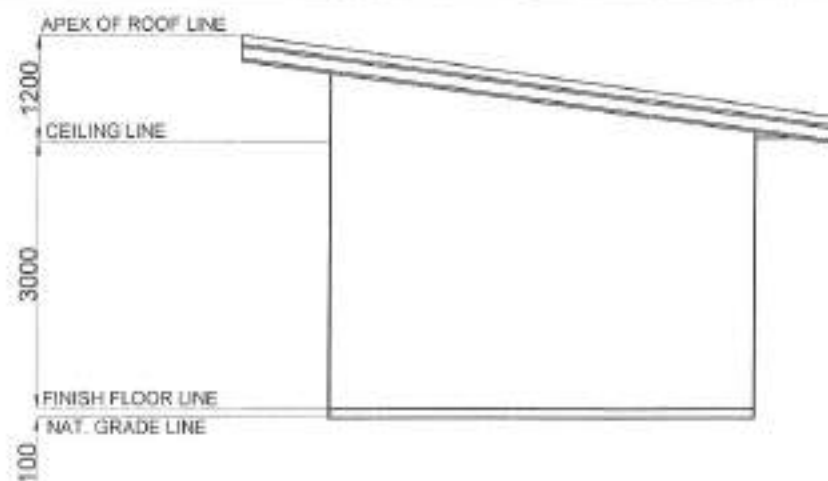
2 REAR ELEVATION

SCALE: 1:100mm



3 RIGHT SIDE ELEVATION

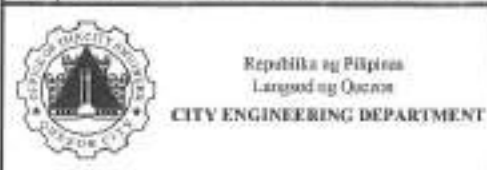
SCALE: 1:100mm



4 LEFT SIDE ELEVATION

SCALE: 1:100mm

NOTE:
 • WHOLE EXTERIOR AND INTERIOR OF BUILDING TO BE REPAINTED



PROJECT TITLE:
**PROPOSED REHABILITATION OF
 CONSTITUTIONAL DAY CARE CENTER**

LOCATION:
 BRGY. NATANAN HILLS, DISTRICT 7, QUEZON CITY

DRAWN BY: *[Signature]*
 DATE: 8.3.2021
 CHECKED BY: *[Signature]*
 REVISION NO.:

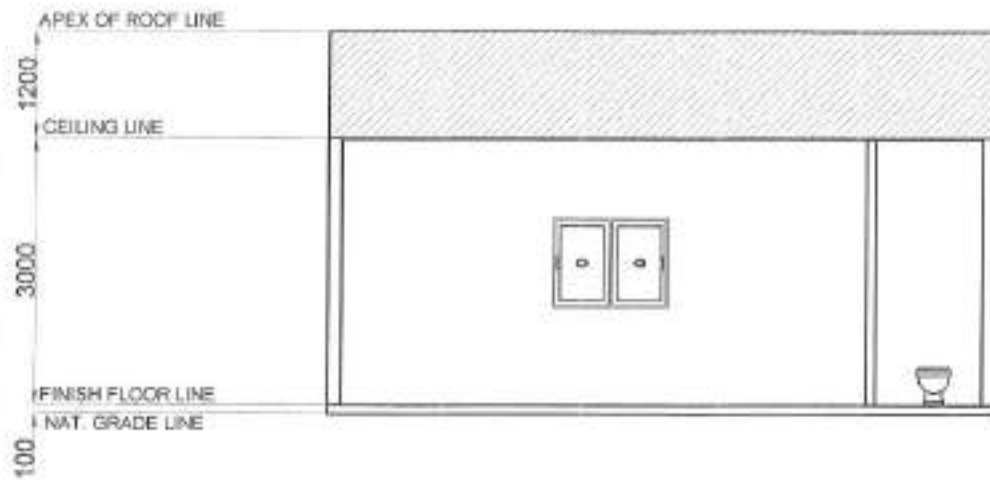
SUBMITTED BY:
[Signature]
ENGR. LEO S. BEL ROSARIO
 HEAD, PLANNING & PROGRAMS DIVISION

RECOMMENDING APPROVAL:
[Signature]
ENGR. ISABIAN R. VERZOSA, JR.
 DE. OF ENGINEERING DEPARTMENT

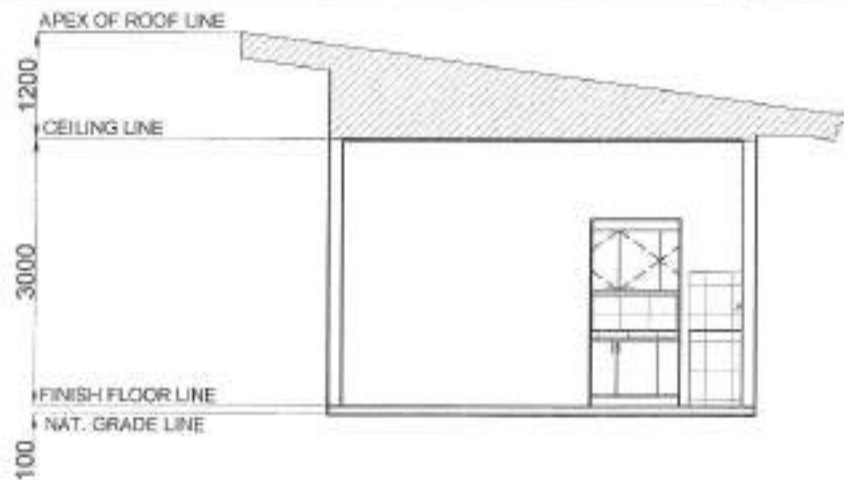
APPROVED BY:
HON. MA. JOSEFINA G. BELMONTE
 CITY MANOR, QUEZON CITY

SHEET CONTENT:
 FRONT ELEVATION
 REAR ELEVATION
 LEFT SIDE ELEVATION
 RIGHT SIDE ELEVATION

SHEET NO.:
AR-4
04/14



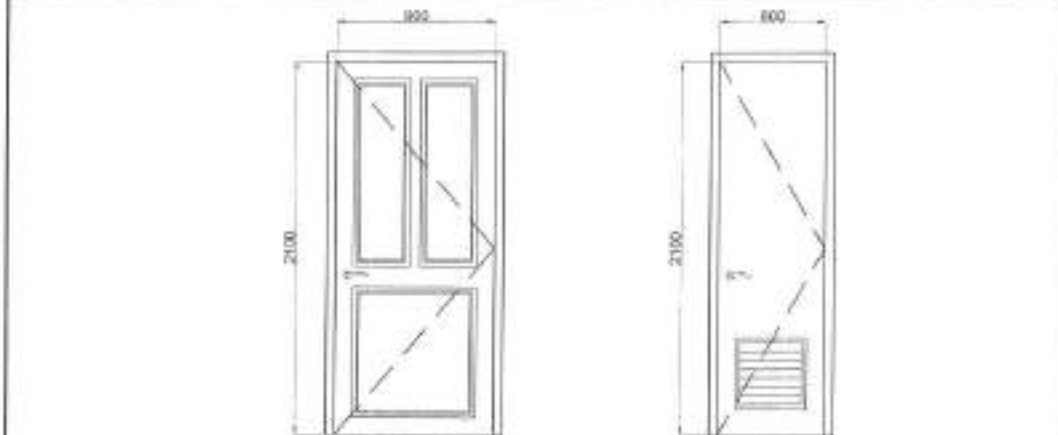
1 SECTION THRU "A"



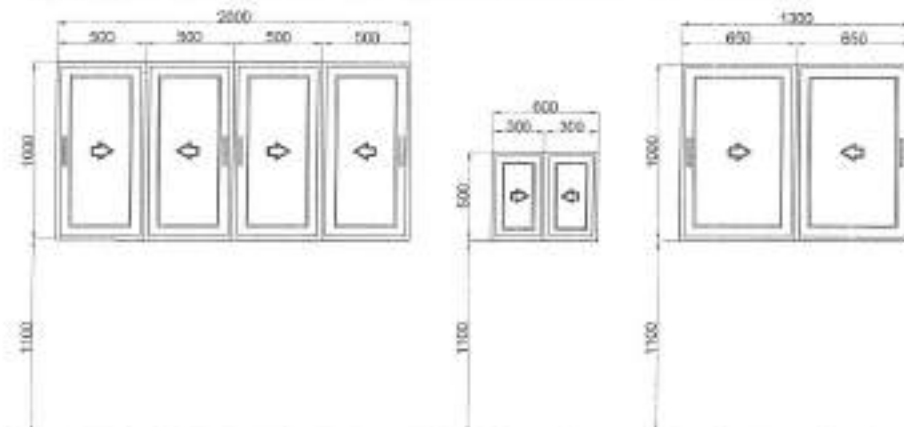
NOTE:
 • WHOLE EXTERIOR AND INTERIOR OF BUILDING TO BE REPAINTED

2 SECTION THRU "B"

SCALE: 1:50/m



	D-1	D-2
LOCATION	FRONT DOOR	COMFORT ROOM
SPECIFICATIONS	PANEL DOOR	PVC DOOR WITH LOWER
HARDWARE / GLAZING	COMPLETE ACCESSORIES	COMPLETE ACCESSORIES
NO. OF SETS	1	1



	W-1	W-2	W-3
LOCATION	DAY CARE	PANTRY	DAY CARE
SPECIFICATIONS	ALUMINUM FRAMED POWDER COATED WITH 5mm THK CLEAR GLASS SLIDING WINDOW	ALUMINUM FRAMED POWDER COATED WITH 5mm THK CLEAR GLASS SLIDING WINDOW	ALUMINUM FRAMED POWDER COATED WITH 5mm THK CLEAR GLASS SLIDING WINDOW
HARDWARE / GLAZING	COMPLETE ACCESSORIES	COMPLETE ACCESSORIES	COMPLETE ACCESSORIES
NO. OF SETS	1	1	1

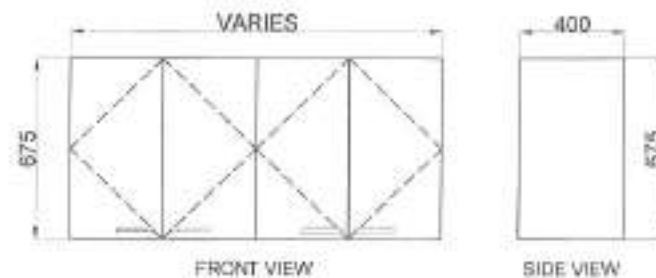
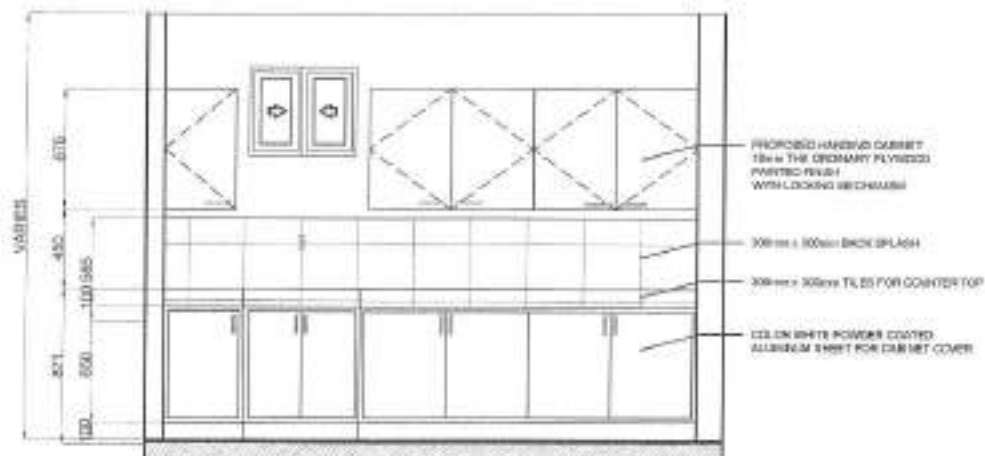
3 SCHEDULE OF DOORS AND WINDOWS

SCALE: 1:30/m



Republic of the Philippines
 Lungsod ng Quezon
 CITY ENGINEERING DEPARTMENT

PROJECT TITLE	DRAWN BY	SUBMITTED BY	RECOMMENDING APPROVAL	APPROVED BY	SHEET CONTENT	SHEET NO.
PROPOSED REHABILITATION OF CONSTITUTIONAL DAY CARE CENTER	DATE: 4.4.2021 CHECKED BY: Jan	ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAMMING DIVISION	ENGR. JOSEMAN R. VERZOSA, JR. D.C. DIV. ENGINEER-IN-CHARGE	HON. MA. JOSEFINA G. BELMONTE CITY ENGINEER, QUEZON CITY	SECTION THRU "A" SECTION "B" SCHEDULE OF DOORS AND WINDOWS	AR-5 05/14
LOCATION	PERSONNEL					
ENJOY, DATAGAN HILLS, DISTRICT 1, QUEZON CITY						



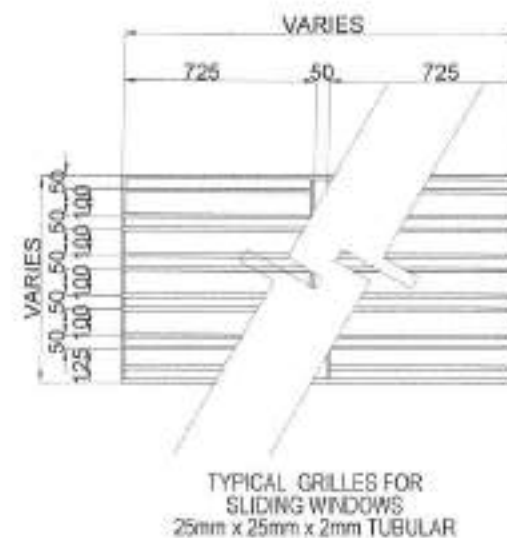
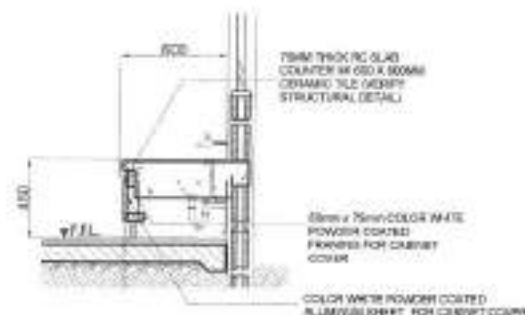
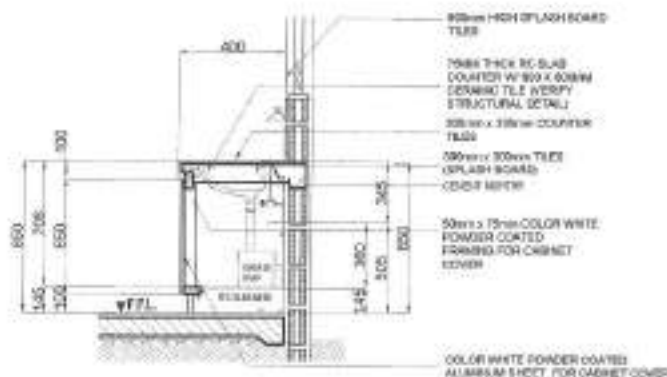
PROP HANGING CABINET
18mm THK MARINE PLYWOOD
PAINTED FINISH
W/ LOCKING MECHANISM

1 SECTION THRU "C"

SCALE: 1:30mts

2 HANGING CABINET DETAILS

SCALE: 1:30mts



3 STANDARD COUNTERTOP WITH SINK DETAILS

SCALE: 1:30mts

4 KIDDY COUNTERTOP DETAIL

SCALE: 1:30mts

5 TYPICAL GRILLES FOR
SLIDING WINDOWS

SCALE: 1:20mts



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:	DRAWN BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.
PROPOSED REHABILITATION OF CONSTITUTIONAL DAY CARE CENTER	DATE: 8.5.2021				SECTION THRU OF HANGING CABINET DETAILS STANDARD COUNTERTOP DETAILS TYPICAL GRILLES FOR SLIDING WINDOWS STANDARD KIDDY COUNTERTOP DETAILS	AR-6 06/14
LOCATION: BPOF, BATAAN HILLS, DISTRICT 2, QUEZON CITY	CHECKED BY:	ENGR. LEO S. DEL ROSARIO HEAD, PLANNING PROGRAMS DIVISION	ENGR. MADALITA R. VERZOSA, JR. COL. OF CIVIL ENGINEERING DEPARTMENT	HON. MA. JOSEFINA G. BELMONTE CITY ENGINEER, QUEZON CITY		

GENERAL

1. DIMENSIONS AND TYPICAL DETAILS APPLY TO ALL DIMENSIONS UNLESS OTHERWISE SHOWN OR NOTED. MOSTLY FOR DETAILS AS SHOWN TO MEET SPEC. CONDITIONS.
2. SHEET DIMENSIONS WITH SECTION AND PLATE DIMENSIONS OF ALL STRUCTURAL FOR DIMENSIONS APPLICABLE BEFORE CONSTRUCTION.
3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE ALL WORK IS TO BE STARTED WITH RESPECT TO THE STRUCTURE. CONTRACTOR SHALL VERIFY THE QUALITY AND TYPE OF MATERIALS TO BE USED IN CONSTRUCTION.
4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ADEQUATE BRACING AND SHORING OF THE STRUCTURE FOR ALL LOADS THAT MAY BE APPLIED DURING CONSTRUCTION.
5. IN CASE OF QUESTION ARISING FROM THE INTERPRETATION OF DIMENSIONS OR DETAILS, THE CONTRACTOR SHALL CONSULT WITH THE ARCHITECT.

CONCRETE & REINFORCEMENT

1. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM WITH THE LATEST EDITIONS OF THE CODE OF AMERICAN CONCRETE INSTITUTE (ACI).
2. ALL CONCRETE SHALL COMPLY WITH THE PROVISIONS OF THE ACI CODE OF PRACTICE FOR CONCRETE AND SHALL BE PLACED AND CURED AS FOLLOWS:

LOCATION	STRENGTH	MAX. SIZE OF AGGREGATE	MAX. SLUMP
1. SLAB ON GROUND, CURB, FINISHES, FOOTING, WALL FLOOR	3000 PSI (20.7 MPa)	1 in. (25mm)	4 in. (100mm)
2. BEAMS, COLUMNS, SLOPED SLAB	3000 PSI (20.7 MPa)	3/4 in. (19mm)	4 in. (100mm)
3. LEAN CONCRETE	2800 PSI (19.3 MPa)	1 in. (25mm)	4 in. (100mm)

1. ALL REINFORCING BARS SHALL COMPLY WITH THE PROVISIONS OF THE ACI CODE OF PRACTICE FOR CONCRETE AND SHALL BE PLACED AND CURED AS FOLLOWS:
2. IN GENERAL, THE REINFORCEMENT OF ALL STRUCTURAL CONCRETE SHALL BE PERFORMED IN ACCORDANCE WITH THE PROVISIONS OF THE ACI CODE OF PRACTICE FOR CONCRETE.

MINIMUM REINFORCEMENT FOR CONCRETE

1. SLAB ON GROUND	75 mm
2. BEAMS	25 mm
3. WALLS	25 mm
4. FINISHES	25 mm
5. CURB	25 mm

1. ALL REINFORCING BARS SHALL BE PLACED AND CURED AS FOLLOWS:
2. IN GENERAL, THE REINFORCEMENT OF ALL STRUCTURAL CONCRETE SHALL BE PERFORMED IN ACCORDANCE WITH THE PROVISIONS OF THE ACI CODE OF PRACTICE FOR CONCRETE.

1. CONTRACTOR SHALL VERIFY AND PROVIDE ALL MISCELLANEOUS DETAILS, SUCH AS EQUIPMENT, AND MECHANICAL BRACES THAT ARE REQUIRED BY THE ARCHITECTURAL, ELECTRICAL, AND MECHANICAL DRAWINGS.

1. ALL CONCRETE SHALL BE 28 DAY CURE FOR A MINIMUM OF 7 DAYS AFTER PLACEMENT OF THE CONCRETE. FOR BRACING, CURING AND PROTECTION OF OTHER APPROVED METHODS.

1. CURING OF CONCRETE SHALL BE AS FOLLOWS:

CONCRETE	CURING
1. BEAMS	7 DAYS
2. WALLS	7 DAYS
3. FINISHES	7 DAYS
4. CURB	7 DAYS

1. CURING OF CONCRETE SHALL BE AS FOLLOWS:

1. ALL STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITIONS OF THE AISC SPECIFICATION FOR STRUCTURAL STEEL.

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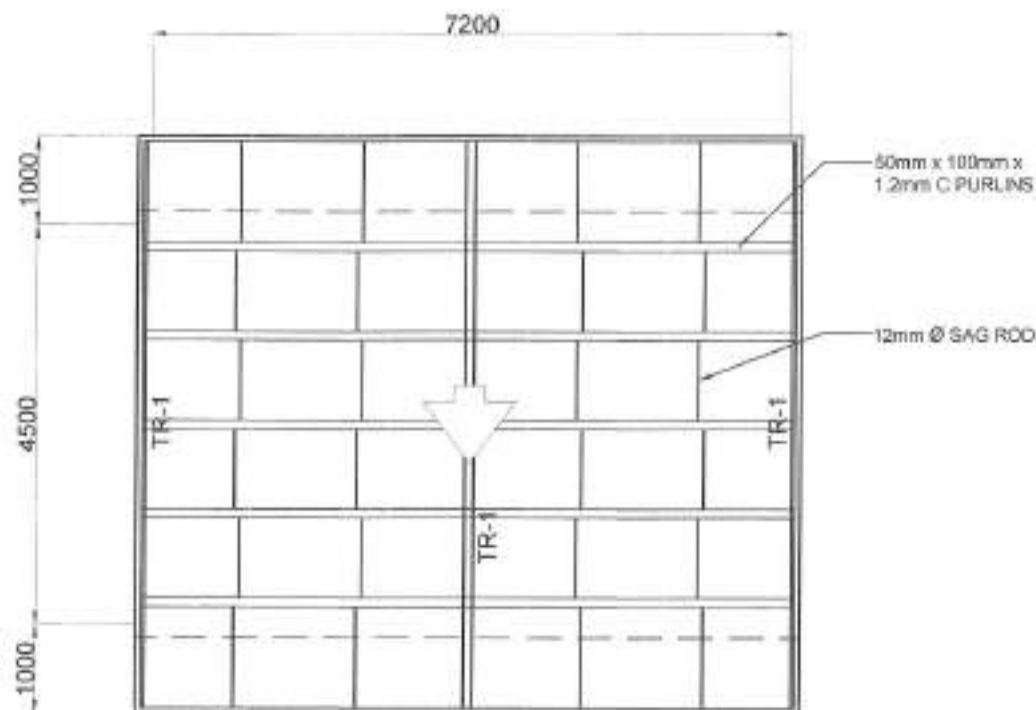
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NOTE:
• ROOF FRAMING TO BE REPLACED

1 GENERAL NOTES

NOT TO SCALE

2 ROOF FRAMING PLAN

SCALE: 1/8"=1'-0"



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
**PROPOSED REHABILITATION OF
CONSTITUTIONAL DAY CARE CENTER**

LOCATION:
BRGY. SANTIAGO HILLS, DISTRICT 2, QUEZON CITY

DRAWN BY:
DATE: 05/2021
CHECKED BY:
REVISION NO.:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING & PROGRAMMING BRANCH

RECOMMENDING OFFICIAL:

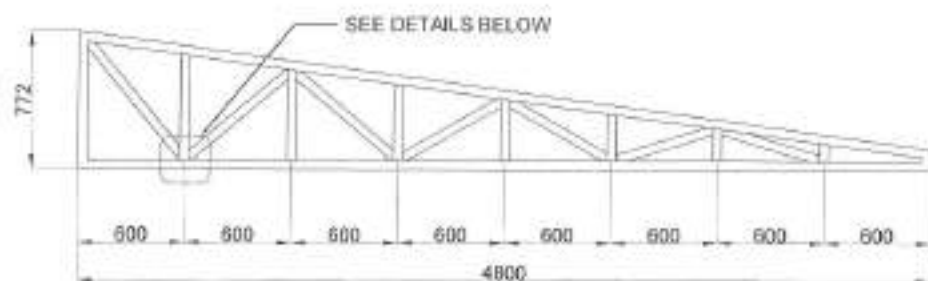
ENGR. ISAGANI R. VERZOSA, JR.
CH. CITY ENGINEER (CONSTRUCTION)

APPROVED BY:

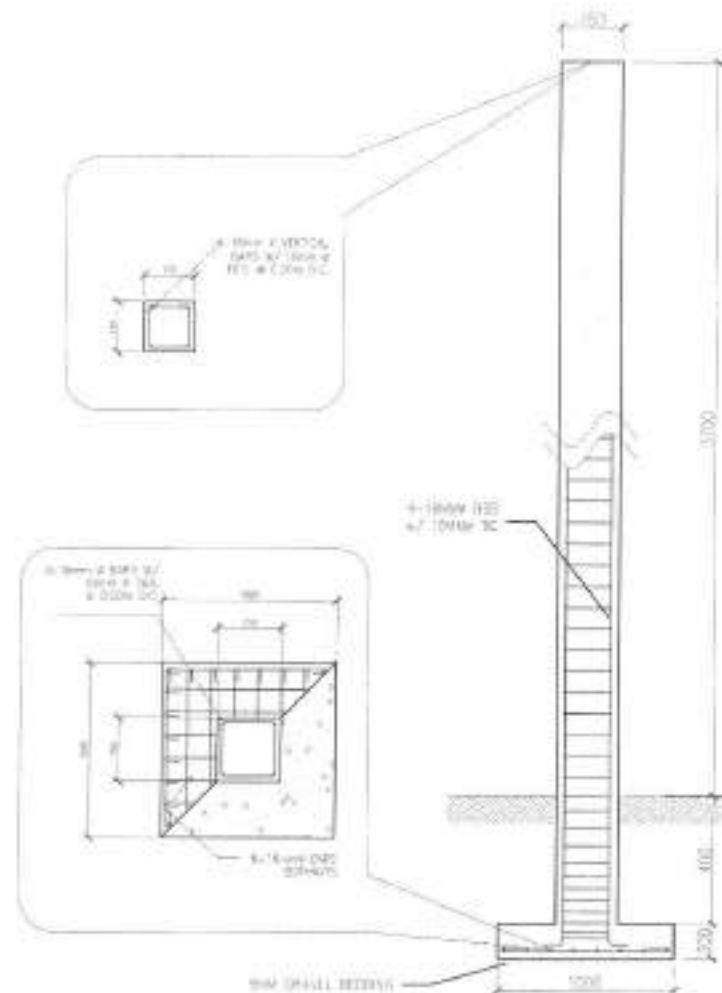
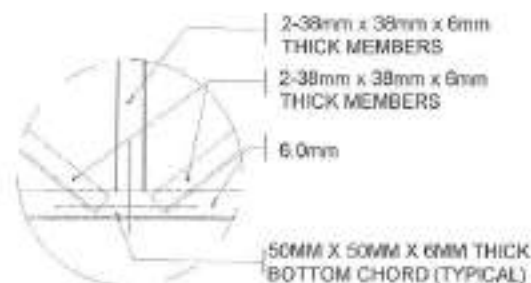
HON. MA. JOSEFINA G. BELMONTE
CITY MGR./1 - QUEZON CITY

SHEET COUNT:
GENERAL NOTES
ROOF FRAMING PLAN

SHEET NO.
ST-1
07/14



TRUSS DETAILS (TR-1)
 TOP AND BOTTOM CHORD:
 50mm x 50mm x 6mm ANGLE BAR
 WEB MEMBER:
 38mm x 38mm x 6mm ANGLE BAR
 W/ GUSSET PLATE FOR EVERY MEMBER CONNECTION



1 TRUSS DETAILS

SCALE: 1:100mm

2 SERVICE ENTRANCE POST DETAILS

SCALE: 1:300mm



Republika ng Pilipinas
 Lungsod ng Quezon
 CITY ENGINEERING DEPARTMENT

PROJECT TITLE:	DRAWN BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	AFFIRMED BY:	SHEET CONTENT:	SHEET NO.:
PROPOSED REHABILITATION OF CONSTITUTIONAL DAY CARE CENTER	DATE: 05/20/21				TRUSS DETAILS SERVICE ENTRANCE POST DETAILS	ST-2 08/14
LOCATION: BRGY. DATASAN/BILOS, DISTRICT 2, QUEZON CITY	CHECKED BY:	REVISION NO.:	ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & MANAGEMENT DIVISION	ENGR. MARGANI R. VERZOSA, JR. CITY ENGINEERING DEPARTMENT	HON. MA. JOSEFINA G. BELMONTE CITY MAYOR, QUEZON CITY	

1 All plumbing works and materials indicated herein shall be compliant to the provisions of the latest edition of National Plumbing Code, the rules and regulations of local authorities concerned, the rules and regulations of local utility companies and the provisions of the land developer when and where applicable.

2 The plumbing layout is only diagrammatic; pipes, cleanouts and check valves shall be concealed as much as possible. It is not intended to show the actual dimension of the pipes and fixtures in the drawing but all the pipes and fixtures shall be installed as and where indicated. Any relocation will require proper execution in relation with other trades.

3 The plumbing contractor shall verify all existing utilities at the site and shall coordinate the work with other trades.

4 Pipes shall not be embedded in structural members unless otherwise specified or allowed.

5 Minimum slope for horizontal sewer lines shall be 1% and for drain lines shall be 5%.

6 Proposed plumbing utilities shall conform with the actual location, depth and invert elevation of all existing pipes/utilities.

7 Connection of fixtures to pipes and fittings shall be according to manufacturer's specifications.

8 All floor drains shall be vented individually.

9 All clean out females shall be flush-mounted to wall and shall be provided with polished cover caps. Do not install floor clean outs except at lines on grade and service areas not subject to traffic.

10 All underground G.I. pipes in direct contact with soil shall be provided with two (2) coats of protective tar covering and wrapped with jute cloth thoroughly soaked in tar or asphalt.

11 Provide vent stack and vent pipe thru roof of cast iron service weight as required.

12 All cast iron pipes shall be of approved quality and G.I. pipes for water distribution lines shall be Schedule 40 U.S. standard weight.

13 Provide gate valves to all water supply lines to fixtures.

14 All hot water lines shall be provided with proper insulation where exposed.

15 All individual branches to fixtures or group of fixtures and/or equipments shall be provided with air chambers or capped vertical pipe extensions of dimensions as shown:

H = 450 mm for 19 mm Ø and larger


H = 300 mm for 12 mm Ø and smaller

16 All hose bibbs shall be 19 mm Ø (3/4" Ø) unless otherwise indicated.

17 Inlet pipe of septic tank is 50 mm higher than the siphon pipe which is 30 mm higher than the outlet pipe.

18 All plumbing works and manner of construction shall be under the direct supervision of an able and duly licensed Master Plumber or Registered Sanitary Engineer. Any discrepancies found in plan shall be notified to the same person.

1. FIXTURES AND OTHER LEGEND

FD	FLOOR DRAIN
RD	ROOF DRAIN
SHD	SHOWER
WC	WATER CLOSET
LAV	LAVATORY
URI	URINAL
KS	KITCHEN SINK
BD	BUILDING DRAIN
DD	DECK DRAIN
CCD	CEILING CLEANOUT
FCO	FLOOR/GROUND CLEANOUT
DS	DOWNSPOUT
mm	millimeter
Ø	mm DIAMETER
SHD	SHOWER DRAIN
CB	CATCH BASIN
MH	MANHOLE
→	DIRECTION OF FLOW
	GREASE TRAP

	LINE/PATENT
	CHECK VALVE
	BUILDING SEWER
	BUILDING DRAIN
	WASTE LINE
	AREA DRAIN/CATCH BASIN
	FLOOR DRAIN
	DIAMETER
	WASTE LINE
	WATER LINE
	GATE VALVE
	DECK DRAIN
	CLEAN OUT
	PIPE DOWN
	PIPE UP
	MILLIMETER
	GATE VALVE
	AREA DRAIN/CATCH BASIN
	WATER CLOSET
	LAVATORY
	MANHOLE
	HOSE BIBB
	STORM DRAIN LINE
	VENT LINE
	VENT ABOVE CEILING
	CONCRETE PIPE/RENF. COND. PIPE
	VENT THRU ROOF
	DIRECTION OF FLOW / SLOPE

1 GENERAL NOTES

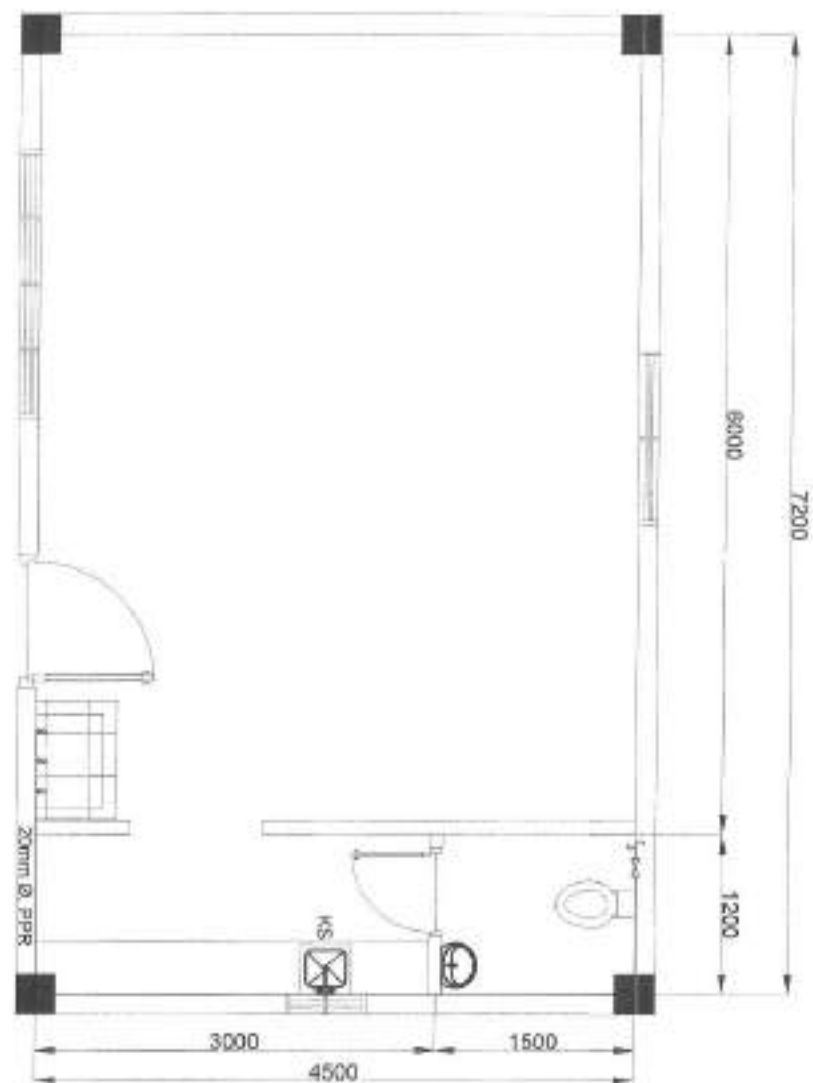
2 LEGENDS

SCALE: NTS



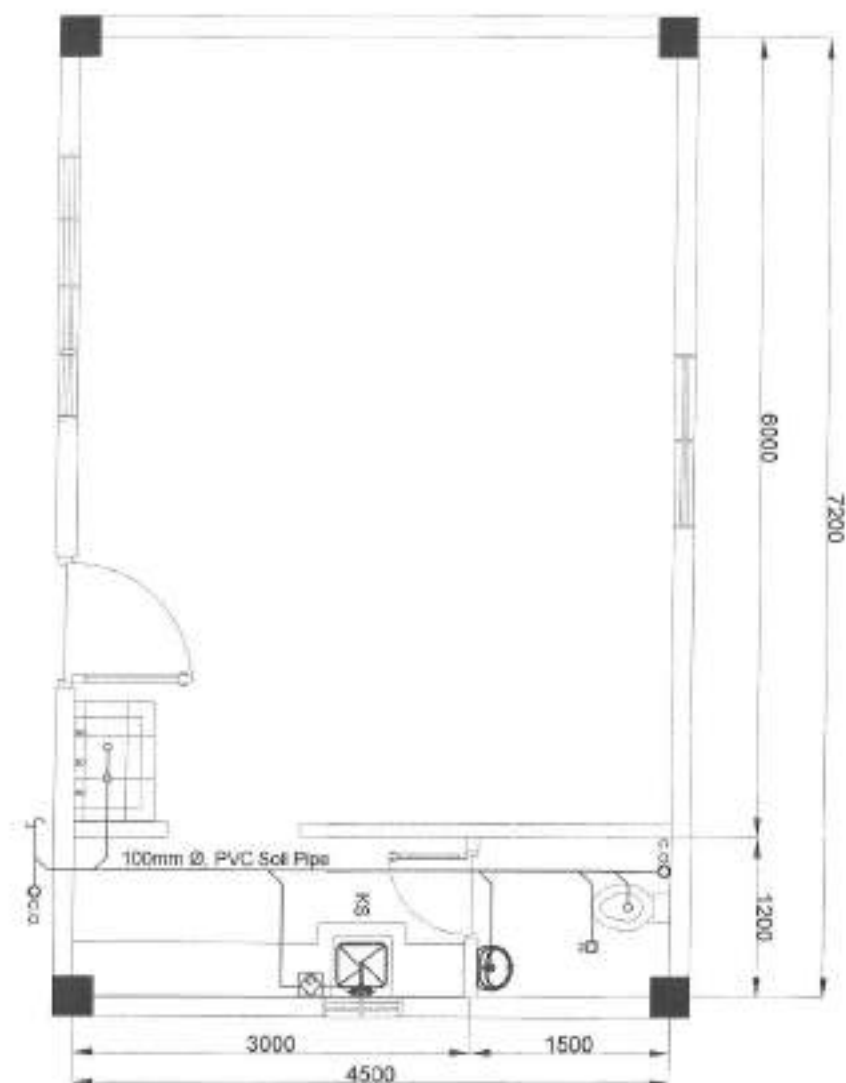
Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:	DESIGN BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
PROPOSED REHABILITATION OF CONSTITUTIONAL DAY CARE CENTER	DATE: August 12, 2021 DESIGNER: Jh	 ENGR. LEO S. DEL ROSARIO SEC. PLUMBING & MECHANICAL DIVISION	 ENGR. ISAGAN R. VERZOSA, JR. DC. CITY ENGINEERING DEPARTMENT	 HON. MA. JOSEFINA G. BELMONTE CITY ENGINEER	GENERAL NOTES LEGENDS	PL-1 9 14
LOCATION: BIRANGAY BATAKSIAN HILLS, DISTRICT 3, QUEZON CITY	PROJECT NO.:					



1 GROUND FLOOR WATER LINE LAY-OUT

SCALE: 1:40 MTS



2 GROUND FLOOR SANITARY LINE LAY-OUT

SCALE: 1:40 MTS



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE	DRAWN BY	SUBMITTED BY	RECOMMENDED APPROVAL	APPROVED BY	SHEET CONTENT	SHEET NO.
PROPOSED REHABILITATION OF CONSTITUTIONAL DAY CARE CENTER	DATE: 04.2021 CHECKED BY: <i>[Signature]</i>	<i>[Signature]</i> ENGR. LEO S. DEL ROSARIO HEAD, PLUMBING PROGRAM DIVISION	<i>[Signature]</i> ENGR. EDUARDO R. VERZOSA, JR. CIC, CITY ENGINEERING DEPARTMENT	<i>[Signature]</i> HON. MA. JOSEFINA G. BELMONTE CITY MAYOR, QUEZON CITY	GROUND FLOOR WATER LINE LAY-OUT GROUND FLOOR SANITARY LINE LAY-OUT	PL-2 10/14
LOCATION: BNGY. BATAAN-HILLS, DISTRICT 2, QUEZON CITY	REVISIONS:					

- ALL ELECTRICAL WORKS SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, THE LAWS AND ORDINANCES OF THE LOCAL CODE ENFORCING AUTHORITIES AND THE REQUIREMENTS OF THE LOCAL POWER AND TELEPHONE UTILITY COMPANY.
- THE CONTRACTOR SHALL SECURE ALL PERMITS AND PAY ALL FEES REQUIRED FOR THE WORK AND SHALL FURNISH THE OWNER THROUGH THE ENGINEER, FINAL CERTIFICATES OF ELECTRICAL INSPECTION AND APPROVAL FROM PROPER GOVERNMENT AUTHORITIES FOR COMPLETION OF WORK.
- ALL EMBEDED BRANCH CIRCUITS SHALL BE PVC CONDUITS AND FOR EXPOSED INSTALLATION SHALL BE EMT OR MC SUPPORTED BY CONDUIT CLAMPS EVERY 750 MILLIMETERS.
- PULL BOXES SHALL BE PROVIDED BY THE CONTRACTOR WHENEVER NECESSARY TO FACILITATE WIRE PULLING EVEN IF THESE ARE NOT INDICATED ON THE PLANS. SIZING OF ALL PULLBOXES SHALL BE COMPUTED BASED ON THE CODE REQUIREMENTS. SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION. LOCATION OF PULLBOXES SHALL BE APPROVED BY THE ARCHITECT/ENGINEER AND MUST BE REFLECTED ON THE AS-BUILT PLAN.
- ALL POWER OUTLETS AND SWITCHES SHALL BE GROUNDING TYPE WITH PARALLEL SLOTS FOR 230 V.
- PROVIDE GROUND FAULT CURRENT INTERRUPTER (GFCI) BREAKERS FOR LOADS MARKED "GFCI" ON THE PLAN.
- ALL METALLIC CONDUITS, CABINETS AND EQUIPMENT SHALL BE PROPERLY GROUNDING AND BONDING.
- UNLESS OTHERWISE NOTED, MOUNTING HEIGHT FOR WALL MOUNTED DEVICES SHALL BE AS FOLLOWS:
RECEPTACLE OUTLET - 380 MM AFT, 150MM ABOVE WORKING COUNTER
LIGHTING SWITCH - 1400MM AFT
PANELBOARD - 1800 MM AFT

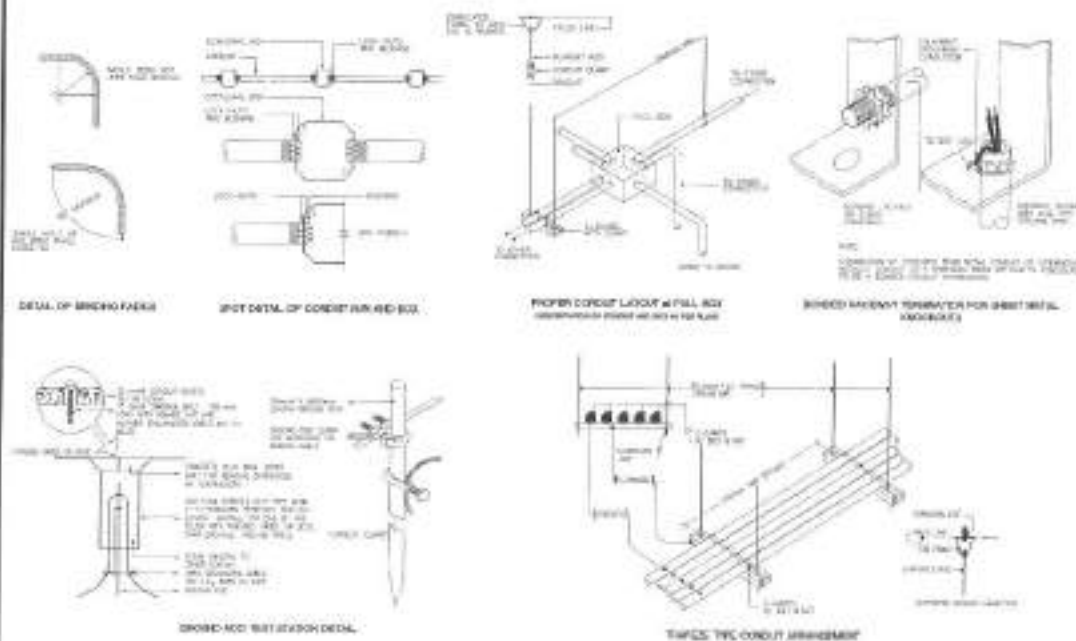
- REFER TO MECHANICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR RATINGS AND LOCATIONS OF EQUIPMENT AS WELL AS THEIR CONTROL SEQUENCES AS SPECIFIED AND OR SHOWN UNDER THEIR RESPECTIVE SECTIONS.
- ALL MATERIALS TO BE USED SHALL BE OF THE BEST QUALITY, BRAND NEW AS SPECIFIED.
- THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO PRESENT GENERAL LAYOUT AND BROAD OUTLINE DESCRIPTION OF THE PROJECT BUT DO NOT NECESSARILY INDICATE DESCRIBED ACTUAL LOCATIONS, LEVEL, AND DISTANCES OF THE EQUIPMENT. THE CONTRACTOR IS HEREBY REQUIRED TO MAKE SUCH ADJUSTMENT AT THE JOBSITE AS LOCATION, DISTANCES AND LEVELS ARE GOVERNED BY ACTUAL FIELD CONDITIONS.
- ANY DISCREPANCY BETWEEN THE PLANS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION OR CORRECTION.
- ALL LIGHTING AND CONVENIENCE OUTLET CIRCUITS SHALL BE 3.5 SQ. MM. THAW-2 COPPER WIRE UNLESS OTHERWISE NOTED. MINIMUM SIZE OF WIRE SHALL BE 3.5 SQ. MM. COPPER WIRE. ALL WIRES AND CABLES SHALL BE COLOR CODED AS FOLLOWS:

LINE 1 - RED
LINE 2 - YELLOW
NEUTRAL - WHITE
GROUND - GREEN

- BOXER WIRE, GUTTERS, ENCLOSURE SHALL BE FABRICATED FROM STEEL WITH THICKNESS AS FOLLOWS:
MAXIMUM WIDTH OF THE WIDEST SURFACE STEEL:
UP TO INCLUDING 152.4 MM GA 18 PAINTED WITH METAL PRIMER EPOXY AND TOPOCOAT
OVER 152.40 MM BOLT NOT OVER 457.39 GA 14 PAINTED WITH METAL PRIMER EPOXY AND TOPOCOAT
OVER 457.39 MM BOLT NOT OVER 914.76 GA 12 PAINTED WITH METAL PRIMER EPOXY AND TOPOCOAT
OVER 914.76 MM GA 10 PAINTED WITH METAL PRIMER EPOXY AND TOPOCOAT
- ALL ELECTRICAL WORKS HEREIN SHALL BE EXECUTED BY EXPERIENCED MEN UNDER THE DIRECT SUPERVISION OF A FULL-TIME LICENSED ELECTRICAL ENGINEER AND A DULY ACCREDITED ELECTRICAL CONTRACTOR. POOR WORKS SHALL BE NEATLY PLACED, SECURELY FASTENED AND PROPERLY FINISHED.
- TYPE OF SERVICE ENTRANCE SHALL BE SINGLE-PHASE, TWO-WIRE PLUS GROUND, 200V/230V AC NOMINAL.
- CONDUITS IN NO CASE SHALL THERE BE MORE THAN THE EQUIVALENT OF FOUR QUARTER BENDS IN ANY ONE RUN. ALL CONDUIT BENDING SHALL BE FIELD MADE BY USING HYDRAULIC BENDERS. MINIMUM BENDING RADIUS MUST BE IN ACCORDANCE TO THE CODE REQUIREMENTS.
- UPON COMPLETION OF ELECTRICAL CONSTRUCTION WORK, INSULATION RESISTANCE TEST AND FUNCTIONALITY TEST SHALL BE PERFORMED BY THE CONTRACTOR INCLUDING OF THE INSTALLATION TO BE REPORTED IN DETAILS ON FORMS APPROVED BY THE QUEZON CITY ENGINEERING DEPARTMENT REPRESENTATIVE. THE GROUND RESISTANCE FOR ELECTRICAL SYSTEMS SHALL NOT BE MORE THAN 5 OHMS. COMMUNICATION-GROUNDING RESISTANCE SHALL NOT EXCEED 2 OHMS.

	Duplex Convenience Outlet		Ceiling Fan with Selector Switch
	Duplex Convenience Outlet (Elev. 0-1002.2m)		Lighting Power Panel
	150mmØ LED Pinlight		Circuit Home-run
	1250mm x 300mm LED tube in Troffer Fixture		Utility Service Meter
	100mm x 100mm Ceiling Mounted Exhaust Fan		Circuit Breaker
	One Gang Switch		Grounding
	Two Gang Switch		ACU Outlet

2 LEGENDS AND SYMBOLS



1 GENERAL NOTES

3 CONNECTION DETAIL

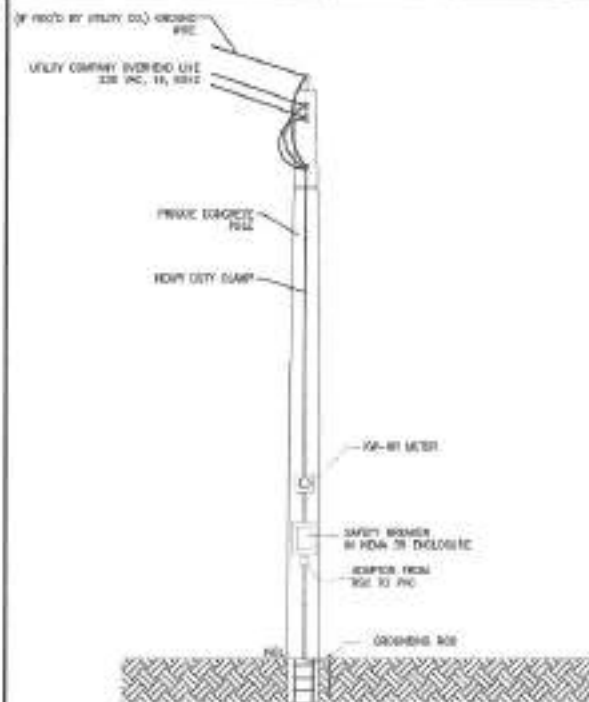
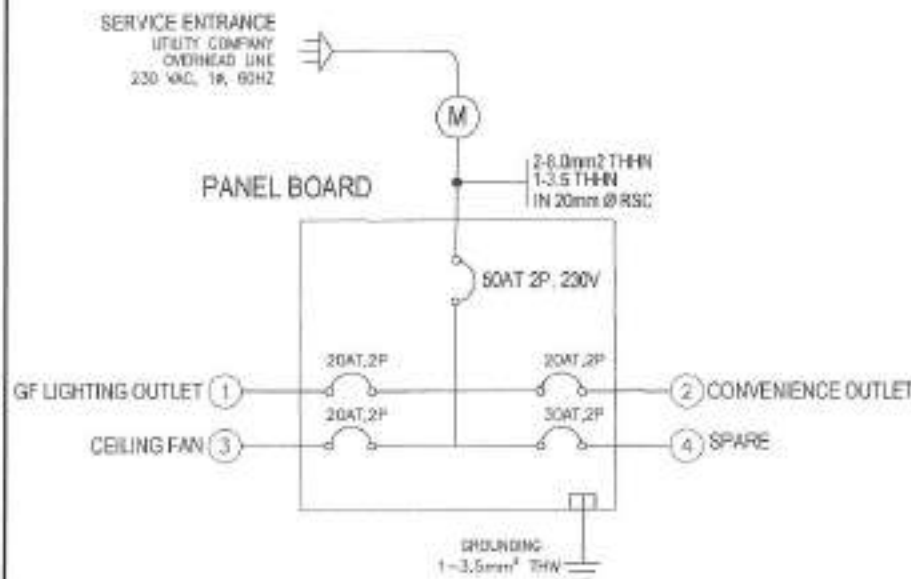


Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:	DESIGNED BY:	DATE:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET COUNT:	SHEET NO.:
PROPOSED REHABILITATION OF CONSTITUTIONAL DAY CARE CENTER	ENR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAMMING DIVISION	08.2021	ENR. JOSEAN R. VERZOSA, JR. DCL, CITY ENGINEERING DEPARTMENT	ENR. MA. JOSEFA G. BELMONTÉ CITY ENGINEER, QUEZON CITY	GENERAL NOTES LEGENDS AND SYMBOLS CONNECTION DETAIL	EL-1 11/14
LOCATION:	REVISIONS:	CHECKED BY:				
INDY. SANTANAY HILLS, DISTRICT 2, QUEZON CITY						

PANEL NAME: LPP		MARC: 30AT, 20AT, 2P, 10A, 240V, 60Hz									
EXTNO.	DESCRIPTION	RITAG			OVERCURRENT PROTECTION				SIZE OF WBC	CIRCUIT	
		W	V	A	MF	MF	F	TRG		WBC	TYPE
1	Lighting Outlet	20	20	1.5	20	20	1	60A-2P	2.5mm ² THHN 1.5mm ² THW	20	RC
2	Convenience Outlet	20	20	1.5	20	20	1	60A-2P	2.5mm ² THHN 1.5mm ² THW	20	RC
3	Ceiling Fan	20	20	1.5	20	20	1	60A-2P	2.5mm ² THHN 1.5mm ² THW	20	RC
4	SPARE	20	20	1.5	20	20	1	60A-2P	2.5mm ² THHN 1.5mm ² THW	20	RC
TOTAL		80	80	15.0							
COMPLIANCE		NEC		NEC							
NEC		NEC		NEC							
L ₁ = 40A		L ₁ = 40A		L ₁ = 40A							
L ₂ = 20A		L ₂ = 20A		L ₂ = 20A							
L ₃ = 20A		L ₃ = 20A		L ₃ = 20A							
L ₄ = 20A		L ₄ = 20A		L ₄ = 20A							
L ₅ = 20A		L ₅ = 20A		L ₅ = 20A							

1 SCHEDULE OF LOADS



2 SINGLE LINE DIAGRAM

NTS

3 PANELBOARD DIAGRAM

NTS

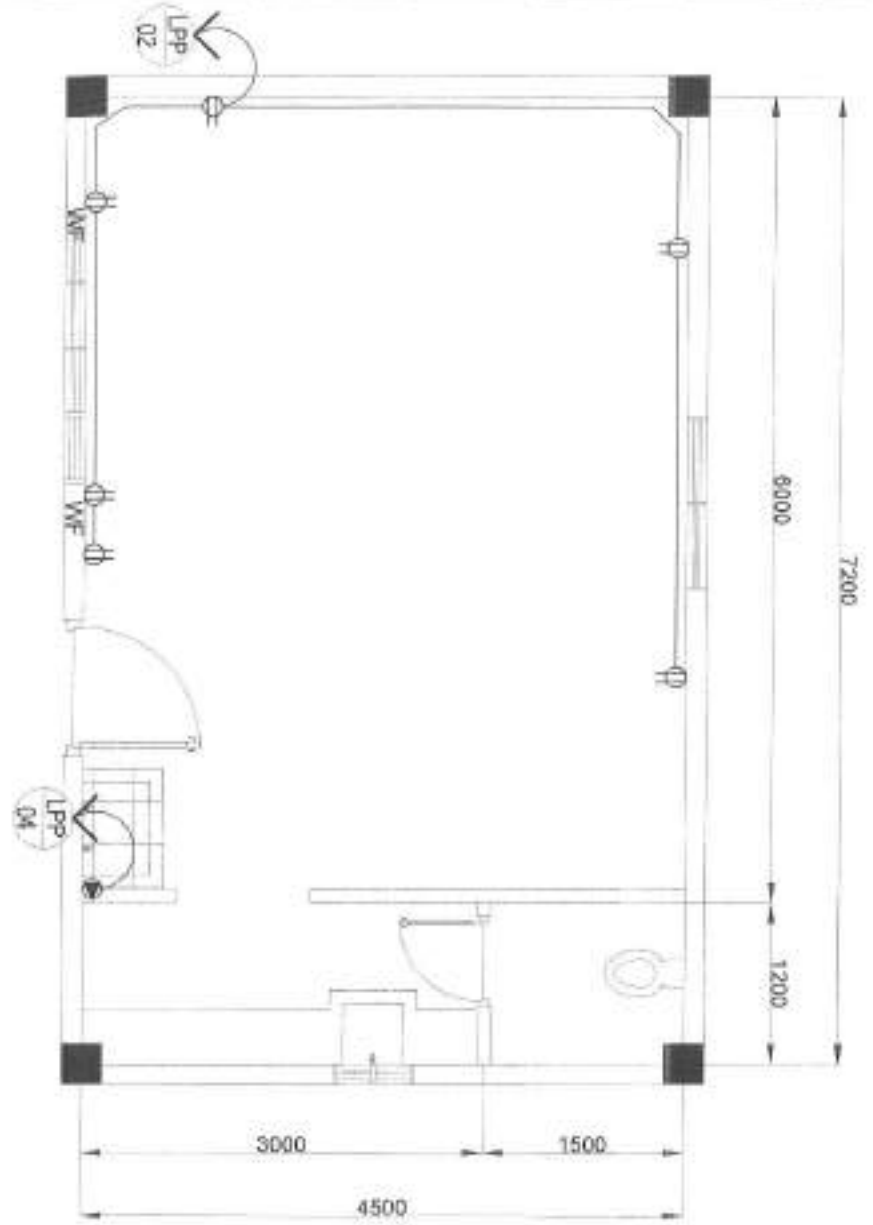
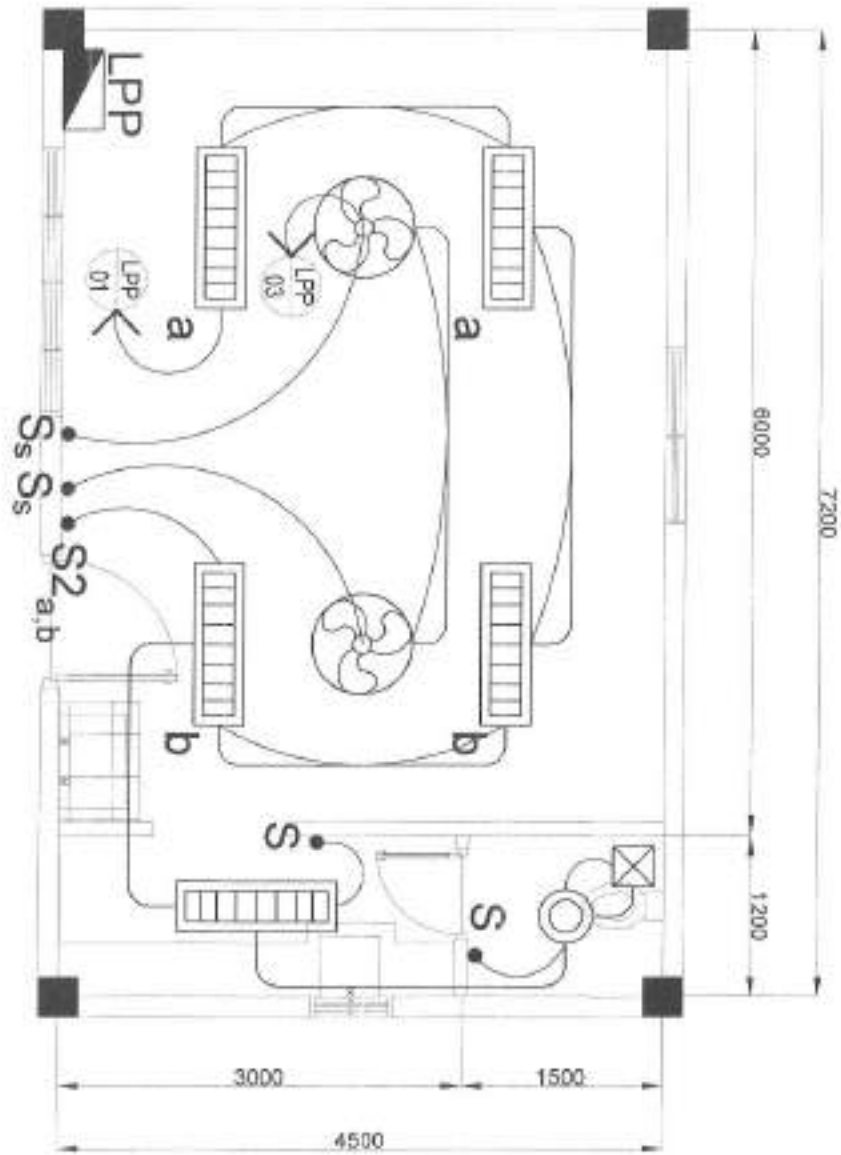
4 SERVICE ENTRANCE DETAIL

NTS



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:	DRAWN BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.
PROPOSED REHABILITATION OF CONSTITUTIONAL DAY CARE CENTER	DATE: 03/08/21 CHECKED BY: [Signature]	ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROJECT MANAGING DIVISION	ENGR. JUAN P. VERZOSA, JR. CH. CIVIL ENGINEERING DEPARTMENT	HON. MA. JOSEFINA G. BELMONT E CITY MANOR, QUEZON CITY	SCHEDULE OF LOADS SINGLE LINE DIAGRAM PANELBOARD DIAGRAM SERVICE ENTRANCE DETAIL	EL-2 12/14



1 PROPOSED LIGHTING LAYOUT

SCALE: 1:40 MTS

2 PROPOSED POWER LAYOUT

SCALE: 1:40 MTS



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
**PROPOSED REHABILITATION OF
CONSTITUTIONAL DAY CARE CENTER**
LOCATION:
BPOV, BATASAN HILLS, DISTRICT 2, QUEZON CITY

DRAWN BY: *[Signature]*
DATE: 8.5.2011
CHECKED BY: *[Signature]*
REVISION NO.:

SUBMITTED BY:
[Signature]
ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING & PROGRAMS DIVISION

RECOMMENDING APPROVAL:
[Signature]
ENGR. RAFAEL R. VERZOSA, JR.
C.E., CITY ENGINEERING DEPARTMENT

APPROVED BY:
[Signature]
HON. MA. JOSEFINA G. BELMONTTE
CITY MAYOR, QUEZON CITY

SHEET CONTENT:
PROPOSED LIGHTING
LAYOUT
PROPOSED POWER
LAYOUT

SHEET NO.
EL-3
13/14

ALL MECHANICAL WORKS SHALL BE DONE IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE NATIONAL BUILDING CODE, PSME CODE AND THE RULES AND REGULATIONS OF QUEZON CITY.

THE SCOPE OF WORK SHALL INCLUDE ALL WORKS DESCRIBED IN PLANS.

THE WORKS SHALL BE EXECUTED IN CLOSE COORDINATION WITH ALL OTHER TRADES.

ALL AIRCONDITIONED SPACES SHALL BE MAINTAINED AT 24°C DB AND 50% RH.

CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, MANUFACTURERS CATALOGUE, SPECIFICATIONS, SAMPLES, INCLUDING VIBRATION ISOLATORS BEFORE EXECUTION OF WORK.

ALL FLOOR SLAB MOUNTED VIBRATING EQUIPMENT SHALL BE PROVIDED WITH VIBRATION ISOLATORS TO PREVENT VIBRATIONS AND NOISE TRANSMISSION.

EXHAUST FAN SHALL BE PROVIDED WITH SUITABLE FLEXIBLE CONNECTIONS TO DISCHARGE DUCT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TESTING AND COMMISSIONING OF THE WHOLE VENTILATION AND AIRCONDITIONING SYSTEM AND INSTALLATION.

ALL POWER WIRING SHALL BE ELECTRICAL AND TERMINATION TO EQUIPMENT SHALL BE MECHANICAL.

PROVIDE CONTROL WIRING FOR AIRCONDITIONING EQUIPMENT.

PROVIDE THERMOSTAT FOR ALL INDOOR UNITS / FAN COIL UNITS.

VERIFY LOCATION OF CONTROLLERS AND SWITCHES ON ELECTRICAL PLANS.


ALL PIPE EQUIPMENT CONDENSATE DRAIN SHALL BE CONNECTED TO THE NEAREST FLOOR DRAIN / AD / CB.

PROVIDE GUIDES, HANGERS, AND SUPPLEMENTAL STEEL SUPPORT FOR ALL PIPING, DUCTING AND EQUIPMENTS.

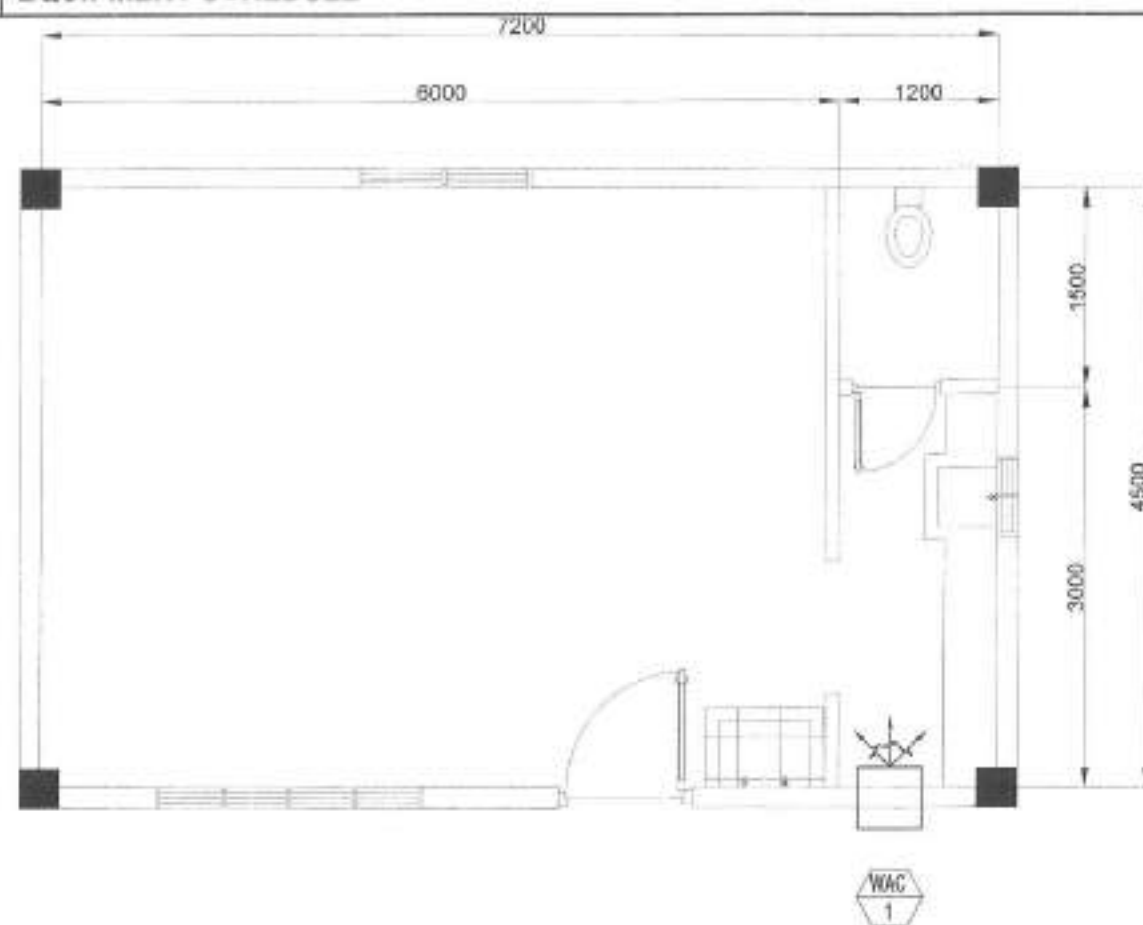
PROVIDE PIPE SLEEVES FOR ALL PIPING PASSING THRU BUILDING STRUCTURE.

ALL PIPE DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE NOTED.

WINDOW TYPE AIR-CONDITIONER AIR-COOLED CONDENSING UNITS

DESIGNATION	LOCATION	QUANTITY	COOLING CAPACITY		AIR CIRCULATION	POWER INPUT WATTS	ELECTRICAL SUPPLY			REMARKS
			HP	KJ/HR			VOLTS	PHASE	HERTZ	
 WAC 1	AD SHOWR ON PLANS	1 SET	1.5 HP	35,520	60 CFM	230	230V	1Ø	60	REMOVABLE MINE ORLLE EASY TO CLEAN ANTI-DUST FILTER W/ MECHANICAL ON/OFF TIMER

3 EQUIPMENT SCHEDULE



1 GENERAL NOTES

	- EQUIPMENT DESIGNATION		- AIR COOLED CONDENSING UNIT
	- REFRIGERANT PIPE		- ELBOW UP
	- WALL MOUNTED INDOOR UNIT		- ELBOW DOWN
	- WINDOW TYPE AIR CONDITIONER		- FAN COIL UNIT

2 LEGENDS

4 EQUIPMENT LAYOUT

SCALE: 1:40 MTS



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE	DATE	DATE	DATE	DATE	DATE	DATE	DATE
PROPOSED REHABILITATION OF CONSTITUTIONAL DAY CARE CENTER	95.001						
	95.001						
LOCATION: BRYL DATASAN HILLS, DISTRICT 7, QUEZON CITY	CHECKED BY: <i>Jed</i>	DESIGNED BY: <i>Jed</i>	REVISIONS:	RECOMMENDING APPROVAL: ENGR. JOSEPH N. VERZOSA, JR. DC, CIVIL ENGINEERING DEPARTMENT	APPROVED BY: NONI MA. JOSEFINA G. BELMONTÉ CITY ENGINEER, QUEZON CITY	SHEET CONTENT: GENERAL NOTES LEGENDS AND SYMBOLS EQUIPMENT SCHEDULE EQUIPMENT LAYOUT	SHEET NO. ME-1 14/14

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AR-05	COUNTER TOP DETAIL KITCHEN CABINET DETAIL

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SITE

1 VICINITY MAP

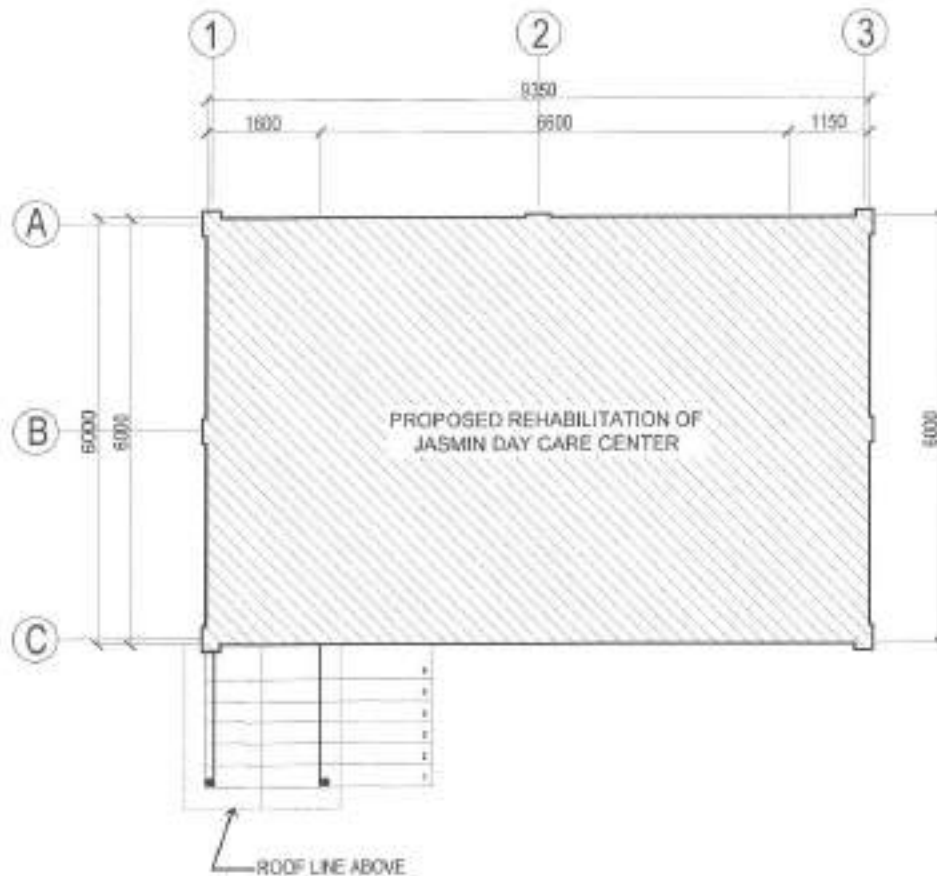
NTS



SITE

2 LOCATION MAP

NTS



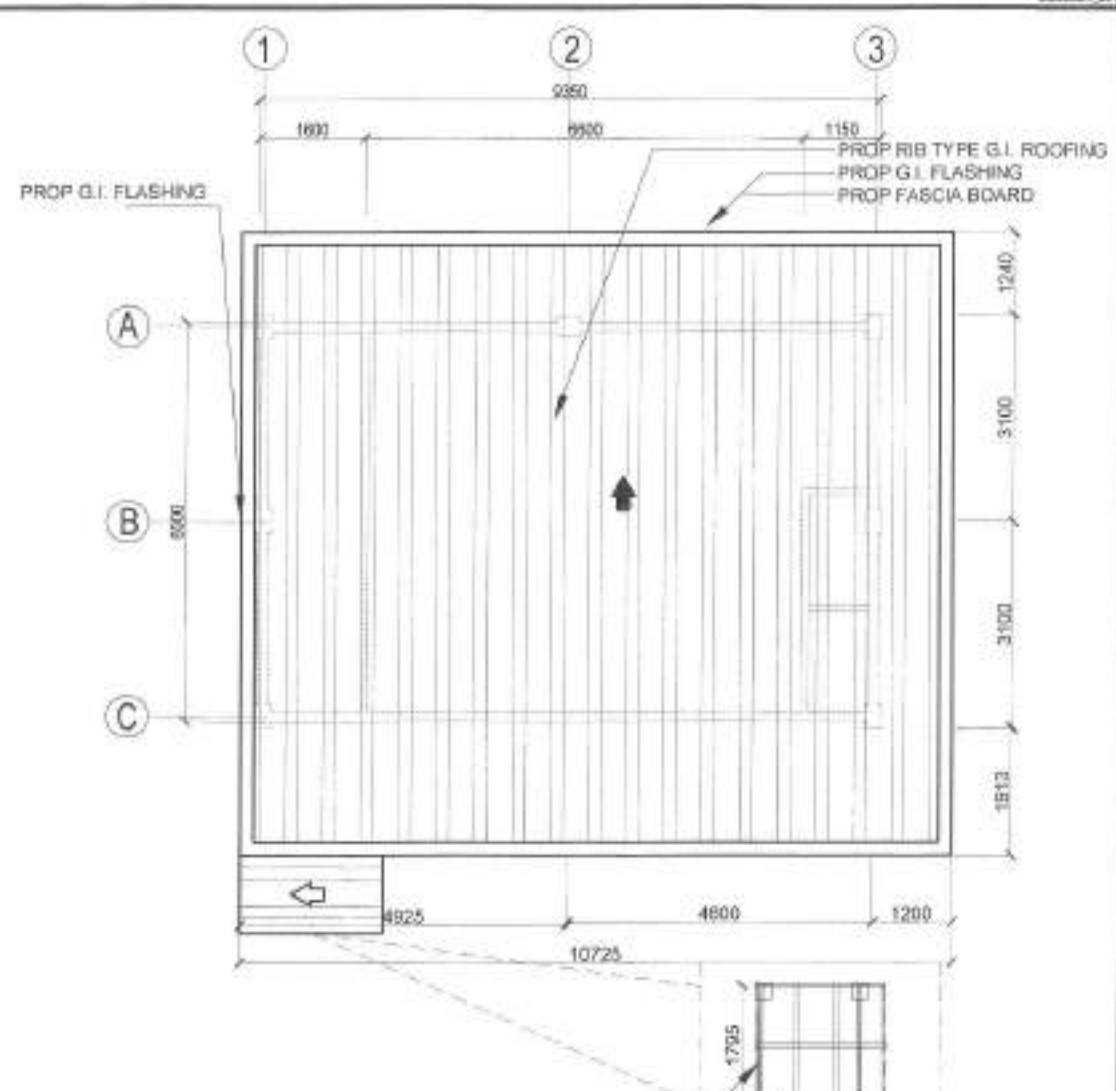
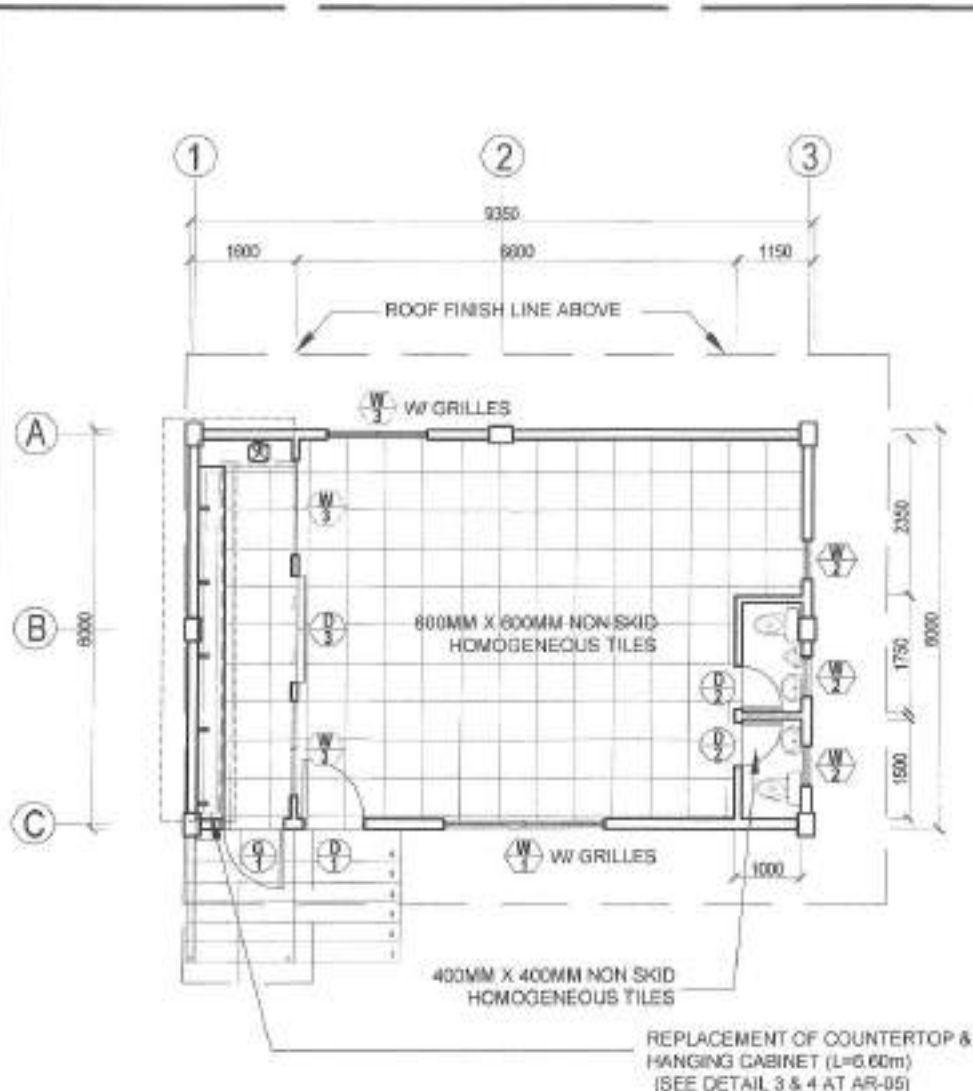
3 SITE DEVELOPMENT PLAN

NTS



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE: PROPOSED REHABILITATION OF JASMIN DAY CARE CENTER	DRAWN BY: TOX DATE: 7/30/2021	SUBMITTED BY: 	APPROVED BY: 	SHEET CONTENT VICINITY MAP LOCATION MAP SITE DEVELOPMENT PLAN	SHEET NO. AR-01 01/13
LOCATION: BARANGAY BAYAMAN HILLS, DISTRICT 2, QUEZON CITY	CHECKED BY: 	ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAMMING DIVISION	ENGR. EASMI R. VERZOSA, JR. DIO. CITY ENGINEERING DEPARTMENT	HON. MA. JOSEFINA G. BELMONTE CITY MAYOR	
	REVISION NO.:				



NOTE:
WHOLE STRUCTURE TO BE REPAINTED
ALL PLUMBING FIXTURES TO BE REPLACED

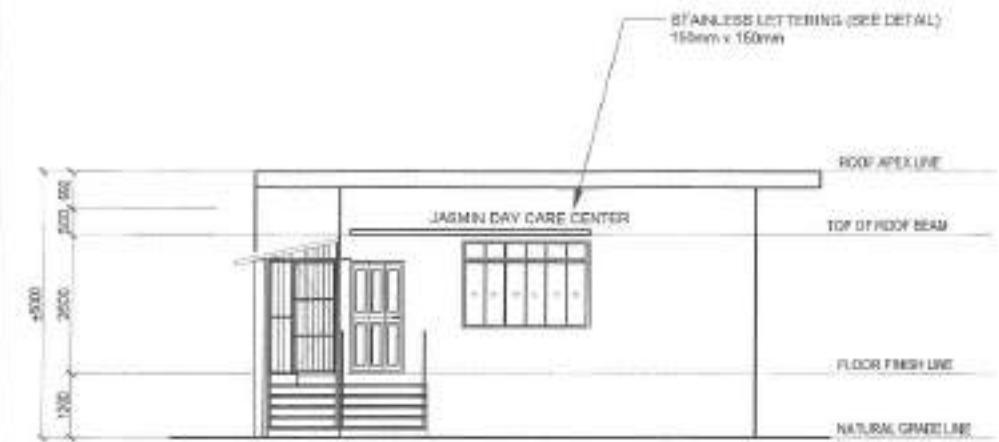
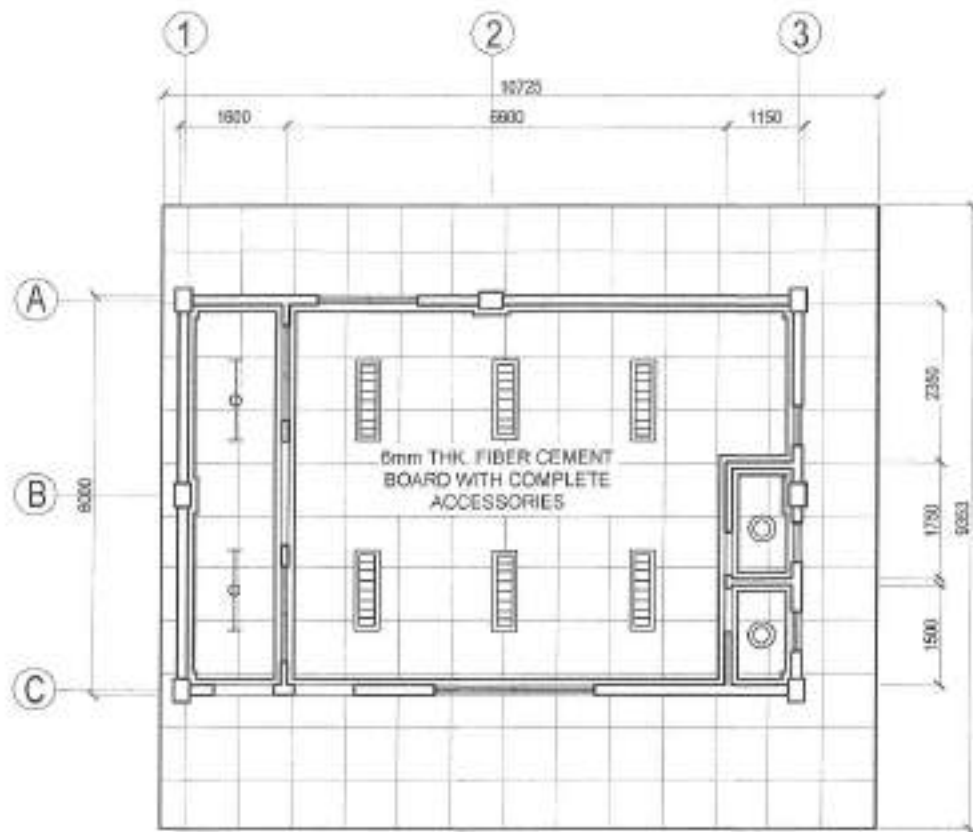
1 FLOOR PLAN

SCALE: 1:80 M

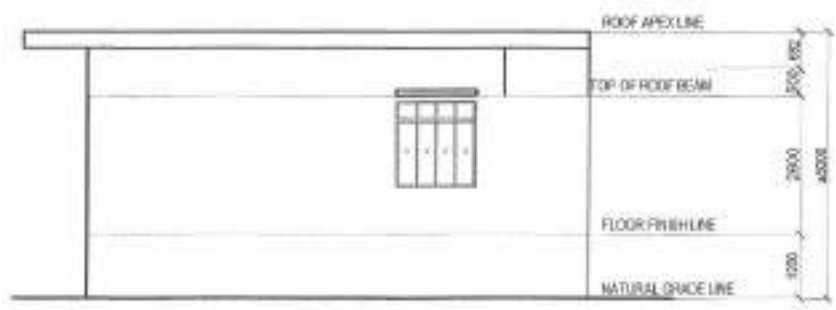
2 ROOF PLAN

SCALE: 1:80 M

 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DATE: <i>March 2021</i>	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	PROPOSED REHABILITATION OF JASMIN DAY CARE CENTER ✓ DISTRICT: <i>BARANGAY BATASAN HILLS, DISTRICT 11, QUEZON CITY</i> ✓ REVISION NO.:	ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & DESIGN DIVISION	ENGR. ISAGAN R. VERZOSA, JR. CITY ENGINEER	HON. MA. JOSEFINA G. BELMONTE CITY SIKOR	FLOOR PLAN ROOF PLAN	AR-02 02/13	



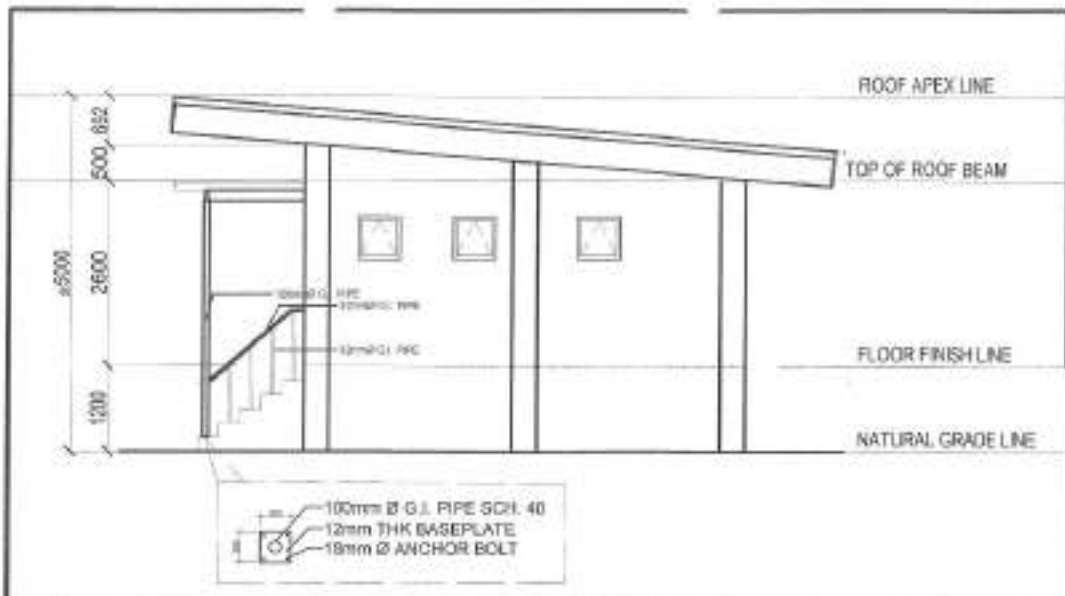
2 FRONT ELEVATION SCALE: 1:100 M



2 REAR ELEVATION SCALE: 1:100 M

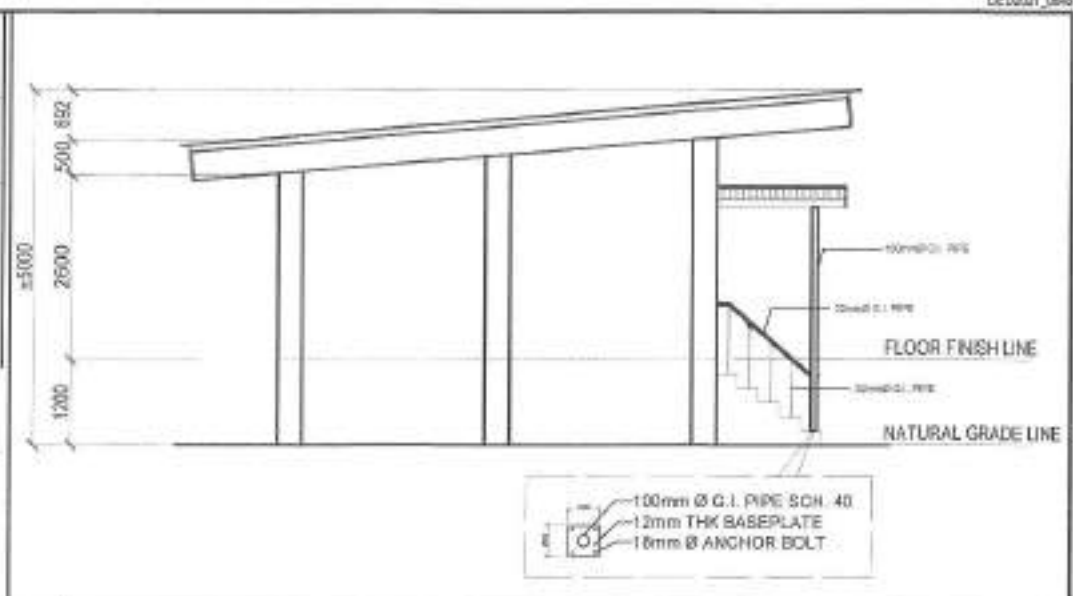
1 REFLECTED CEILING PLAN SCALE: 1:90 M

 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DRAWN BY: <i>[Signature]</i>	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	PROPOSED REHABILITATION OF JASMIN DAY CARE CENTER	DATE: April 20, 2011	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	REFLECTED CEILING PLAN FRONT ELEVATION REAR ELEVATION	AR-03 03/13
	CREATOR: BARANGAY BATASAN HILLS, DISTRICT I, QUEZON CITY	DRAWN BY: <i>[Signature]</i>	ENGR. LEO S. DEL ROSARIO REG. PLANNER WITH PROFESSIONAL LICENSE	ENGR. ISAGANI R. VERZOSA, JR. OC. CIV. ENGINEER	HON. MA. JOSEFINA G. BELMONTE CITY MGR.		



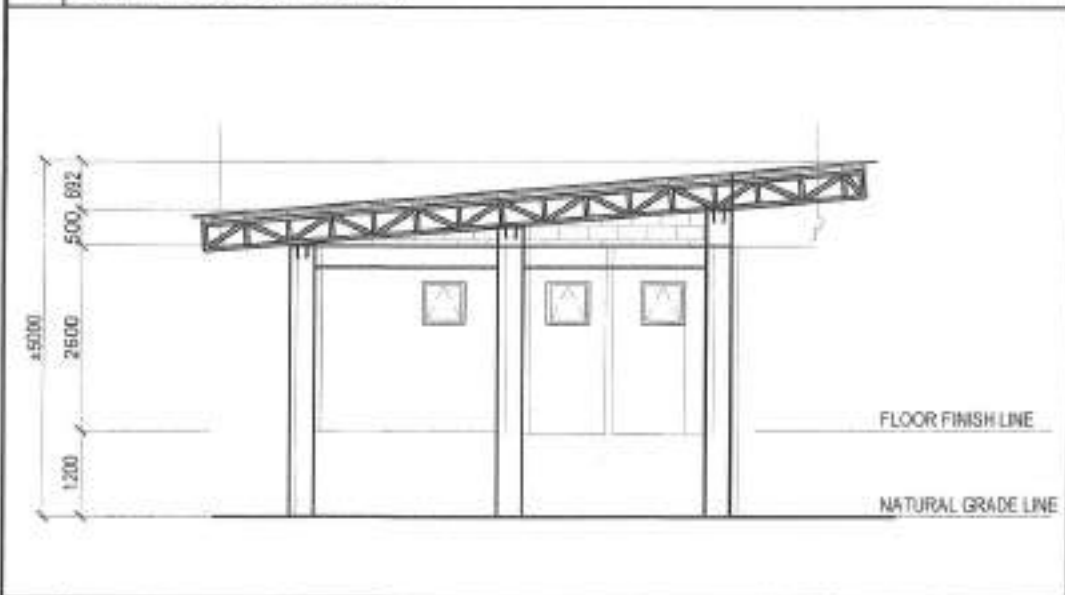
1 RIGHT SIDE ELEVATION

SCALE: 1:75 M



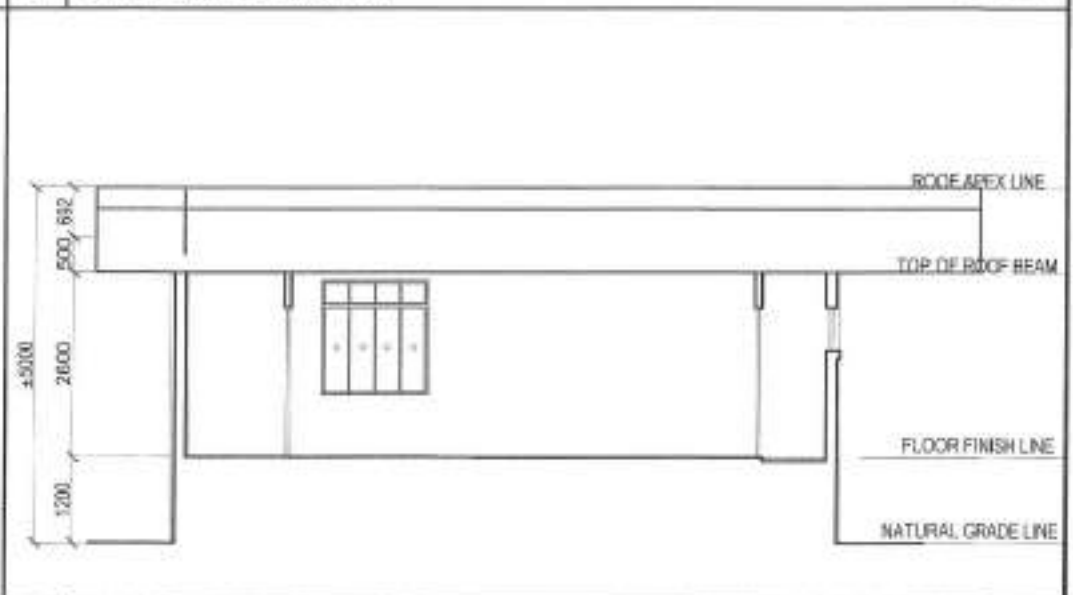
2 LEFT SIDE ELEVATION

SCALE: 1:75 M




3 CROSS SECTION

SCALE: 1:75 M



4 LONGITUDINAL SECTION

SCALE: 1:75 M

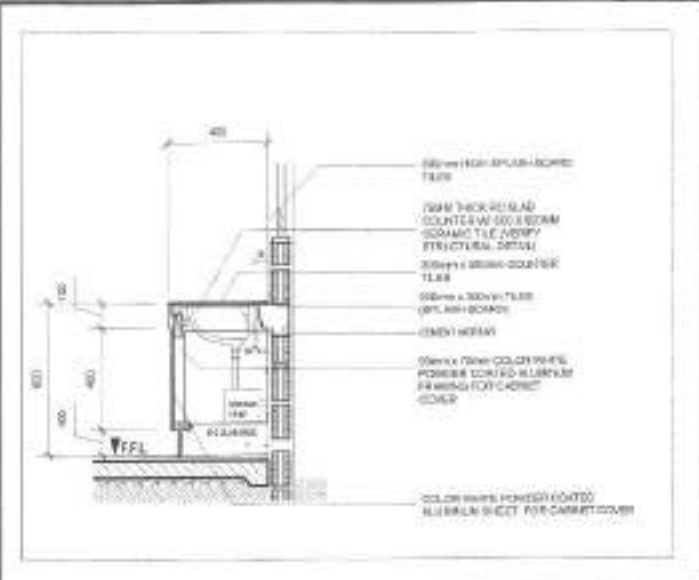
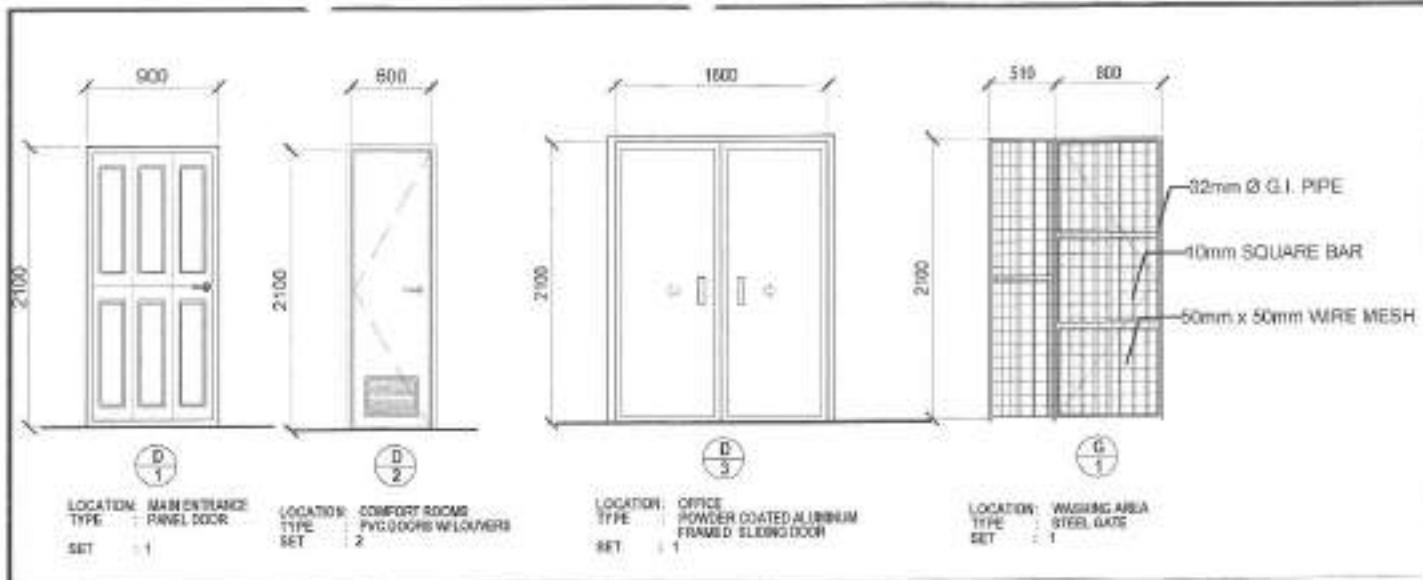

 Republic of the Philippines
 Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:	DATE: <i>12/11/2017</i>
PROPOSED REHABILITATION OF JASMIN DAY CARE CENTER ✓	DESIGNER: <i>J.R.</i>
LOCATION: <i>BARANGAY BATASAN HILLS, DISTRICT II, QUEZON CITY</i>	REVISION NO.:

DESIGNED BY: <i>[Signature]</i>	SUBMITTED BY: <i>[Signature]</i>
ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROJECT MANAGEMENT	

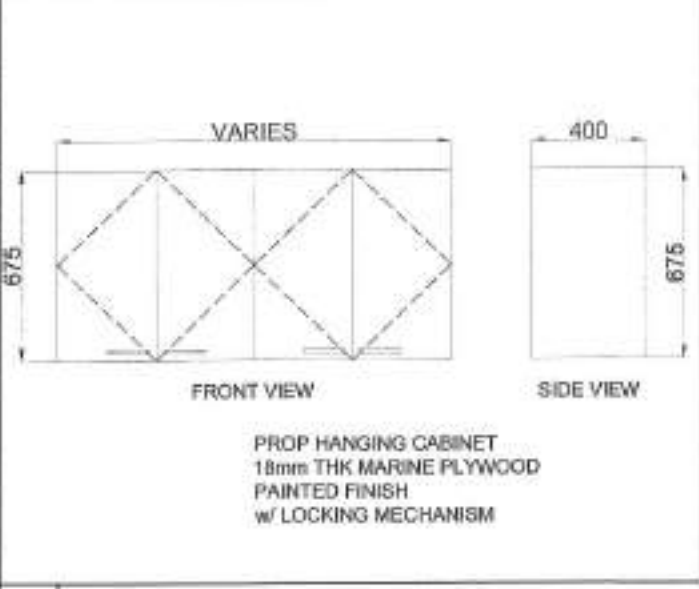
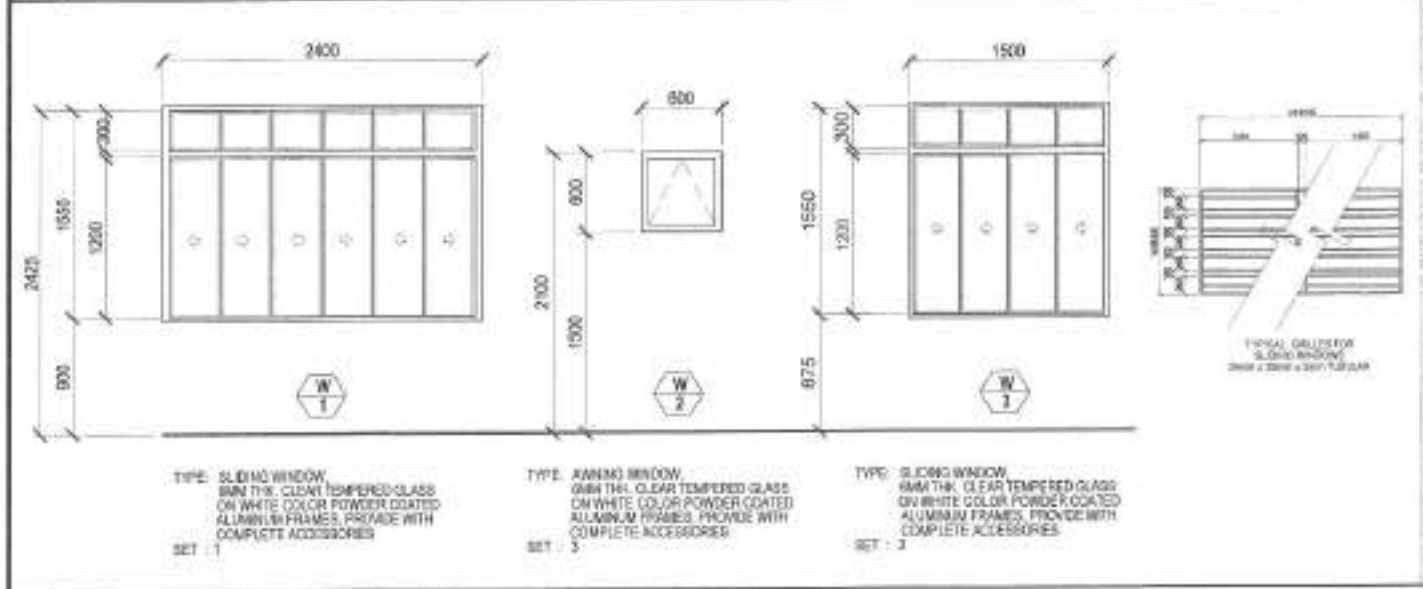
RECOMMENDING APPROVAL: <i>[Signature]</i>	APPROVED BY:
ENGR. SAGANI R. VERZOSA, JR. HEAD, CIVIL ENGINEERING	HON. MA. JOSEFINA G. BELMONTE CITY ENGINEER

SHEET CONTENT:	SHEET NO.:
RIGHT SIDE ELEVATION LEFT SIDE ELEVATION CROSS SECTION LONGITUDINAL SECTION	AR-04 04/13



1 SCHEDULE OF DOORS SCALE: 1:40M

3 COUNTERTOP DETAIL SCALE: NTS



2 SCHEDULE OF WINDOWS SCALE: 1:40M

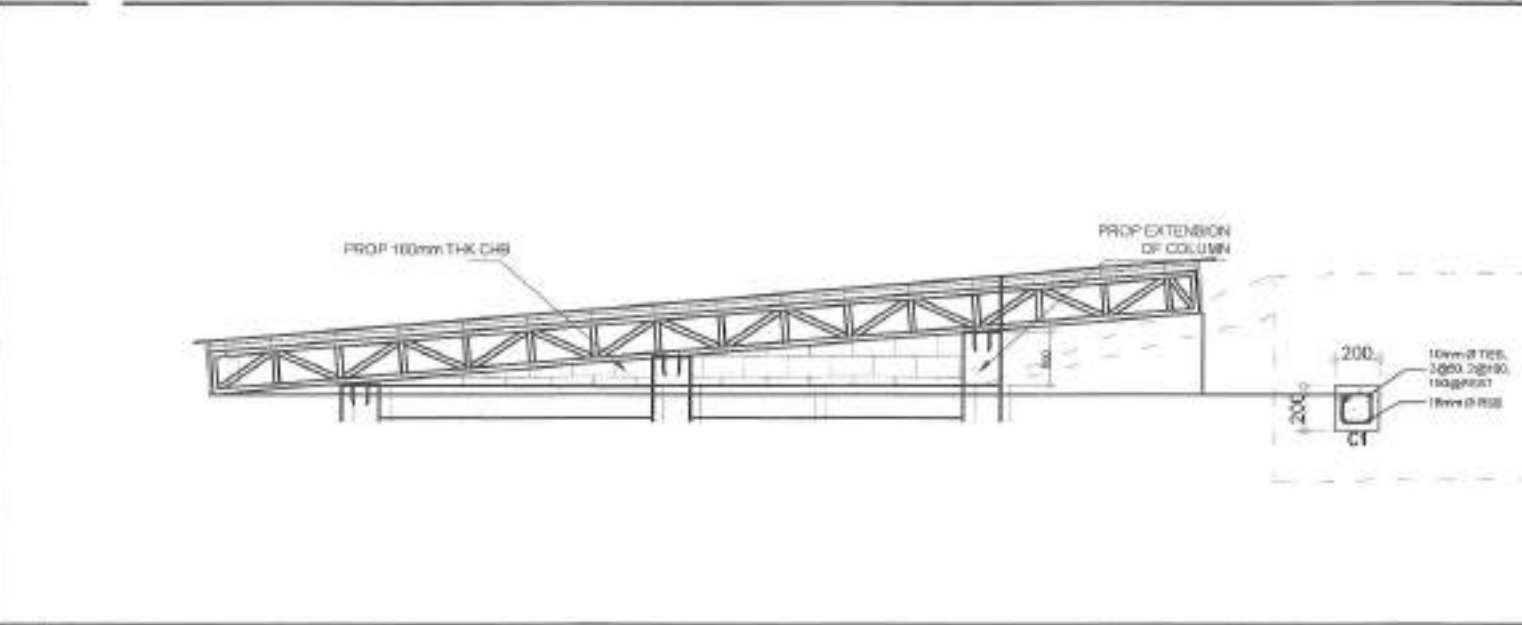
4 HANGING CABINET DETAIL SCALE: NTS

<p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DATE: April 20, 2021	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.
	PROPOSED REHABILITATION OF JASMIN DAY CARE CENTER	DRAWN BY: Jn	 ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & RECONSTRUCTION	 ENGR. GERSON R. VERZOSA, JR. CC OF ENGINEERING DIVISION	 HON. MA. JOSEFINA G. BELMONTE CITY ENGINEER	SCHEDULE OF DOORS SCHEDULE OF WINDOWS COUNTERTOP DETAIL HANGING CABINET DETAIL	
	LOCATION: BARIWAGAY BATAGAN HILLS, DISTRICT 8, QUEZON CITY	REVISION NO.:					
	PROJECT TITLE: PROPOSED REHABILITATION OF JASMIN DAY CARE CENTER LOCATION: BARIWAGAY BATAGAN HILLS, DISTRICT 8, QUEZON CITY						

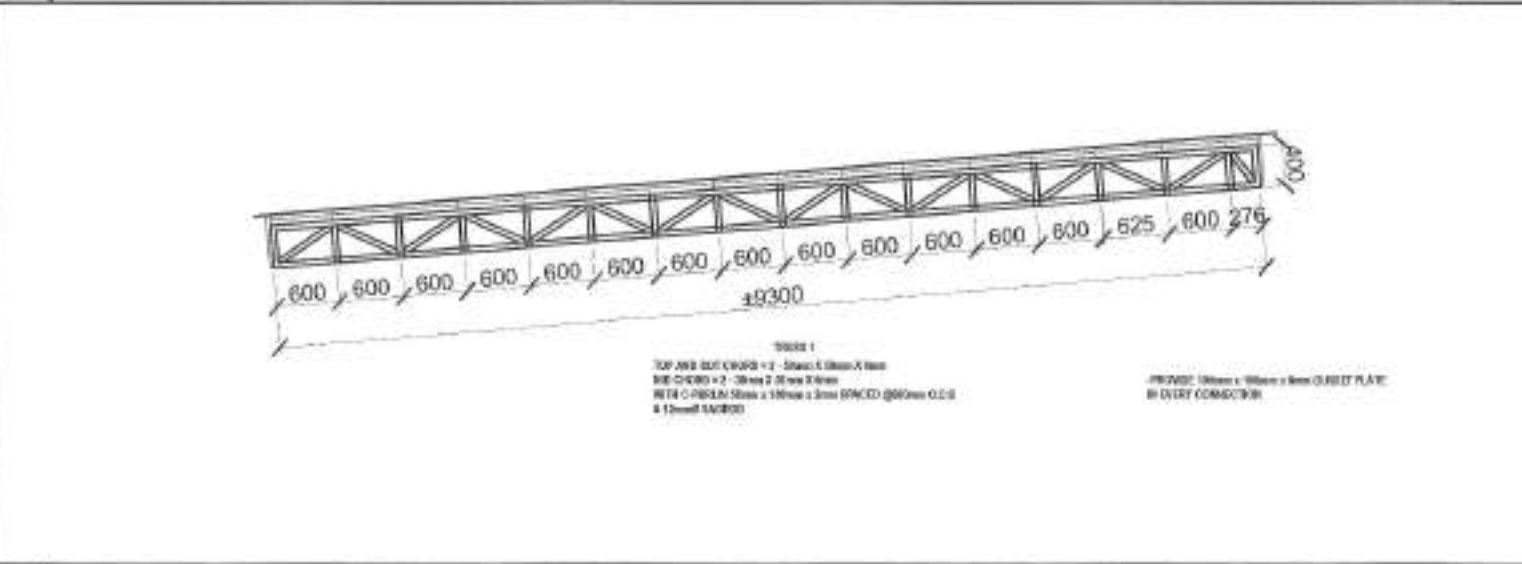
- GENERAL**
- CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL CITY ORDINANCES AND ALL APPLICABLE CODES.
 - WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE CODES AND ALL APPLICABLE SPECIFICATIONS.
 - CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE ALL WORK IS DONE. CHECK WITH ARCHITECT AND ELECTRICAL CONTRACTOR FOR CORRECT FITS AND CLEARANCES TO ALL EXISTING AND NEW CONCRETE.
 - IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT EXISTING UTILITIES AND SERVICES OF THE STREET AND PUBLIC UTILITIES THAT ARE NOT TO BE MOVED OR DISCONTINUED.
 - IN CASE OF QUANTITY VARIATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE NECESSARY APPROVALS FROM THE CITY ENGINEER.
- CONCRETE & REINFORCEMENT**
- ALL MATERIALS AND WORKMANSHIP SHALL CONFORM WITH THE LATEST RA AND CODES OF MARIKINA CITY.
 - ALL CONCRETE SHALL BE OF A MINIMUM COMPRESSIVE STRENGTH OF 28 MPa.
- | LOCATION | THICKNESS | MAX. SIZE OF AGGREGATE | MAX. SLURRY |
|--|-------------------|------------------------|-------------|
| 1. SUB-SLABS
(CANTILEVERED)
CONCRETE
SLAB FOOTING | 150mm (6 INCHES) | 10 (20mm) | 45 (20min) |
| 2. BEAMS, COLUMNS
(SUPPORTED AND
UN-SUPPORTED) | 300mm (12 INCHES) | 12 (20mm) | 45 (20min) |
| 3. LIFT CONCRETE | 100mm (4 INCHES) | 7.5 (20mm) | 45 (20min) |
- ALL REINFORCING BARS SHALL CONFORM TO RA 9002 (AS PER RA 9001) FOR 12mm & SMALLER SIZES AND RA 9003 (AS PER RA 9001) FOR 13mm & LARGER SIZES.
 - IN GENERAL, THE LAPS OF REINFORCING BARS SHALL BE STAGGERED AND SHALL BE APPLIED TO ONE SIDE OF THE MEMBER OR BOTH SIDES.
 - MINIMUM CONCRETE COVER FOR REINFORCING BARS SHALL BE:

CONCRETE COVERED DIRECTLY AGAINST GROUND	75mm
SUPPORTED SLABS	25mm
SLAB ON GIRDERS	40mm
WALLS ABOVE GRADE	25mm
BEAMS & COLUMNS	40mm
 - WELLS SHALL BE PROPERLY BRIDGED TO PREVENT ALL LAP JOINTS IN A COLUMN OR WITH WALL. 1.0 METERS OF LAP LENGTH AND ANCHORAGE LENGTH SHALL BE MAINTAINED. WELLS SHALL BE BRIDGED WHERE NECESSARY.
 - ALL ANCHORS, BENDS, DOUGLASS AND OTHER JOINTS SHALL BE PROPERLY POSITIONED AND SECURED IN PLACE PRIOR TO PLACING OF CONCRETE.
 - CONTRACTOR SHALL NOTIFY ARCHITECT IMMEDIATELY IN WRITING OF ANY CHANGES AND MEASUREMENTS.
 - ALL CONCRETE SHALL BE NOT READY FOR A MINIMUM OF 7 DAYS FROM THE DATE OF CASTING.
 - STRENGTH OF CONCRETE SHALL BE:

CONCRETE	DURING
FOUNDATIONS	28 DAYS
SUPPORTED SLAB FOOTING BEAMS	7 DAYS
ALL OTHERS (WALLS AND SLABS)	28 DAYS
BEAMS	28 DAYS
 - CUREMENT PERIOD FOR ALL BARS SHALL BE A MINIMUM OF 48 HOURS IN A WET CONDITION.
- STRUCTURAL STEEL AND PLATES**
- ALL STRUCTURAL STEEL SHALL CONFORM TO RA 9002 (AS PER RA 9001) FOR 12mm & SMALLER SIZES AND RA 9003 (AS PER RA 9001) FOR 13mm & LARGER SIZES.
 - WELDS SHALL BE MADE IN ACCORDANCE WITH RA 9002 (AS PER RA 9001) FOR 12mm & SMALLER SIZES AND RA 9003 (AS PER RA 9001) FOR 13mm & LARGER SIZES.
- FOUNDATION**
- FOUNDATIONS SHALL BE MADE OF MATERIALS OF EQUAL OR BETTER QUALITY THAN THAT OF THE EXISTING FOUNDATION.
 - FOUNDATIONS SHALL REST ON NATURAL SOIL, UNLESS OTHERWISE SPECIFIED.
 - THE EXISTING FOUNDATION SHALL BE REINFORCED WITH STEEL OR CONCRETE.
 - THE FOUNDATION SHALL BE REINFORCED WITH STEEL OR CONCRETE.
- MASONRY WALLS**
- ALL MASONRY WALLS SHALL BE MADE OF BRICK OR BLOCKS.
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2 PROPOSED EXTENSION OF COLUMN & CHB WALL SCALE: 1:50M

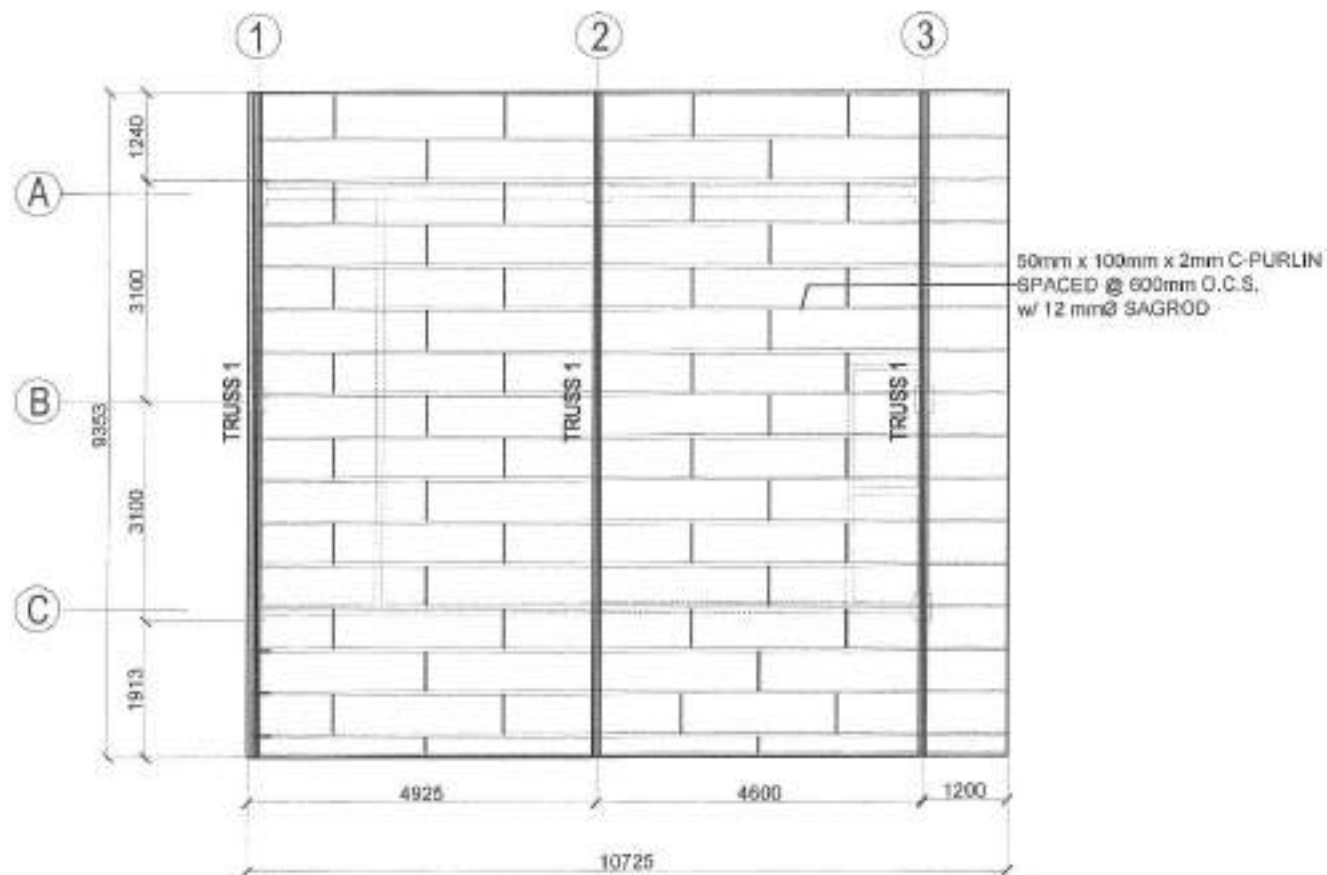


3 TRUSS DETAIL SCALE: 1:50M

1 GENERAL NOTES




PROJECT TITLE:	DRAWN BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
PROPOSED REHABILITATION OF JASMIN DAY CARE CENTER	DATE: August 20, 2011	ENGR. LEO S. DEL ROSARIO	ENGR. SAGANI R. VERZOSA, JR.	HON. MA. JOSEFINA G. BELMONTE	GENERAL NOTES FOR PROPOSED EXTENSION OF COLUMN & CHB WALL TRUSS DETAIL	ST-01 06/13
LOCATION: BARANGAY BATASAN HILLS, DISTRICT I, QUEZON CITY	DESIGNED BY: J. J. J.	REVISOR:				



1 ROOF FRAMING PLAN

SCALE : 1 : 50 MTS

 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DATE: 11/23/2021	DESIGNED BY: JFE	REVISION NO.:	DRAWN BY: <i>[Signature]</i> SUBMITTED BY: <i>[Signature]</i> ENGR. LED S. DEL ROSARIO 102 PLUMBING ENGINEER	RECOMMENDING APPROVAL: <i>[Signature]</i> ENGR. ISAGANI R. VERZOSA, JR. CITY ENGINEER	APPROVED BY:	NON. MA. JOSEFINA G. BELMONTE DTI MANAGER	SHEET CONTENT:	SHEET NO.:
	PROPOSED REHABILITATION OF JASMIN DAY CARE CENTER ✓	SECTION: BARRANGKY BATASAN HILLS, DISTRICT 8, QUEZON CITY ✓							ROOF FRAMING PLAN ✓	ST-02 07/13

1 All plumbing works and materials indicated herein shall be compliant to the provisions of the latest edition of National Plumbing Code, the rules and regulations of local authorities concerned, the rules and regulations of local utility companies and the provisions of the land developer when and where applicable.

2 The plumbing layout is only diagrammatic; pipes, cleanouts and check valves shall be concealed as much as possible. It is not intended to show the actual dimension of the pipes and fixtures in the drawing but all the pipes and fixtures shall be installed as and where indicated. Any relocation will require proper execution in relation with other trades.

3 The plumbing contractor shall verify all existing utilities at the site and shall coordinate the work with other trades.

4 Pipes shall not be embedded in structural members unless otherwise specified or allowed.

5 Minimum slope for horizontal sewer lines shall be 1% and for drain lines shall be 5%.

6 Proposed plumbing utilities shall conform with the actual location, depth and invert elevation of all existing pipes/utilities.

7 Connection of fixtures to pipes and fittings shall be according to manufacturer's specifications.

8 All floor drains shall be vented individually.

9 All clean out females shall be flush-mounted to wall and shall be provided with polished cover caps. Do not install floor clean outs except at lines on grade and service areas not subject to traffic.

10 All underground G.I. pipes in direct contact with soil shall be provided with two (2) coats of protective tar covering and wrapped with jute cloth thoroughly soaked in tar or asphalt.

11 Provide vent stack and vent pipe thru roof of cast iron service weight as required.

12 All cast iron pipes shall be of approved quality and G.I. pipes for water distribution lines shall be Schedule 40 U.S. standard weight.

13 Provide gate valves to all water supply lines to fixtures.

14 All hot water lines shall be provided with proper insulation where exposed.

15 All individual branches to fixtures or group of fixtures and/or equipments shall be provided with air chambers or capped vertical pipe extensions of dimensions as shown:

h = 450 mm for 19 mm Ø and larger

h = 300 mm for 12 mm Ø and smaller

16 All nose bibbs shall be 19 mm Ø (3/4" Ø) unless otherwise indicated.

17 Inlet pipe of septic tank is 60 mm higher than the siphon pipe which is 30 mm higher than the outlet pipe.

18 All plumbing works and manner of construction shall be under the direct supervision of an able and duly licensed Master Plumber or Registered Sanitary Engineer. Any discrepancies found in plan shall be notified to the same person.

I. FIXTURES AND OTHER LEGEND

FD	FLOOR DRAIN
RD	ROOF DRAIN
SHD	SHOWER
WC	WATER CLOSET
LAV	LAVATORY
URI	URINAL
KS	KITCHEN SINK
BD	BUILDING DRAIN
DD	DECK DRAIN
CCO	CEILING CLEANOUT
FCO	FLOOR/GROUND CLEANOUT
DS	DOWNSPOUT
mm	millimeter
Ø	mm DIAMETER
SHD	SHOWER DRAIN
CB	CATCH BASIN
MH	MANHOLE
→	DIRECTION OF FLOW
	GREASE TRAP

	UNION PATENT
	CHECK VALVE
	BUILDING SEWER
	BUILDING DRAIN
	WASTE LINE
	AREA DRAIN/CATCH BASIN
	FLOOR DRAIN
	CLEANOUT
	WATER LINE
	GATE VALVE
	DECK DRAIN
	PIPE DOWN
	PIPE UP
	MILLIMETER
	GATE VALVE
	AREA DRAIN/CATCH BASIN
	WATER CLOSET
	LAVATORY
	MANHOLE
	HOSE BIBB
	STORM DRAIN LINE
	VENT LINE
	VENT ABOVE CEILING
	CONCRETE PIPE/RENF. CONC. PIPE
	VENT THRU ROOF
	DIRECTION OF FLOW/SIZE

1 GENERAL NOTES

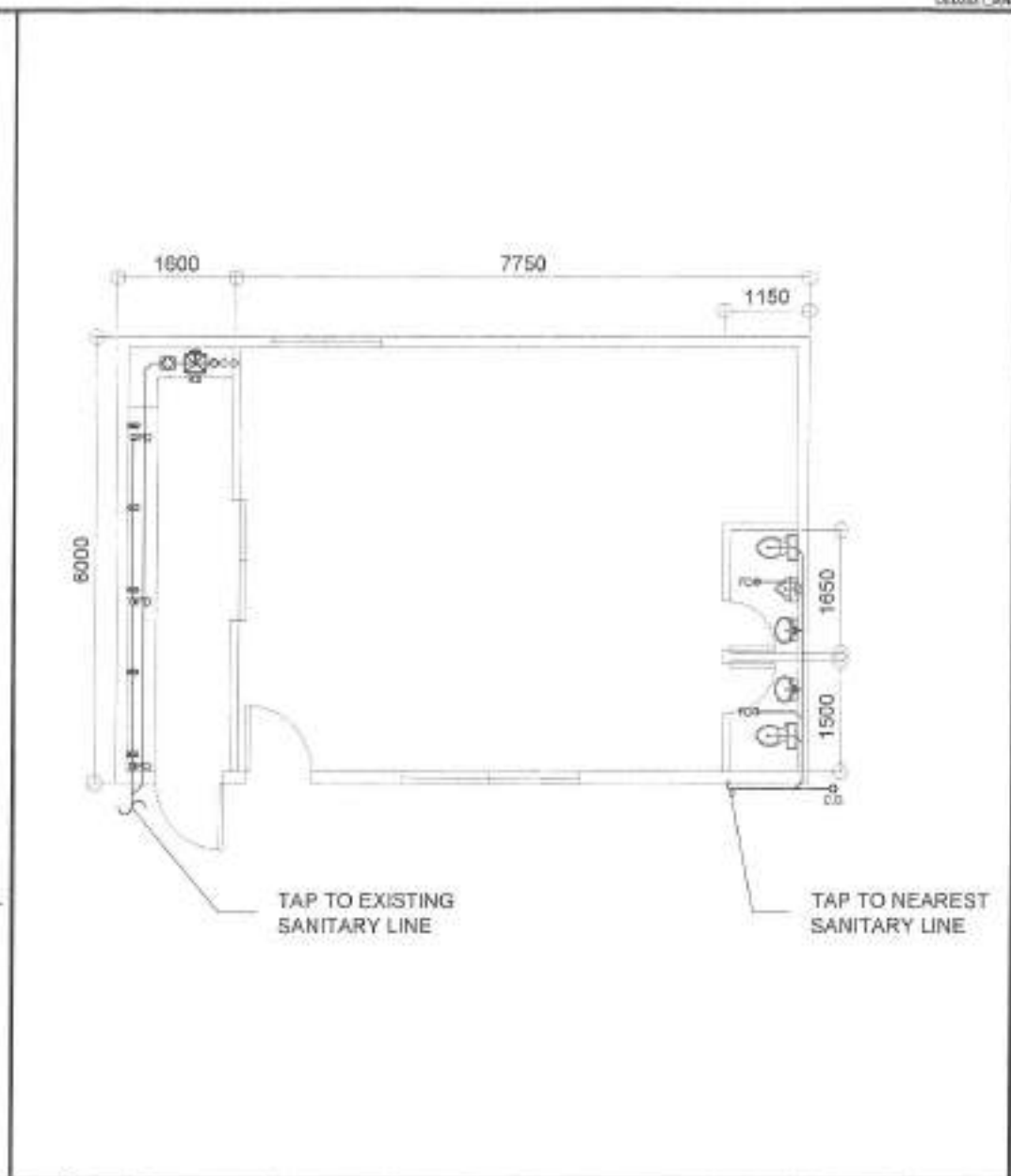
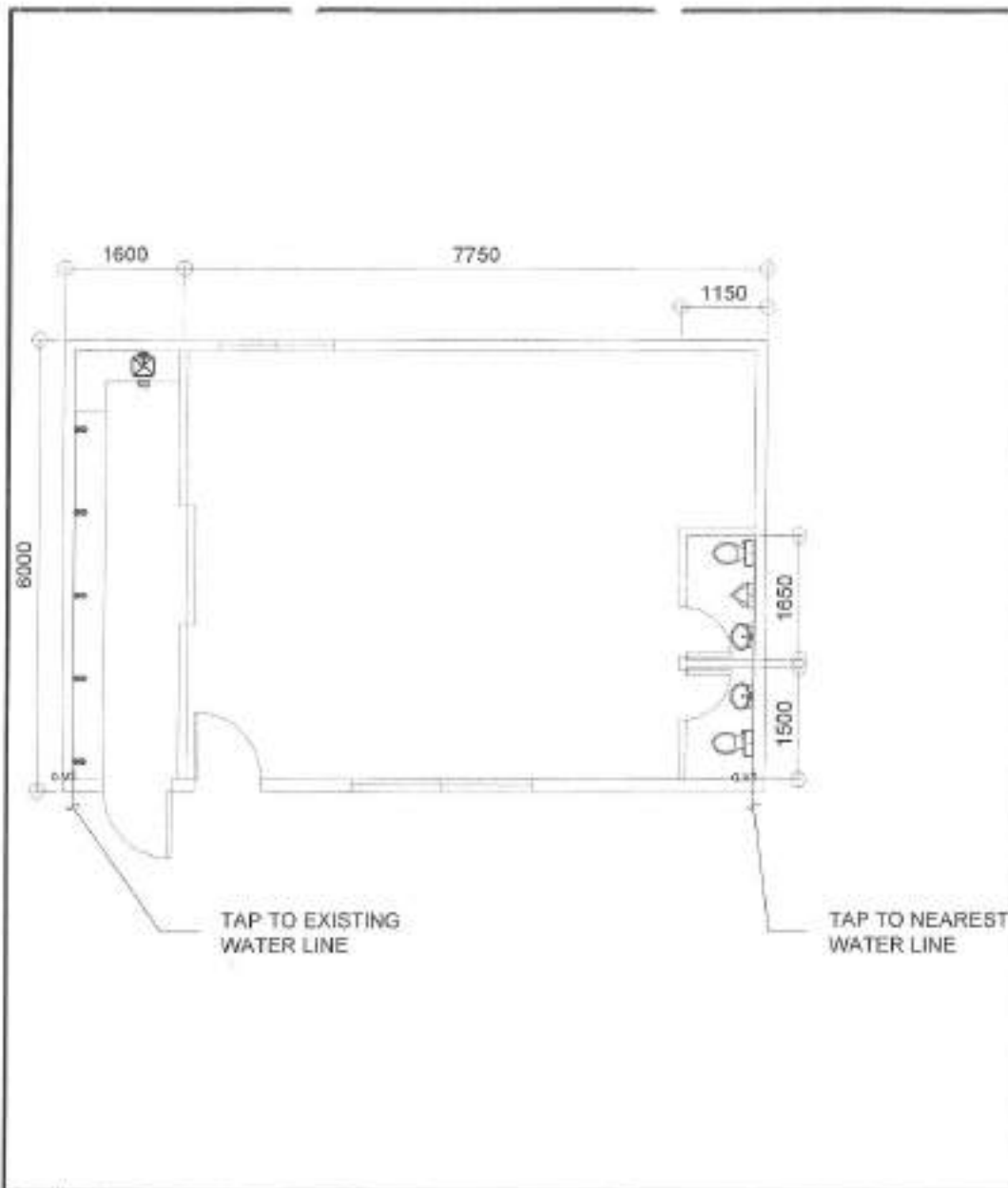
2 LEGENDS & SYMBOLS

SCALE: NTS



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:	DRAWN BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
PROPOSED REHABILITATION OF JASMIN DAY CARE CENTER	DATE: April 26, 2021	 ENGR. LEO S. DEL ROSARIO MSP, PLUMBING PROFESSIONAL DESIGNER	 ENGR. ISAGANI R. VERZOSA, JR. C.E. PROFESSIONAL ENGINEER	HOW, MA. JOSEFINA G. BELMONTE CITY ENGINEER	GENERAL NOTES	PL-01 0813
	DESIGNED BY: JAS				REVISION NO.:	
LOCATION: BAYANGAY, BATASAN HILLS, DISTRICT II, QUEZON CITY						




1 GROUND FLOOR WATER LINE LAYOUT

SCALE: NTS

2 GROUND FLOOR SANITARY LINE LAYOUT

SCALE: NTS

 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DATE: April 23, 2013	DESIGNED BY: <i>LD</i>	CHECKED BY: <i>LD</i>	REVISION NO.:	DATE SUBMITTED:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.:
	PROPOSED REHABILITATION OF JASMIN DAY CARE CENTER ✓		ENGR. LEO S. DEL ROSARIO ICR, PLANNING & DESIGN DIVISION	ENGR. JESSE R. VERZOSA, JR. IC, CITY ENGINEERING DEPARTMENT	HON. MA JOSEFINA G. BELMONTE CITY MAYOR	GROUND FLOOR PLAN	PL-02 09-13			
	BARANGAY BATASAN HILLS, DISTRICT 4, QUEZON CITY									

- ALL ELECTRICAL WORKS SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, THE LAWS AND ORDINANCES OF THE LOCAL CODE ENFORCING AUTHORITIES AND THE REQUIREMENTS OF THE LOCAL POWER AND TELEPHONE UTILITY COMPANY.
- THE CONTRACTOR SHALL SECURE ALL PERMITS AND PAY ALL FEES REQUIRED FOR THE WORK AND SHALL FURNISH THE OWNER THROUGH THE ENGINEER FINAL CERTIFICATES OF ELECTRICAL INSPECTION AND APPROVAL FROM PROPER GOVERNMENT AUTHORITIES FOR COMPLETION OF WORK.
- ALL EXPOSED BRANCH CIRCUITS SHALL BE PVC CONDUITS AND FOR EXPOSED INSTALLATION SHALL BE OPEN ORING SUPPORTED BY CONCRETE CLAMPS EVERY 750 MILLIMETERS.
- PULL BOXES SHALL BE PROVIDED BY THE CONTRACTOR WHEREVER NECESSARY TO FACILITATE WIRE PULLING EVEN IF THESE ARE NOT INDICATED ON THE PLANS. SIZING OF ALL PULL BOXES SHALL BE COMPUTED BASED ON THE CODE REQUIREMENTS. SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION. LOCATION OF PULLBOXES SHALL BE APPROVED BY THE ARCHITECT/ENGINEER AND MUST BE REFLECTED ON THE "AS-BUILT" PLAN.
- ALL POWER OUTLETS AND SWITCHES SHALL BE GROUNDING TYPE WITH PARALLEL SLOTS FOR 208 V.
- PROVIDE GROUND FAULT CURRENT INTERRUPTER (GFCI) CIRCUIT BREAKER FOR LOADS MARKED "GFCI" ON THE PLAN.
- ALL METALLIC CONDUITS, CABLES AND EQUIPMENT SHALL BE PROPERLY GROUNDING AND BONDED.
- UNLESS OTHERWISE NOTED, MOUNTING HEIGHT FOR WALL MOUNTED DEVICES SHALL BE AS FOLLOWS:
 RECEPTACLE OUTLET - 300 MM AFF.
 LIGHTING SWITCH - 1000 MM AFF.
 PANELEBOARD - 1800 MM AFF.

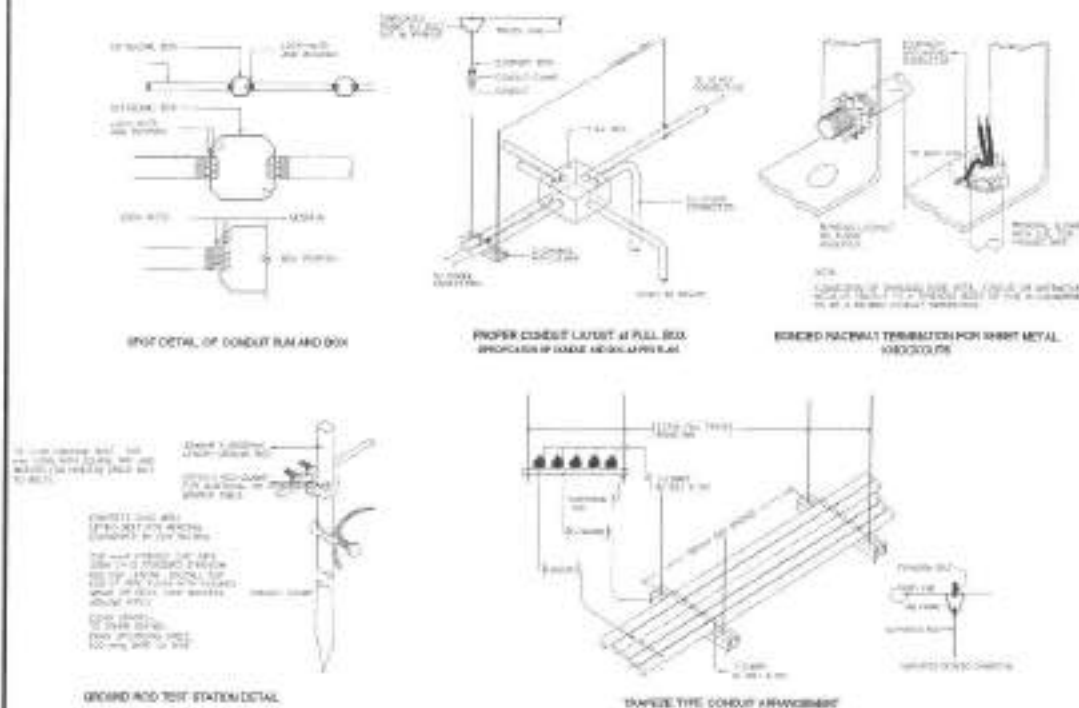
- REFER TO MECHANICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR RATINGS AND LOCATIONS OF EQUIPMENT AS WELL AS THEIR CONTROL. SECONDARY AS SPECIFIED AND OR SHOWN UNDER THEIR RESPECTIVE SECTIONS.
- ALL MATERIALS TO BE USED SHALL BE OF THE BEST QUALITY, BRAND NEW AS SPECIFIED.
- THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO PRESENT GENERAL LAYOUT AND BROAD OUTLINE DESCRIPTION OF THE PROJECT BUT DO NOT NECESSARILY REPRESENT DESCRIBED ACTUAL LOCATIONS, LEVEL AND DISTANCES OF THE EQUIPMENT. THE CONTRACTOR IS HEREBY REQUIRED TO MAKE SUCH ADJUSTMENT AT THE JOB SITE AS LOCATION, DISTANCES AND LEVELS ARE GOVERNED BY ACTUAL FIELD CONDITIONS.
- ANY DISCREPANCY BETWEEN THE PLANS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION/DECISION.
- ALL LIGHTING AND CONVENIENCE OUTLET CIRCUITS SHALL BE 15 SQ. MM THIN 2 COPPER WIRE UNLESS OTHERWISE NOTED. MINIMUM SIZE OF WIRE SHALL BE 1.5 SQ. MM COPPER WIRE. ALL WIRES AND CABLES SHALL BE COLOR CODED AS FOLLOWS:

- LINE 1 - RED
- LINE 2 - YELLOW
- NEUTRAL - WHITE
- GROUND - GREEN

- BOXES, WIRE, GUTTERS, ENCLOSURE SHALL BE FABRICATED FROM STEEL WITH THICKNESS AS FOLLOWS:
 MINIMUM WIDTH OF THE WIDEST SURFACE STEEL
 UP TO INCLUDING 152.40 MM GA 18 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
 OVER 152.40 MM BUT NOT OVER 304.80 GA 16 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
 OVER 304.80 MM BUT NOT OVER 381.00 GA 12 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
 OVER 381.00 MM GA 10 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
- ALL ELECTRICAL WORKS HEREIN SHALL BE EXECUTED BY EXPERIENCED MEN UNDER THE DIRECT SUPERVISION OF A FULL-TIME LICENSED ELECTRICAL ENGINEER AND A DULY ACCREDITED ELECTRICAL CONTRACTOR BY PCAE. WORKS SHALL BE NEATLY PLACED, SECURELY FASTENED AND PROPERLY FINISHED.
- TYPE OF SERVICE ENTRANCE SHALL BE SINGLE-PHASE, TWO-WIRE PLUS GROUND, 60 HERTZ, 230V AC NOMINAL.
- CONDUITS IF NO CASE SHALL THERE BE MORE THAN THE EQUIVALENT OF FOUR QUARTER BENDS IN ANY ONE RUN. ALL CONDUIT BENDS SHALL BE FOLD MADE BY U.S. NO. HYDRAULIC BENDERS. MINIMUM BENDING RADIUS MUST BE IN ACCORDANCE TO THE CODE REQUIREMENTS.
- UPON COMPLETION OF ELECTRICAL CONSTRUCTION WORK, INSULATION RESISTANCE TEST AND FUNCTIONALITY TEST SHALL BE PERFORMED BY THE CONTRACTOR INCLUSIVE OF THE INSTALLATION TO BE REPORTED IN DETAILS ON FORM APPROVED BY THE QUEZON CITY ENGINEERING DEPARTMENT REPRESENTATIVE. THE GROUND RESISTANCE FOR ELECTRICAL SYSTEMS SHALL NOT BE MORE THAN 1 OHM. COMMUNICATION GROUNDING RESISTANCE SHALL NOT EXCEED 2 OHMS.

	Duplex Convenience Outlet		Orbit Fan with Selector Switch
	Duplex Convenience Outlet (Elev. 0+002.2m)		Lighting Power Panel
	150mmØ LED Pinlight		Circuit Harmonic
	1200mm x 300mm LED tube in Troffer Fixture		Utility Service Meter
	100mm x 100mm Ceiling Mounted Exhaust Fan		Circuit Breaker
	One Gang Switch		Grounding
	Two Gang Switch		

2 LEGENDS AND SYMBOLS



GENERAL NOTES

3 CONNECTION DETAIL



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE: **PROPOSED REHABILITATION OF JASMIN DAY CARE CENTER**

DATE: August 29, 2021

CHECKED BY: *[Signature]*

DESIGNED BY: *[Signature]*

REVISION NO.:

SUBMITTED BY: *[Signature]*
ENGR. LEO S. DEL ROSARIO
REG. PROFESSIONAL ENGINEER

RECOMMENDING APPROVAL: *[Signature]*
ENGR. SACAN R. VERZOSA, JR.
REG. PROFESSIONAL ENGINEER

APPROVED BY: *[Signature]*
HON. MA. JOSEFINA G. BELMONTE
CITY MGR.

SHEET CONTENT: **GENERAL NOTES LEGENDS AND SYMBOL CONNECTION DETAIL**

SHEET NO. **EL-01**
10 / **13**

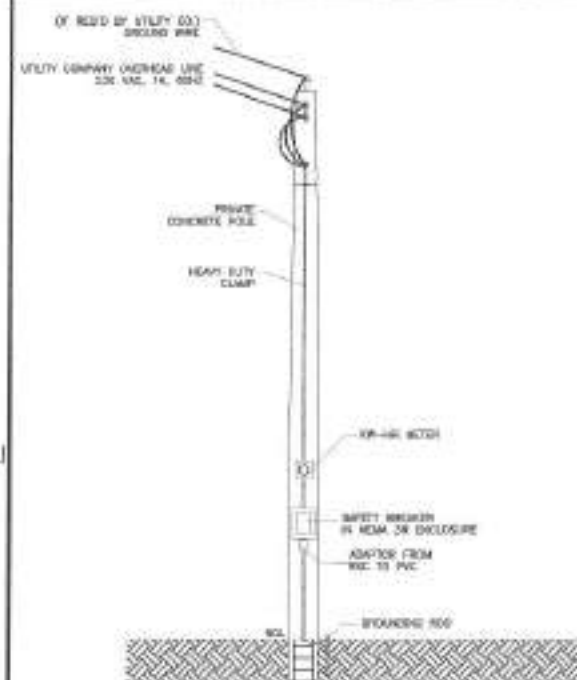
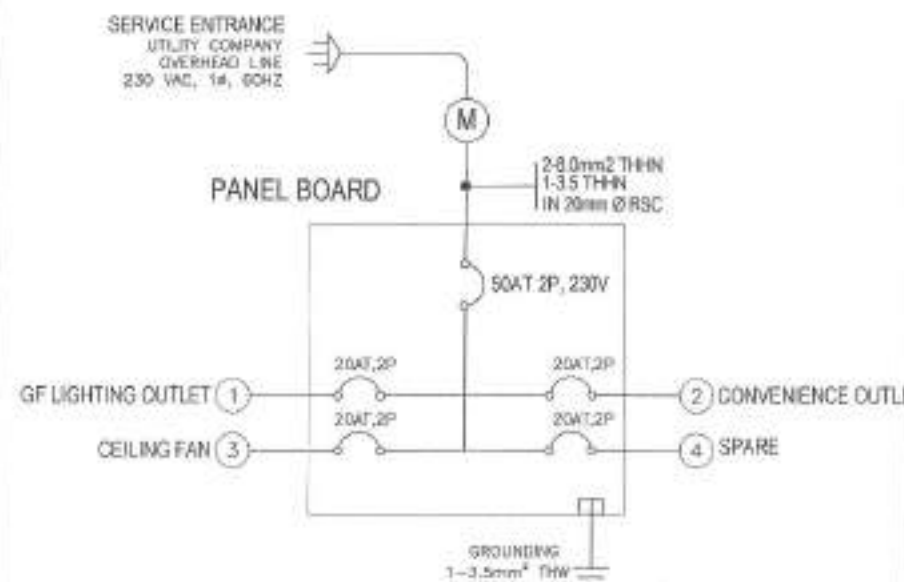
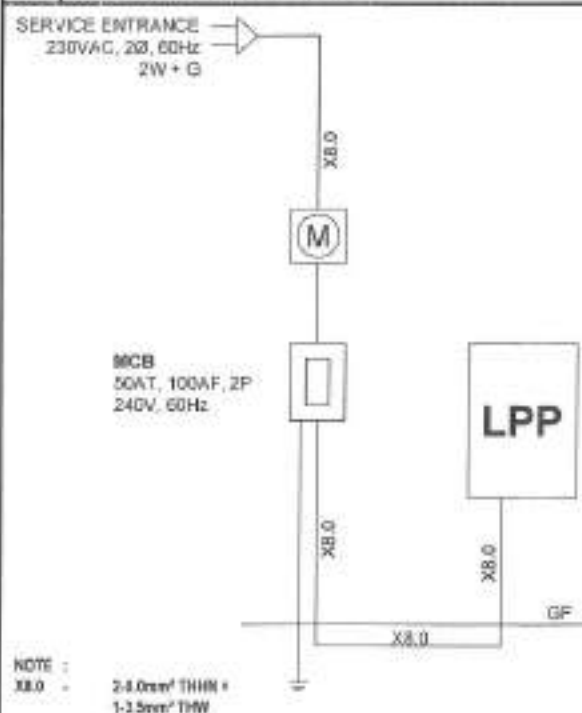
CCT NO.	DESCRIPTION	MVA		MVA				MVA	WGT. 20MM ² 2P, 240V, 60Hz	CONDUIT		
		MVA			OVER CURRENT PROTECTION					SIZE	TYPE	
		VA	V	A	AT	AF	F					TYPE
1	Lighting Outlet	500	230	4.35	20	100	2	600-00	2-3.5mm ² THHN + 1-1.5mm ² THW	20	PVC	
2	Convenience Outlet	750	240	3.12	18	100	2	600-00	2-3.5mm ² THHN + 2-2.0mm ² THW	20	PVC	
3	Ceiling Fan	400	240	1.74	18	100	2	600-00	2-3.5mm ² THHN + 1-2.0mm ² THW	20	PVC	
4	Spares	2000	240	4.80	18	100	0	600-00				
TOTAL		8650		17.21								

COMPUTATION: $I_L = \frac{2000}{240} = 8.33$
 $I_L = 17.22$
 $I_L = 17.22 \times 1.25 = 21.53$
 $I_L = 21.53 \times 1.25 = 26.91$

USE:
 MVA: 2000, 750, 400, 2000
 WGT. 20MM² 2P, 240V, 60Hz

ORDER SIZE:
 2-3.5mm² THHN + 1-1.5mm² THW + 1-2.0mm² THW
 1-2.0mm² THW

1 SCHEDULE OF LOADS



2 SINGLE LINE DIAGRAM

3 PANELBOARD DIAGRAM

NTS

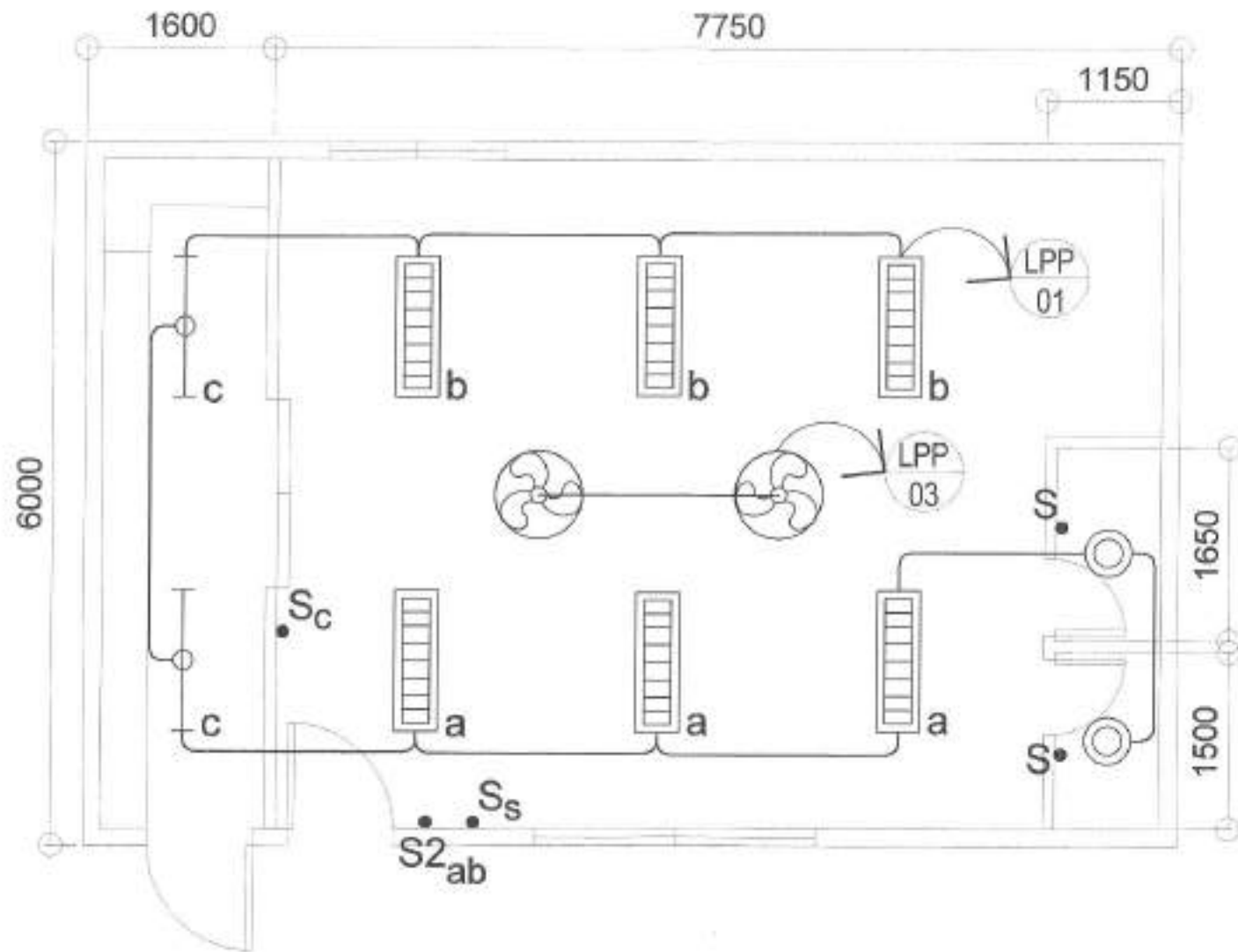
4 SERVICE ENTRANCE DETAIL

NTS



Republika ng Pilipinas
 Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:	DRAWN BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
PROPOSED REHABILITATION OF JASMIN DAY CARE CENTER	DATE: August 20, 2021 DESIGN BY: JAG	ENGR. LEO S. DEL ROSARIO H.C. PLANNING & PROGRAMS DIVISION	ENGR. ISABIAN R. VERZOSA, JR. H.C. ELECTRICAL DIVISION	HON. MA JOSEFINA G. BELMONTE CITY MAYOR	SCHEDULE OF LOADS SINGLE LINE DIAGRAM PANELBOARD DIAGRAM SERVICE ENTRANCE DETAIL	EL-02 1113
LOCATION: BARANGAY: BATASAN HILLS, DISTRICT 2, QUEZON CITY	REVISION NO.:					



1 PROPOSED LIGHTING LAYOUT

SCALE: 1:80M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE :

PROPOSED REHABILITATION OF
JASMIN DAY CARE CENTER ✓

LOCATION:

BAYANGAY BATASAN HILLS, DISTRICT 2, QUEZON CITY ✓

DESIGNED BY:

DATE: 11/04/2011 ✓

CHECKED BY:

REVISIONS :

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
1042 PLUMBING & MECHANICAL WORKS ✓

RECOMMENDING APPROVAL:

ENGR. ISAGANI R. VERZOSA, JR.
CITY ENGINEERING DEPARTMENT ✓

APPROVED BY:

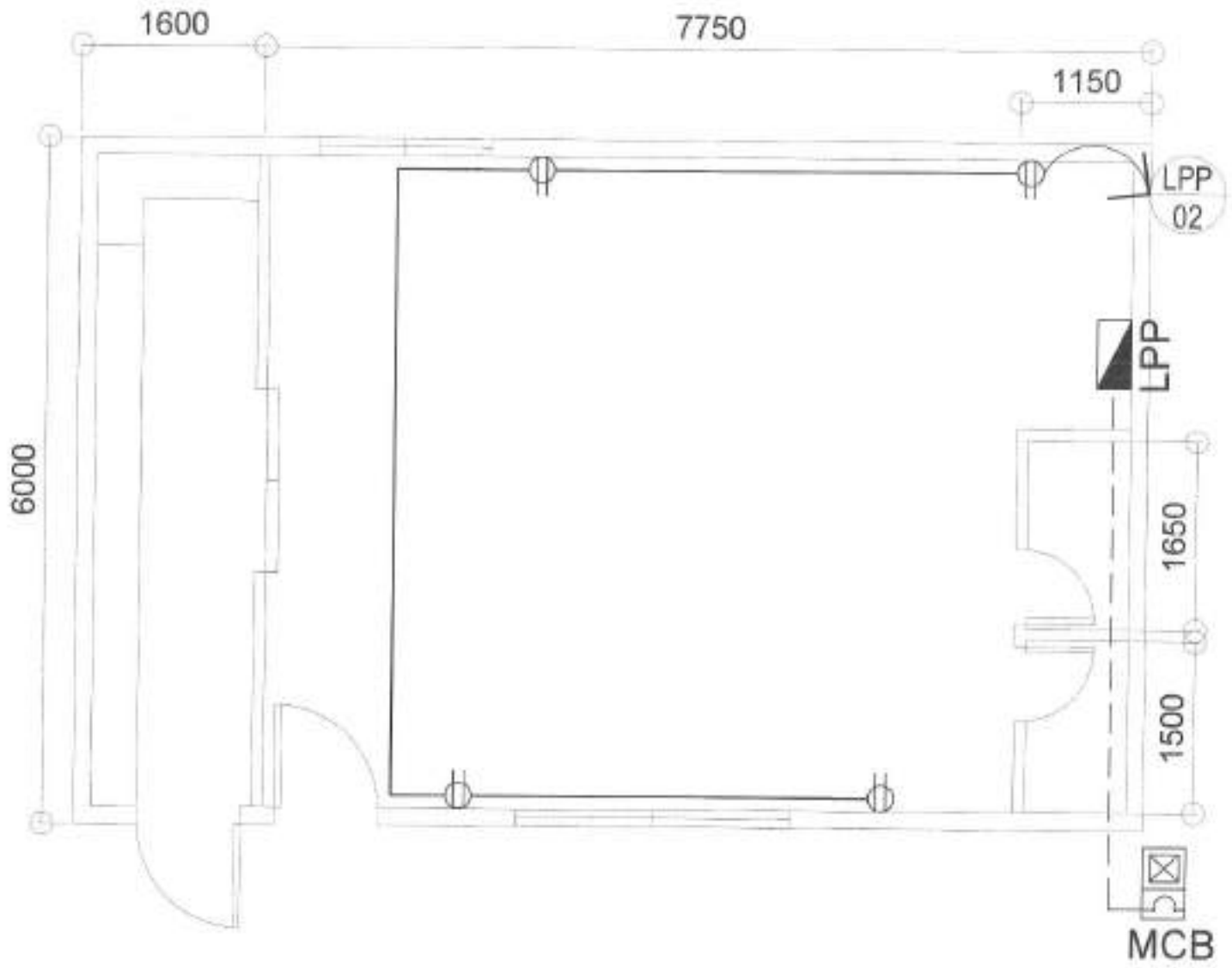
HON. MA. JOSEFINA G. BELMONTE
CITY ENGINEER ✓

SHEET CONTENT

PROPOSED LIGHTING
LAYOUT ✓

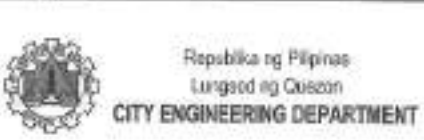
SHEET NO.:

EL-03
12/13



1 PROPOSED POWER LAYOUT

SCALE: 1:40 M



PROJECT TITLE:
**PROPOSED REHABILITATION OF
 JASMIN DAY CARE CENTER**
 LOCATION:
 BANGAY BATASAN HILLS, DISTRICT 2, QUEZON CITY

DATE: August 19, 2021
 RECORDER: Jfo
 DESIGN NO:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
 HEAD PLANNING & PROFESSIONAL AFFAIRS

RECOMMENDING APPROVAL:

ENGR. SAGAMI R. VERZOSA, JR.
 DISTRICT ENGINEER

APPROVED BY:

HON. MA. JOSEFINA G. BELMONTE
 CITY ENGINEER

SHEET CONTENT:
 PROPOSED POWER LAYOUT

SHEET NO:

EL-04
13/13

Section VIII. Bill of Quantities

Notes on the Bill of Quantities

Objectives

The objectives of the Bill of Quantities are:

- a. to provide sufficient information on the quantities of Works to be performed to enable Bids to be prepared efficiently and accurately; and
- b. when a Contract has been entered into, to provide a priced Bill of Quantities for use in the periodic valuation of Works executed.

In order to attain these objectives, Works should be itemized in the Bill of Quantities in sufficient detail to distinguish between the different classes of Works, or between Works of the same nature carried out in different locations or in other circumstances which may give rise to different considerations of cost. Consistent with these requirements, the layout and content of the Bill of Quantities should be as simple and brief as possible.

Daywork Schedule

A Daywork Schedule should be included only if the probability of unforeseen work, outside the items included in the Bill of Quantities, is high. To facilitate checking by the Entity of the realism of rates quoted by the Bidders, the Daywork Schedule should normally comprise the following:

- a. A list of the various classes of labor, materials, and Constructional Plant for which basic daywork rates or prices are to be inserted by the Bidder, together with a statement of the conditions under which the Contractor will be paid for work executed on a daywork basis.
- b. Nominal quantities for each item of Daywork, to be priced by each Bidder at Daywork rates as Bid. The rate to be entered by the Bidder against each basic Daywork item should include the Contractor's profit, overheads, supervision, and other charges.

Provisional Sums

A general provision for physical contingencies (quantity overruns) may be made by including a provisional sum in the Summary Bill of Quantities. Similarly, a contingency allowance for possible price increases should be provided as a provisional sum in the Summary Bill of Quantities. The inclusion of such provisional sums often facilitates budgetary approval by avoiding the need to request periodic supplementary approvals as the future need arises. Where such provisional sums or contingency allowances are used, the SCC should state the manner in which they will be used, and under whose authority (usually the Procuring Entity's Representative's).

The estimated cost of specialized work to be carried out, or of special goods to be supplied, by other contractors should be indicated in the relevant part of the Bill of Quantities as a particular provisional sum with an appropriate brief description. A separate procurement procedure is normally carried out by the Procuring Entity to select such specialized contractors. To provide an element of competition among the Bidders in respect of any facilities, amenities, attendance, etc., to be provided by the successful Bidder as prime Contractor for the use and convenience of the specialist contractors, each related provisional sum should be followed by an item in the Bill of Quantities inviting the Bidder to quote a sum for such amenities, facilities, attendance, etc.

Signature Box

A signature box shall be added at the bottom of each page of the Bill of Quantities where the authorized representative of the Bidder shall affix his signature. Failure of the authorized representative to sign each and every page of the Bill of Quantities shall be a cause for rejection of his bid.

These Notes for Preparing a Bill of Quantities are intended only as information for the Procuring Entity or the person drafting the Bidding Documents. They should not be included in the final documents.

PROJECT TITLE : PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF DAY CARE CENTER AT DISTRICT II / AREA VII (CLUSTER 2)

LOCATION : BARANGAY BATASAN HILLS, DISTRICT 2, QUEZON CITY

PROJECT NO. : 21 - 00177

DURATION : Ninety (90) Calendar Days

BREAKDOWN OF COST

ITEM NO.	ITEM OF WORK (DESCRIPTION)	MATERIALS COST	LABOR COST	INDIRECT COST	AGGREGATE COST
	FREEDOM PARK III & IV DAY CARE CENTER				
I	GENERAL REQUIREMENTS				
II	SITE WORKS				
III	CIVIL / STRUCTURAL WORKS				
IV	ARCHITECTURAL WORKS				
V	SANITARY / PLUMBING WORKS				
VI	ELECTRICAL WORKS				
	FREEDOM PARK 5 DAY CARE CENTER				
I	GENERAL REQUIREMENTS				
II	CONSTRUCTION OF HAND WASHING FACILITY				
III	REHABILITATION OF DAY CARE CENTER				
IV	UTILITY AND ANCILLARY				
	LUZVIMINDA DAY CARE CENTER				
I	GENERAL REQUIREMENTS				
II	CONSTRUCTION OF HAND WASHING FACILITY				
III	REHABILITATION OF DAY CARE CENTER				
	KALAYAAN B DAY CARE CENTER				
I	GENERAL REQUIREMENTS				
II	CONSTRUCTION OF HAND WASHING FACILITY				
III	REHABILITATION OF B1 DAY CARE CENTER				
IV	REHABILITATION OF B2 & B3 DAY CARE CENTER				
	CONSTITUTIONAL DAY CARE CENTER				

ITEM NO.	ITEM OF WORK (DESCRIPTION)	MATERIALS COST	LABOR COST	INDIRECT COST	AGGREGATE COST
I	GENERAL REQUIREMENTS				
II	REHABILITATION OF DAY CARE CENTER				
III	UTILITIES AND ANCILLARIES				
	TALANAY DAY CARE CENTER				
I	GENERAL REQUIREMENTS				
II	CONSTRUCTION OF HAND WASHING FACILITY				
III	REHABILITATION OF DAY CARE CENTER				
IV	UTILITIES AND ANCILLARIES				
	POOK PAG-ASA DAY CARE CENTER				
I	GENERAL REQUIREMENTS				
II	CONSTRUCTION OF HAND WASHING FACILITY				
III	REHABILITATION OF DAY CARE CENTER				
IV	UTILITIES AND ANCILLARIES				
	JASMIN DAY CARE CENTER				
I	GENERAL REQUIREMENTS				
II	SITE WORKS				
III	CIVIL / STRUCTURAL WORKS				
IV	ARCHITECTURAL WORKS				
V	SANITARY / PLUMBING WORKS				
VI	ELECTRICAL WORKS				

TOTAL COST P _____

LUMP SUM BID IN WORDS : _____

Contractor : _____

BILL OF QUANTITIES
(Building Construction/Rehabilitation Project)

PROJECT TITLE : PROPOSED REHABILITATION OF FREEDOM PARK III & IV DAY CARE CENTER

LOCATION : BARANGAY BATASAN HILLS, DISTRICT 2, QUEZON CITY

PROJECT NO. : 21 - 00177

SCOPE OF WORK :

- I General Requirements include temporary enclosure, billboard, clearing, hauling and disposal of construction materials and debris , scaffolding and construction safety & health.
- II Site Works include removal works, and clearing and cleaning for painting preparation.
- III Civil / Structural Works include moisture protection, metal works and roofing works.
- IV Architectural Works include floor finishes, wall finishes, ceiling finishes, painting works, installation of doors and windows, fabricated materials and letterings.
- V Plumbing Works include installation of roughing-ins, fixtures, equipment and accessories.
- VI Electrical Works include installation of roughing-ins, wiring devices and fixtures.
- VII All necessary testing and commissioning shall be performed in accordance to standards.

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
I	GENERAL REQUIREMENTS				
	Billboard	1	unit	₱	₱
	Clearing, Hauling and Disposal of Construction Materials and Debris	1	t.l.		
	Construction Safety and Health	1	unit		
	Scaffolding (Rental)	80	sq.m.		
	Temporary Enclosure Around the Construction Area (H=2.4m)	12	l.m.		
				DIRECT COST I	₱
II	SITE WORKS				
	Removal Works				
	Removal of Countertop	6	sq.m.	₱	₱
	Removal of Dilapidated Ceiling	67	sq.m.		
	Removal of Dilapidated Door	3	unit		
	Removal of Dilapidated Window	8	sq.m.		
	Removal of Gate	5	sq.m.		
	Removal of Hanging Cabinet	4	sq.m.		
	Removal of Roof and Accessories	50	sq.m.		
	Removal of Tiles	92	sq.m.		
	Removal of Urinal	2	unit		
	Removal of Water Closet	2	unit		
	Clearing / Cleaning for Painting Preparation	413	sq.m.		
				DIRECT COST II	₱
III	CIVIL / STRUCTURAL WORKS				
	Moisture Protection				
	Waterproofing Works				
	Cementitious Capillary Type (Comfort Room)	5	sq.m.	₱	₱
	Metal Works				

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Gate 1				
	50mm x 50mm x 2mm Tubular Bar	24	kg		
	10mm Square Bar	15	kg		
	38mmØ Round Bar, Barrel Bolt	1	set		
	Cylindrical Hinge, Heavy Duty, Stainless	3	piece		
	Gate 2				
	50mm x 50mm x 2mm Tubular Bar	21	kg		
	10mm Square Bar	12	kg		
	38mmØ Round Bar, Barrel Bolt	1	set		
	Cylindrical Hinge, Heavy Duty, Stainless	3	piece		
	Fire Exit Grilles				
	25mm x 25mm x 2mm Tubular Bar	80	kg		
	38mmØ Round Bar, Barrel Bolt	1	set		
	Cylindrical Hinge, Heavy Duty, Stainless	3	piece		
	Window Grilles				
	25mm x 25mm x 2mm Tubular Bar	191	kg		
	Miscellaneous & Consumables				
	Acetylene Tank (Refill)	1	tank		
	Cut Off Blade	5	piece		
	Grinding Disc for Metal	5	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Oxygen Tank (Refill)	2	tank		
	Welding Rod	1	box		
	Roofing Works				
	Pre-Painted Rib-type G.I. Roofing	52	sq.m		
	Pre-Painted G.I. Flashing	27	l.m.		
	Pre-Painted G.I. Ridge Roll	9	l.m.		
	6mm thk One-Sided Aluminum Foil Thermal Insulation	39	sq.m.		
	12mm x 300mm Fiber Cement Fascia Board	27	l.m.		
	Tekscrew	213	piece		
	Blind Rivets	151	piece		
	Silicon Sealant	5	tube		
				MATERIAL COST III	₱
				LABOR COST III	
				DIRECT COST III	₱
IV	ARCHITECTURAL WORKS				
	Floor Finishes				
	Floor Topping for Preparation of Tile Works	65	sq.m.	₱	₱
	600mm x 600mm Non-Skid Homogeneous Tiles	60	sq.m		
	400mm x 400mm Non-Skid Homogeneous Tiles	5	sq.m		
	Wall Finishes and Partition				
	400mm x 400mm Homogeneous Tiles	19	sq.m		
	Ceiling Works				
	6mm thk Fiber Cement Board including Metal Framing	71	sq.m		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Installation of Doors				
	D1 - (0.90m x 2.10m) Swing Type Panel Door	1	set	₱	₱
	D2 - (0.60m x 2.10m) Swing Type PVC Door with Louver	2	set		
	Door jamb				
	D1 - (0.90m x 2.10m) Swing Type Panel Door	1	set		
	Hardware accessories				
	Door Hinges, Heavy Duty Stainless	9	set		
	Door Knob, Lever Type, Stainless	3	set		
	Installation of Windows				
	W1 -(2.4m x 1.2m) 6mm Thk Clear Tempered Glass on White Color Powder Coated Aluminum Frames, Sliding Window with Grilles	1	set		
	W2 -(1.60m x 1.20m) 6mm Thk Clear Tempered Glass on White Color Powder Coated Aluminum Frames, Sliding Window with Grilles	1	set		
	W3 -(0.80m x 1.20m) 6mm Thk Clear Tempered Glass on White Color Powder Coated Aluminum Frames, Sliding Window with Grilles	3	set		
	W4 (0.40m x 0.40m) 6mm Thk Clear Tempered Glass on White Color Powder Coated Aluminum Frames, Awning Window	2	set		
				Labor Cost	
				Subtotal	₱
	Painting Works				

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Elastomeric Paint (Exterior Wall)	168	sq.m	₱	₱
	Epoxy Enamel Paint Finish (Steel Members)	47	sq.m		
	Flat Latex Paint Finish				
	Interior wall	198	sq.m		
	Ceiling	71	sq.m		
	Fabricated Materials				
	Kiddy Countertop	2	l.m.		
	Standard Countertop	6	l.m.		
	Fire Exit Ladder	1	set		
	Hanging Cabinet	6	sq.m.		
	Lettering				
	Stainless Steel Signage with Neon Backlights (150mm x 150mm)	30	set		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
				MATERIAL COST IV	₱
				LABOR COST IV	
				DIRECT COST IV	₱
V	SANITARY / PLUMBING WORKS				
	Sewer Line / Storm Drainage System				
	Roughing-Ins				
	50 mm Ø, PVC Pipe with Hub	4	piece	₱	₱
	75 mm Ø, PVC Pipe with Hub	6	piece		
	100mm Ø, PVC Pipe with Hub	4	piece		
	50mm Ø, P-Trap	7	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	75mm Ø, P-Trap	2	piece		
	50mm Ø, 1/8 Bend	9	piece		
	75mm Ø, 1/8 Bend	4	piece		
	100mm Ø, 1/8 Bend	4	piece		
	75mm Ø, 1/4 Bend	8	piece		
	75mm Ø x 75mm Ø, Tee	8	piece		
	100mm Ø x 75mm Ø, Tee	8	piece		
	100mm Ø x 50mm Ø, Wye	8	piece		
	100mm Ø x 75mm Ø, Wye	3	piece		
	100mm Ø x 100mm Ø, Wye	4	piece		
	100mm Ø, Cleanout with Adapter	4	piece		
	100mm Ø, Coupling	4	piece		
	Waterline System				
	Roughing-Ins				
	20mm Ø, PPR Pipe	4	piece		
	20mm Ø, Elbow	15	piece		
	20mm Ø, Coupling	4	piece		
	20mm Ø, Tee Equal	4	piece		
	20mm Ø, Female Threaded, Tee	10	piece		
	20mm Ø, Female Threaded, Elbow	3	piece		
	Valves and Appurtenances				
	20mm Ø Gate Valve, PPR	2	piece		
	Fixtures				
	Bidet with Accessories, Stainless (Water Efficient)	2	set		
	Floor Drain, 100mm x 100mm, Stainless	2	set		
	Grease Trap, 5GPM, Stainless	1	set		
	Hose Bibb Lever Type, Stainless (Water Efficient)	2	set		
	Kitchen Faucet Lever Type, Stainless (Water Efficient)	5	set		
	Kitchen Sink, Single Tub, Stainless	5	set		
	Urinal, Flush Valve-Type (Water Efficient)	1	set		
	Urinal Kiddy, Flush Type (Water Efficient)	1	set		
	Water Closet, Tank-Type (Water Efficient)	1	set		
	Water Closet Kiddy, Tank Type (Water Efficient)	1	set		
	Accessories				
	Angle Valve, Single-Way Stainless	7	piece		
	Angle Valve, Two-Way Stainless	2	piece		
	Flexible Hose, Stainless	9	piece		
	Miscellaneous & Consumables				
	400cc Solvent Cement	4	can		
	All-Around Sealant	1	can		
	Hacksaw Blade	2	piece		
	Teflon Tape	3	roll		
	Waste Cloth	1	kg		
				MATERIAL COST V	₱
				LABOR COST V	
				DIRECT COST V	₱
VI	ELECTRICAL WORKS				
	Lighting and Power System				

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Roughing-ins				
	25mmØ RSC Pipe	2	piece	₱	₱
	20mmØ PVC Pipe	50	piece		
	15mmØ Flexible Metallic Conduit	30	lm		
	50mm x 100mm Metal Utility Box	15	piece		
	100mm x 100mm Metal Junction Box with cover	15	piece		
	Fittings & Accessories				
	15mmØ IMC Locknut and Bushing	30	pair		
	25mmØ RSC Locknut and Bushing	4	pair		
	20mmØ PVC Adaptor	120	piece		
	20mmØ PVC Elbow	20	piece		
	20mmØ PVC Locknut and Bushing	120	pair		
	15mmØ Angle Connector	15	piece		
	Wires and Cables				
	3.5mm² THHN Wire	2	roll		
	30mm² THHN Wire	30	lm		
	2.0mm² TW Wire (Green)	1	roll		
	8.0mm² TW Wire (Green)	15	lm		
	Lighting Fixtures				
	14w LED Bulb	3	piece		
	1 x 18 LED,300mmx1200mm Troffer Fixture	9	unit		
	1 x 18 T8 LED Tube in Box Type Lighting Fixture	1	unit		
	100mmØ Plastic Lighting Receptacle	3	unit		
	Wiring Devices				
	Orbit Fan with Selector Switch	2	unit		
	Outlet with Grounding , Two-gang	8	piece		
	Switch with plate and cover, One-Gang	3	piece		
	Switch with plate and cover, Two-Gang	2	piece		
	Switch with plate and cover, Three-way	2	piece		
	Pipe Hangers & Supports				
	Horizontal layout of pipe	12	lm		
	Vertical layout of pipe	6	lm		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Panelboard				
	LPP (New)	1	assy		
	MCB	1	assy		
	Miscellaneous & Consumables				
	400cc Solvent Cement	15	can		
	Electrical Tape	20	piece		
	GI Tie Wire, Ga. 16 (for wire/cable pulling)	5	kg		
	Hacksaw Blade	3	piece		
	Masking Tape	20	piece		
	Pulling Lubricant	2	can		
	Rubber Tape	3	piece		
				MATERIAL COST VI	₱
				LABOR COST VI	
				DIRECT COST VI	₱

SUMMARY

ITEM NO.	WORK DESCRIPTION & SCOPE OF WORKS	TOTAL COST
I	GENERAL REQUIREMENTS	₱
II	SITE WORKS	
III	CIVIL / STRUCTURAL WORKS	
IV	ARCHITECTURAL WORKS	
V	SANITARY / PLUMBING WORKS	
VI	ELECTRICAL WORKS	
		TOTAL DIRECT COST ₱
		Overhead, Contingencies and Miscellaneous Expenses (OCM)
		Profit
		VAT
		TOTAL ESTIMATED COST ₱

Note:
Strictly enforce Health Protocols relative to the latest applicable DPWH Memorandum

BILL OF QUANTITIES
(Building Construction/Rehabilitation Project)

PROJECT TITLE : PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF FREEDOM PARK 5 DAY CARE CENTER

LOCATION : BARANGAY BATASAN HILLS, DISTRICT 2, QUEZON CITY

PROJECT NO. : 21 - 00177

SCOPE OF WORK :

- I General Requirements include billboard, clearing, hauling and disposal of construction materials and debris, temporary enclosure, construction safety & health and scaffolding.
- II Construction of Handwashing Facility
 - A Installation of single sink portable handwashing facility.
 - B Plumbing Works include installation of waterline, sewerline, fixtures, hardware and accessories.
- III Rehabilitation of Day Care Center
 - A Site Works include removal works and cleaning/clearing for painting preparation.
 - B Civil Works include concrete works, masonry works, metal works and roofing works.
 - C Architectural Works include floor finishes, wall finishes, countertop finishes, ceiling works, painting works, installation of doors and windows, fabricated materials and letterings.
 - D Plumbing Works include installation of waterline, sewerline, fixtures, hardware and accessories.
 - E Electrical Works include installation of roughing-ins, wiring devices and other fixtures.
 - IV All necessary testing and commissioning shall be performed in accordance to standards.

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
I	GENERAL REQUIREMENTS				
	Billboard	1	unit	₱	₱
	Clearing, Hauling and Disposal of Construction Materials and Debris	1	t.l.		
	Construction Safety and Health	1	unit		
	Scaffolding (Rental)	24	sq.m.		
	Temporary Enclosure around the Construction Area (H=2.4m)	8	l.m.		
				DIRECT COST I	₱
II	CONSTRUCTION OF HANDWASHING FACILITY				
A	Hand Washing Facility				
	Single Sink, Portable Hand Washing Facility	2	unit	₱	₱
				Subtotal	₱ 335,912.40
B	Plumbing / Sanitary Works				
	Sewer Line / Storm Drainage System				
	Roughing-Ins				
	50 mm Ø,PVC Pipe	1	piece	₱	₱
	75 mm Ø, PVC Pipe	1	piece		
	50mm Ø, 1/8 Bend	2	piece		
	100mm Ø, 1/8 Bend	2	piece		
	75mm Ø, 1/4 Bend	2	piece		
	100mm Ø x 50mm Ø, Wye	2	piece		
	Waterline System				
	Roughing-Ins				
	20mm Ø, PPR Pipe	3	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	20mm Ø, Elbow	2	piece		
	20mm Ø, Coupling	3	piece		
	Miscellaneous & Consumables				
	400cc Solvent Cement	1	can		
	Hacksaw Blade	1	piece		
	Teflon Tape	1	roll		
	Waste Cloth	1	kg		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
				MATERIAL COST II	₱
				LABOR COST II	
				DIRECT COST II	₱

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
II	REHABILITATION OF DAY CARE CENTER				
A	Site Works				
	Removal Works				
	Removal of CHB Walls	3	sq.m.	₱	₱
	Removal of Countertop	3	sq.m.		
	Removal of Dilapidated Ceiling	52	sq.m.		
	Removal of Dilapidated Door	2	unit		
	Removal of Dilapidated Window	8	sq.m.		
	Removal of Fence Steel Members	16	sq.m.		
	Removal of Gate	2	sq.m.		
	Removal of Gutter	16	l.m.		
	Removal of Hanging Cabinet	2	sq.m.		
	Removal of Lavatory	1	unit		
	Removal of Roof	53	sq.m.		
	Removal of Tiles	33	sq.m.		
	Removal of Urinal	1	unit		
	Removal of Water Closet	1	unit		
	Clearing / Cleaning for Painting Preparation	323	sq.m.		
				Subtotal	₱
B	Civil / Structural Works				
	Concrete Works				
	On Site Mix Concrete, 21Mpa, 3/4" Gravel @ 28 Days				
	Column	1	cu.m.	₱	₱
	Reinforcing Steel Bar				
	Grade 40 Reinforcing Steel Bar including G.I. Tie Wire # 16				
	10mmØ Column	4	kg		
	Grade 60 Reinforcing Steel Bar including G.I. Tie Wire # 16				
	16mmØ Column	10	kg		
	Formworks				
	Column	1	sq.m		
	Masonry Works				
	100mm CHB Wall Laying, including Mortar, Reinforcing and Two-Face Plastering	4	sq.m		
	Metal Works				
	Roof Framing				
	50mm x 50mm x 6mm Angle Bar	404	kg		
	38mm x 38mm x 6mm Angle Bar	253	kg		
	50mm x 100mm x 2mm Purlin	370	kg		
	1.20m x 2.40m x 6mm Gusset Plate	143	kg		
	12mmØ Sagrod	25	kg		
	200mm x 200mm Base Plate	24	kg		
	18mmØ Anchor Bolt	8	kg		
	Gate				
	50mm x 50mm x 2mm Tubular Bar	28	kg		
	10mm Square Bar	3	kg		
	G.I Sheet Ga. 18	24	kg		
	50mm x 6mm Flat Bar	23	kg		
	Barrel Bolt	1	set		
	Cylindrical Hinge, Heavy Duty, Stainless	3	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Fence Steel Members				
	50mm x 50mm x 2mm Tubular Bar	22	kg		
	25mm x 25mm 2mm Tubular Bar	131	kg		
	Window Grilles				
	25mm x 25mm x 2mm Tubular Bar	146	kg		
	Miscellaneous & Consumables				
	Acetylene Tank (Refill)	2	tank		
	Cut Off Blade	5	piece		
	Grinding Disc for Metal	5	piece		
	Oxygen Tank (Refill)	4	tank		
	Welding Rod	2	box		
	Roofing Works				
	Pre-Painted Rib-type G.I. Roofing	55	sq.m		
	Pre-Painted G.I. Flashing	31	l.m.		
	12mm x 300mm Fiber Cement Fascia Board	31	l.m.		
	Silicon Sealant	5	tube		
	Tekscrew	479	piece		
	Blind Rivets	172	piece		
				Material Cost	₱
				Labor Cost	
				Direct Cost	₱
C	Architectural Works				
	Floor Finishes				
	Floor Topping for Preparation of Tile Works	35	sq.m.	₱	₱
	600mm x 600mm Non-Skid Homogeneous Tiles	33	sq.m		
	400mm x 400mm Non-Skid Homogeneous Tiles	2	sq.m		
	Wall Finishes and Partition				
	400mm x 400mm Homogeneous Tiles	8	sq.m		
	Countertop Finishes				
	300mm x 300mm Homogeneous Tiles	3	sq.m.		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Ceiling Works				
	6mm thk Fiber Cement Board with Complete Framing and Accessories	55	sq.m		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Installation of Doors				
	D1 - (0.90m x 2.10m) Swing Type Panel Door	1	set	₱	₱
	D2 - (0.70m x 2.10m) Swing Type PVC Door with Louver	1	set		
	Door jamb				
	D1 - (0.90m x 2.10m) Swing Type Panel Door	1	set		
	Hardware accessories				
	Door Hinges, Heavy Duty Stainless	6	set		
	Door Knob, Lever Type, Stainless	2	set		
	Installation of Windows				
	W1 -(2.40m x 1.20m) Aluminum Frame Powder Coated Sliding Window with 6mm Thk Clear Glass	2	set		
	W2 -(1.20m x 1.20m) Aluminum Frame Powder Coated Sliding Window with 6mm Thk Clear Glass	1	set		
	W3 -(0.60m x 0.40m) Aluminum Frame Powder Coated Awning Window with 6mm Thk Clear Glass	1	set		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Painting Works				
	Elastomeric Paint (Exterior Wall)	108	sq.m	₱	₱
	Epoxy Enamel Paint Finish (Steel Members)	125	sq.m		
	Flat Latex Paint Finish				
	Interior Wall	90	sq.m		
	Ceiling	55	sq.m		
	Fabricated Materials				
	Standard Countertop	4	l.m.		
	Hanging Cabinet	3	sq.m.		
	Lettering				
	Stainless Steel Signage with Neon Backlights (150mm x 150mm) "FREEDOM PARK 5 DAY CARE CENTER"	25	set		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
				Material Cost C	₱
				Labor Cost C	
D	Plumbing / Sanitary Works				
	Sewer Line / Storm Drainage System				
	Roughing-Ins				
	50 mm Ø, PVC Pipe with Hub	4	piece	₱	₱
	75 mm Ø, PVC Pipe with Hub	4	piece		
	100mm Ø, PVC Pipe with Hub	6	piece		
	50mm Ø, P-Trap	3	piece		
	75mm Ø, P-Trap	1	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	50mm Ø, 1/8 Bend	6	piece		
	75mm Ø, 1/8 Bend	2	piece		
	100mm Ø, 1/8 Bend	4	piece		
	75mm Ø, 1/4 Bend	3	piece		
	75mm Ø x 75mm Ø, Tee	2	piece		
	100mm Ø x 75mm Ø, Tee	2	piece		
	100mm Ø x 50mm Ø, Wye	6	piece		
	100mm Ø x 75mm Ø, Wye	2	piece		
	100mm Ø x 100mm Ø, Wye	3	piece		
	100mm Ø x 50mm Ø, Tee Reducer	2	piece		
	100mm Ø, Cleanout with Adapter	2	piece		
	Waterline System				
	Roughing-Ins				
	20mm Ø, PPR Pipe	3	piece		
	20mm Ø, Elbow	10	piece		
	20mm Ø, Coupling	3	piece		
	20mm Ø, Tee Equal	8	piece		
	20mm Ø, Female Threaded, Elbow	4	piece		
	20mm Ø, Female Adapter	2	piece		
	32mm Ø x 20mm Ø, Reducer	1	piece		
	32mm Ø, Union Patente	1	piece		
	Valves and Appurtenances				
	20mm Ø Gate Valve, PPR	2	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Fixtures				
	Bidet with Accessories, Stainless (Water Efficient)	1	piece		
	Floor Drain, 100mm x 100mm, Stainless	1	piece		
	Grease Trap, 5 GPM, Stainless	1	piece		
	Hose Bibb Lever Type, Stainless Steel Heavy Duty (Water Efficient)	3	piece		
	Kitchen Faucet Lever Type, Stainless (Water Efficient)	1	piece		
	Kitchen Sink, Single Tub, Stainless	1	piece		
	Lavatory Faucet Lever Type, Stainless Steel (Water Efficient)	1	piece		
	Lavatory, Wall Hung, Kiddy	1	piece		
	Urinal, Kiddy, Flush Type (Water Efficient)	1	piece		
	Water Closet, Kiddy, Tank Type (Water Efficient)	1	piece		
	Accessories				
	Angle Valve, Stainless Steel, Single Way	3	piece		
	Angle Valve, Stainless Steel, Two Way	1	piece		
	Flexible Hose, Stainless Steel	5	piece		
	Miscellaneous & Consumables				
	400cc Solvent Cement	3	can		
	All-Around Sealant	1	can		
	Hacksaw Blade	2	piece		
	Teflon Tape	2	roll		
	Waste Cloth	1	kg		
				Materials Cost D	₱
				Labor Cost D	
				Direct Cost D	₱
E	Electrical Works				
	Lighting and Power System				
	Roughing-ins				
	20mmØ RSC Pipe	6	piece	₱	₱
	20mmØ PVC Pipe	27	piece		
	15mmØ Flexible Metallic Conduit	15	lm		
	50mm x 100mm Metal Utility Box	8	piece		
	100mm x 100mm Metal Junction Box with cover	8	piece		
	Fittings & Accessories				
	15mmØ IMC Locknut and Bushing	8	pair		
	20mmØ RSC Locknut and Bushing	4	pair		
	20mmØ PVC Adaptor	64	piece		
	20mmØ PVC Elbow	15	piece		
	20mmØ PVC Locknut and Bushing	64	pair		
	15mmØ Angle Connector	16	piece		
	Wires and Cables				
	3.5mm² THHN Wire	160	lm		
	8.0mm² THHN Wire	20	lm		
	2.0mm² TW Wire (Green)	80	lm		
	3.5mm² TW Wire (Green)	10	lm		
	Lighting Fixture (Energy Efficient)				
	150mmØ Pinlight LED	1	piece		
	1 x 18 LED,300mmx1200mm Troffer Fixture	5	unit		
	1 x 18 T8 LED Tube in Box Type Lighting Fixture	2	unit		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Wiring Devices				
	Orbit Fan with Selector Switch	1	unit		
	Outlet with Gounding , Two-Gang	4	piece		
	Switch with plate and cover, One-Gang	1	piece		
	Switch with plate and cover, Two-Gang	2	piece		
	Pipe Hangers & Supports				
	Horizontal layout of pipe	20	lm		
	Vertical layout of pipe	6	lm		
	Panelboard				
	LPP (New)	1	assy		
	MCB	1	assy		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Miscellaneous & Consumables				
	16mmØ x 250mm Oval Eye Bolt w/ nut	1	piece		
	20mm Ø x 3000mm Grounding Rod (Copper Clod) w/ Ground Clamp	1	piece		
	400cc Solvent Cement	5	can		
	Electrical Tape	10	piece		
	GI Tie Wire, Ga. 16 (for wire/cable pulling)	2	kg		
	Hacksaw Blade	5	piece		
	Masking Tape	30	piece		
	Pulling Lubricant	2	can		
	Rubber Tape	30	piece		
				Material Cost E	₱
				Labor Cost E	
				Direct Cost E	₱
				MATERIAL COST III	₱
				LABOR COST III	
				DIRECT COST III	₱
IV	UTILITY AND ANCILLARY				
	150mm x 150mm x 3700mmm Electrical Service Entrance Post	1	unit	₱ 15,414.50	₱
				DIRECT COST IV	₱

SUMMARY

ITEM NO.	WORK DESCRIPTION & SCOPE OF WORKS	TOTAL COST
I	GENERAL REQUIREMENTS	₱
II	CONSTRUCTION OF HANDWASHING FACILITY	
III	REHABILITATION OF DAY CARE CENTER	
IV	UTILITY AND ANCILLARY	
		TOTAL DIRECT COST ₱
		Overhead, Contingencies and Miscellaneous Expenses (OCM)
		Profit
		VAT
		TOTAL ESTIMATED COST ₱
Note:	Strictly enforce Health Protocols relative to the latest applicable DPWH Memorandum	

BILL OF QUANTITIES
(Building Construction/Rehabilitation Project)

PROJECT TITLE : PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF LUZVIMINDA DAY CARE CENTER

LOCATION : BARANGAY BATASAN HILLS, DISTRICT 2, QUEZON CITY

PROJECT NO. : 21 - 00177

SCOPE OF WORK :

- I General Requirements include billboard, clearing, hauling and disposal of construction materials and debris, temporary enclosure, construction safety & health and scaffolding.
- II Construction of Hand Washing Facility
 - A Installation of single sink portable handwashing facility.
 - B Plumbing Works include installation of waterline, sewerline and accessories.
- III Rehabilitation of Day Care Center
 - A Site Works include removal works and cleaning/clearing for painting preparation, layout and staking, site clearing and preparation, excavation for structure, gravel bedding, soil treatment, backfill and compaction.
 - B Civil Works include concrete works, masonry works, metal works and roofing works.
 - C Architectural Works include floor finishes, wall finishes, ceiling works, painting works, installation of doors and windows, and fabricated materials.
 - D Plumbing Works include installation of waterline, sewerline, fixtures, hardware and accessories.
 - E Electrical Works include installation of roughing-ins, wiring devices and other fixtures.
- IV All necessary testing and commissioning shall be performed in accordance to standards.

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
I	GENERAL REQUIREMENTS				
	Billboard	1	unit	₱	₱
	Clearing, Hauling and Disposal of Construction Materials and Debris	2	t.l.		
	Construction Safety and Health	1	unit		
	Scaffolding (Rental)	24	sq.m.		
	Temporary Enclosure around the Construction Area (H=2.4m)	8	l.m.		
				DIRECT COST I	₱
II	CONSTRUCTION OF HANDWASHING FACILITY				
A	Hand Washing Facility				
	Single Sink, Portable Hand Washing Facility	2	unit	₱	₱
				Subtotal	₱
B	Plumbing / Sanitary Works				
	Sewer Line / Storm Drainage System				
	Roughing-Ins				
	50 mm Ø,PVC Pipe with Hub	1	piece	₱	₱
	75 mm Ø, PVC Pipe with Hub	2	piece		
	100 mm Ø, PVC Pipe with Hub	1	piece		
	50mm Ø, 1/8 Bend	2	piece		
	100mm Ø, 1/8 Bend	2	piece		
	75mm Ø, 1/4 Bend	2	piece		
	100mm Ø x 50mm Ø, Wye	2	piece		
	Waterline System				

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Roughing-Ins				
	20mm Ø, PPR Pipe	1	piece		
	20mm Ø, Elbow	2	piece		
	20mm Ø, Coupling	1	piece		
	Miscellaneous & Consumables				
	400cc Solvent Cement	1	can		
	All-Around Sealant	1	can		
	Hacksaw Blade	1	piece		
	Teflon Tape	1	roll		
	Waste Cloth	1	kg		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
				MATERIAL COST II	₱
				LABOR COST II	
				DIRECT COST II	₱

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
III	REHABILITATION OF DAY CARE CENTER				
A	Site Works				
	Removal Works				
	Removal of CHB Walls	37	sq.m.	₱	₱
	Removal of Countertop	3	sq.m.		
	Removal of Dilapidated Ceiling	5	sq.m.		
	Removal of Dilapidated Door	5	set		
	Removal of Dilapidated Window	8	sq.m.		
	Removal of Lavatory	2	unit		
	Removal of Tiles	23	sq.m.		
	Removal of Water Closet	2	unit		
	Cleaning and Clearing for Painting Preparation	308	sq.m.		
	Layout and Staking	13	sq.m.		
	Site Clearing and Preparation	13	sq.m.		
	Excavation for Structure	5	cu.m		
				Subtotal	₱
	Gravel Bedding	2	cu.m.	₱	₱
	Soil Treatment	13	sq.m.		
				Material Cost	₱
				Labor Cost	
				Subtotal	₱
	Backfill and Compaction	2	cu.m.	₱	₱
				Subtotal	₱
				Material Cost	₱
				Labor Cost	
				Direct Cost	₱
B	Civil / Structural Works				
	Concrete Works				
	On Site Mix Concrete, 21Mpa, 3/4" Gravel @ 28 Days				
	Wall Footing	2	cu.m.	₱	₱
	Column Footing	1	cu.m.		
	Slab on Fill	3	cu.m.		
	Column	1	cu.m.		
	Reinforcing Steel Bar				
	Grade 40 Reinforcing Steel Bar including G.I. Tie Wire # 16				
	10mmØ Slab on Fill	95	kg		
	10mmØ Column	68	kg		
	12mmØ Wall Footing	96	kg		
	Grade 60 Reinforcing Steel Bar including G.I. Tie Wire # 16				
	16mmØ Column Footing	86	kg		
	16mmØ Column	156	kg		
	Formworks				
	Column	20	sq.m		
	Scaffolding and Shoring				
	Column	20	l.m.		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Masonry Works				
	150mm CHB Wall Laying, including Mortar, Reinforcing and Two-Face Plastering	31	sq.m		
	Metal Works				
	Fence Steel Members				
	50mm x 100mm x 2mm Tubular Bar	95	kg		
	50mm x 50mm x 2mm Tubular Bar	229	kg		
	Steel Gate - 1				
	50mm x 100mm x 2mm Tubular Bar	67	kg		
	25mm x 25mm x 2mm Tubular Bar	39	kg		
	38mm Ø Barrel Bolt	1	set		
	Cylindrical Hinge, Heavy Duty	3	piece		
	Steel Gate - 2				
	100mm x 100mm x 2mm Tubular Bar	83	kg		
	50mm x 50mm x 2mm Tubular Bar	60	kg		
	38mm Ø Barrel Bolt	1	set		
	Cylindrical Hinge, Heavy Duty	3	piece		
	Roof Canopy Framing				
	50mm x 150mm x 4mm Tubular Bar	201	kg		
	50mm x 100mm x 4mm Tubular Bar	179	kg		
	18mmØ x 150mm Dyna Bolt	52	piece		
	Pedestal				
	100mmØ G.I. Pipe Sched.40	125	kg		
	200mm x 200mm x 12mm Base Plate	16	kg		
	18mmØ Anchor Bolt	16	piece		
	Window Grilles				
	25mm x 25mm x 2mm Tubular Bar	244	kg		
	Miscellaneous & Consumables				
	Acetylene Tank (Refill)	2	tank		
	Cut Off Blade	5	piece		
	Grinding Disc for Metal	5	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Oxygen Tank (Refill)	4	tank		
	Welding Rod	2	box		
	Roofing Works				
	Pre-Painted Rib-type G.I. Roofing	10	sq.m		
	Pre-Painted G.I. Flashing	21	l.m.		
	6mm thk One-Sided Aluminum Foil Thermal Insulation	10	sq.m		
	12mm x 300mm Fiber Cement Fascia Board	6	l.m.		
	Silicon Sealant	5	tube		
	Tekscrew	63	piece		
	Blind Rivets	11	piece		
				Material Cost	₱
				Labor Cost	
				Direct Cost	₱
C	Architectural Works				
	Floor Finishes				
	Floor Topping for Preparation of Tile Works	5	sq.m.	₱	₱
	400mm x 400mm Non-Skid Homogeneous Tiles	5	sq.m		
	Wall Finishes and Partition				
	400mm x 400mm Homogeneous Tiles	19	sq.m		
	Ceiling Works				
	6mm thk Fiber Cement Board with Complete Framing and Accessories	5	sq.m		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Installation of Doors				
	D1 - (1.00m x 2.10m) Swing Type Panel Door	2	set	₱	₱
	D2 - (0.60m x 2.10m) Swing Type PVC Door with Louver	2	set		
	D3 - (0.80m x 2.10m) Swing type Flush Door	1	set		
	Door jamb				
	D1 - (1.00m x 2.10m) Swing Type Panel Door	2	set		
	D3 - (0.80m x 2.10m) Swing type Flush Door	1	set		
	Hardware accessories				
	Door Hinges, Heavy Duty Stainless	15	set		
	Door Knob, Lever Type, Stainless	5	set		
	Installation of Windows				
	W1 -(0.80m x 1.20m) Sliding Window, 6mm thk Clear Tempered Glass on White Color Powder Coated Aluminum Frame	2	set		
	W2 -(2.40m x 1.20m) Sliding Window, 6mm thk Clear Tempered Glass on White Color Powder Coated Aluminum Frame	1	set		
	W3 -(0.80m x 0.40m) Awning Window, 6mm thk Clear Tempered Glass on White Color Powder Coated Aluminum Frame	2	set		
	W4 -(1.60m x 1.20m) Sliding Window, 6mm thk Clear Tempered Glass on White Color Powder Coated Aluminum Frame	1	set		
				Materials Cost	₱
				Labor Cost	

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
				Subtotal	₱
	Painting Works				
	Elastomeric Paint (Exterior Wall)	122	sq.m	₱	₱
	Epoxy Enamel Paint Finish (Steel Members)	107	sq.m		
	Flat Latex Paint Finish				
	Slab Soffit	79	sq.m		
	Ceiling	5	sq.m		
	Fabricated Materials				
	Countertop Tiles with Aluminum Undercounter Cover	8	l.m.		
	Hanging Cabinet	3	sq.m		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
				Material Cost C	₱
				Labor Cost C	
				Direct Cost C	₱
D	Plumbing / Sanitary Works				
	Sewer Line / Storm Drainage System				
	Roughing-Ins				
	50 mm Ø, PVC Pipe with Hub	4	piece	₱	₱
	75 mm Ø, PVC Pipe with Hub	3	piece		
	100mm Ø, PVC Pipe with Hub	3	piece		
	50mm Ø, P-Trap	4	piece		
	75mm Ø, P-Trap	1	piece		
	50mm Ø, 1/8 Bend	3	piece		
	75mm Ø, 1/8 Bend	1	piece		
	100mm Ø, 1/8 Bend	4	piece		
	75mm Ø, 1/4 Bend	4	piece		
	75mm Ø x 75mm Ø, Tee	4	piece		
	100mm Ø x 75mm Ø, Tee	4	piece		
	100mm Ø x 50mm Ø, Wye	9	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	100mm Ø x 75mm Ø, Wye	3	piece		
	100mm Ø, Cleanout with Adapter	2	piece		
	Waterline System				
	Roughing-Ins				
	20mm Ø, PPR Pipe	4	piece		
	20mm Ø, Elbow	13	piece		
	20mm Ø, Coupling	4	piece		
	20mm Ø, Tee Equal	3	piece		
	20mm Ø, Female Threaded, Elbow	6	piece		
	20mm Ø, Female Adapter	1	piece		
	25mm Ø x 20mm Ø, Reducer	1	piece		
	25mm Ø, Union Patente	1	piece		
	Valves and Appurtenances				
	20mm Ø Gate Valve, PPR	2	piece		
	Fixtures				
	Bidet with Accessories, Stainless (Water Efficient)	2	piece		
	Floor Drain, 100mm x 100mm, Stainless	2	piece		
	Grease Trap, 5 GPM, Stainless	1	piece		
	Kitchen Faucet Lever Type, Stainless (Water Efficient)	1	piece		
	Kitchen Sink, Single Tub, Stainless	1	piece		
	Lavatory Faucet Lever Type, Stainless Steel (Water Efficient)	2	piece		
	Lavatory, Wall Hung	1	set		
	Lavatory, Wall Hung, Kiddy	1	piece		
	Water Closet, Tank Type w/ Accessories (Water Efficient)	1	piece		
	Water Closet, Kiddy, Tank Type (Water Efficient)	1	piece		
	Accessories				
	Angle Valve, Stainless Steel, Single Way	3	piece		
	Angle Valve, Stainless Steel, Two Way	2	piece		
	Flexible Hose, Stainless Steel	5	piece		
	Miscellaneous & Consumables				
	400cc Solvent Cement	3	can		
	All-Around Sealant	1	can		
	Hacksaw Blade	2	piece		
	Teflon Tape	2	roll		
	Waste Cloth	1	kg		
				Materials Cost D	₱
				Labor Cost D	
				Direct Cost D	₱
E	Electrical Works				
	Lighting and Power System				
	Roughing-ins				
	15mmØ IMC Pipe	10	piece	₱	₱
	15mmØ Flexible Metallic Conduit	50	lm		
	100mm x 100mm Metal Junction Box with cover	2	piece		
	Fittings & Accessories				
	15mmØ Angle Connector	41	piece		
	15mmØ IMC Coupling	18	piece		
	15mmØ IMC Locknut and Bushing	20	pair		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	15mmØ IMC Conduit Body, LB Type	8	piece		
	Wires and Cables				
	3.5mm² THHN Wire	60	lm		
	2.0mm² TW Wire (Green)	30	lm		
	Lighting Fixture (Energy Efficient)				
	150mmØ Pinlight LED	2	unit		
	2 x 18 LED,600mmx1200mm Troffer Fixture, Surface Mounted	8	unit		
	Wiring Devices				
	Orbit Fan with Selector Switch	3	unit		
	Outlet with Grounding , Two-Gang	7	piece		
	Pipe Hangers & Supports				
	Horizontal layout of pipe	50	lm		
	Miscellaneous & Consumables				
	Electrical Tape	5	piece		
	GI Tie Wire, Ga. 16 (for wire/cable pulling)	1	kg		
	Hacksaw Blade	2	piece		
	Masking Tape	5	piece		
				Material Cost	₱
				Labor Cost	
				Direct Cost	₱
				MATERIAL COST III	₱
				LABOR COST III	
				DIRECT COST III	₱

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
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SUMMARY

ITEM NO.	WORK DESCRIPTION & SCOPE OF WORKS	TOTAL COST
I II III	GENERAL REQUIREMENTS CONSTRUCTION OF HANDWASHING FACILITY REHABILITATION OF DAY CARE CENTER	P
NOTE: Strictly enforce Health Protocols relative to the latest applicable DPWH Memorandum	TOTAL DIRECT COST Overhead, Contingencies and Miscellaneous Expenses (OCM) Profit VAT	P
	TOTAL ESTIMATED COST	P

BILL OF QUANTITIES
(Building Construction/Rehabilitation Project)

PROJECT TITLE : PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF KALAYAAN B DAY CARE CENTER

LOCATION : BARANGAY BATASAN HILLS, DISTRICT 2, QUEZON CITY

PROJECT NO. : 21 - 00177

SCOPE OF WORK :

- I General Requirements include billboard, clearing, hauling and disposal of construction materials and debris, temporary enclosure, construction safety & health and scaffolding.
- II Construction of Hand Washing Facility
 - A Installation of single sink portable hand washing facility.
 - B Site Works include chipping of concrete.
 - C Civil Works include restoration of concrete.
 - D Plumbing Works include installation of waterline, sewerline, fixtures, hardware and accessories.
- III Rehabilitation of Kalayaan B1 Day Care Center
 - A Site Works include removal works and cleaning/clearing for painting preparation.
 - B Civil Works include masonry works, metal works and roofing works.
 - C Architectural Works include floor finishes, wall finishes, ceiling works, painting works, installation of doors and windows and fabricated materials.
 - D Plumbing Works include installation of waterline, sewerline, fixtures, hardware and accessories.
 - E Electrical Works include installation of roughing-ins, wiring devices and other fixtures.
- IV Rehabilitation of Kalayaan B2 & B3 Day Care Center
 - A Site Works include removal works and cleaning/clearing for painting preparation.
 - B Civil Works include concrete works, masonry works, moisture protection, metal works and roofing works.
 - C Architectural Works include floor finishes, wall finishes, countertop finishes, ceiling works, painting works, installation of doors and fabricated materials.
 - D Plumbing Works include installation of waterline, sewerline, fixtures, hardware and accessories.
 - E Electrical Works include installation of roughing-ins, wiring devices and other fixtures.
 - V All necessary testing and commissioning shall be performed in accordance to standards.

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
I	GENERAL REQUIREMENTS				
	Billboard	1	unit	₱	₱
	Clearing, Hauling and Disposal of Construction Materials and Debris	1	t.l.		
	Construction Safety and Health	1	unit		
	Scaffolding (Rental)	36	sq.m.		
	Temporary Enclosure around the Construction Area (H=2.4m)	26	l.m.		
				DIRECT COST I	₱
II	CONSTRUCTION OF HANDWASHING FACILITY				
A	Hand Washing Facility				
	Single Sink, Portable Hand Washing Facility	6	unit	₱	₱
				Subtotal	₱
B	Site Works				
	Chipping of concrete (Plumbing Works)	2	sq.m.	₱	₱
				Subtotal	₱

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
C	Civil Works				
	Restoration of Concrete (Plumbing Works)	2	sq.m.	₱	₱
				Material Cost	₱
				Labor Cost	
				Direct Cost	₱

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
D	Plumbing / Sanitary Works				
	Sewer Line / Storm Drainage System				
	Roughing-Ins				
	50 mm Ø,PVC Pipe with Hub	3	piece	₱	₱
	75 mm Ø, PVC Pipe with Hub	5	piece		
	100 mm Ø, PVC Pipe with Hub	4	piece		
	50mm Ø, 1/8 Bend	6	piece		
	100mm Ø, 1/8 Bend	4	piece		
	75mm Ø, 1/4 Bend	5	piece		
	100mm Ø x 50mm Ø, Wye	6	piece		
	100mm Ø, Coupling	4	piece		
	Waterline System				
	Roughing-Ins				
	20mm Ø, PPR Pipe	5	piece		
	20mm Ø, Elbow	5	piece		
	20mm Ø, Coupling	5	piece		
	Miscellaneous & Consumables				
	400cc Solvent Cement	2	can		
	Hacksaw Blade	2	piece		
	Teflon Tape	2	roll		
	Waste Cloth	2	kg		
				Materials Cost	₱
				Labor Cost	
				Direct Cost	₱
				MATERIAL COST II	₱
				LABOR COST II	
				DIRECT COST II	₱
II	REHABILITATION OF B1 DAY CARE CENTER				
A	Site Works				
	Removal Works				
	Removal of Countertop	4	sq.m.	₱	₱
	Removal of Dilapidated Ceiling	81	sq.m.		
	Removal of Dilapidated Door	2	unit		
	Removal of Dilapidated Window	20	sq.m.		
	Removal of Lavatory	1	unit		
	Removal of Roof and Accessories	81	sq.m.		
	Removal of Tiles	93	sq.m.		
	Removal of Urinal	1	unit		
	Removal of Water Closet	1	unit		
	Clearing / Cleaning for Painting Preparation	461	sq.m.		
				Subtotal	₱
B	Civil / Structural Works				
	Masonry Works				
	100mm CHB Wall Laying, including Mortar, Reinforcing and Two-Face Plastering	21	sq.m	₱	₱
	Metal Works				
	Roof Framing				

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	50mm x 50mm x 6mm Angle Bar	582	kg		
	38mm x 38mm x 6mm Angle Bar	342	kg		
	50mm x 100mm x 2mm Purlin	656	kg		
	1.20m x 2.40m x 6mm Gusset Plate	143	kg		
	10mmØ Sagrod	37	kg		
	100mmØ G.I. Pipe Sched. 40	33	kg		
	250mm x 250mm Base Plate	38	kg		
	18mmØ Anchor Bolt	24	piece		
	Window Grilles				
	25mm x 25mm x 2mm Tubular Bar	616	kg		
	Miscellaneous & Consumables				
	Acetylene Tank (Refill)	4	tank		
	Cut Off Blade	5	piece		
	Grinding Disc for Metal	5	piece		
	Oxygen Tank (Refill)	8	tank		
	Welding Rod	3	box		
	Roofing Works				
	Pre-Painted Rib-type G.I. Roofing	117	sq.m		
	Pre-Painted G.I. Flashing	45	l.m.		
	12mm x 300mm Fiber Cement Fascia Board	45	l.m.		
	Silicon Sealant	5	tube		
	Tekscrew	479	piece		
	Blind Rivets	245	piece		
				Material Cost	₱
				Labor Cost	
				Direct Cost	₱

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
C	Architectural Works				
	Floor Finishes				
	Floor Topping for Preparation of Tile Works	85	sq.m.	₱	₱
	600mm x 600mm Non-Skid Homogeneous Tiles	82	sq.m		
	400mm x 400mm Non-Skid Homogeneous Tiles	4	sq.m		
	Wall Finishes and Partition				
	400mm x 400mm Homogeneous Tiles	12	sq.m		
	Ceiling Works				
	6mm thk Fiber Cement Board with Complete Framing and Accessories	117	sq.m		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Installation of Doors				
	D1 - (1.00m x 2.10m) Sliding Door, 6mm thk Clear Tempered Glass on White Color Powder Aluminum Frames	1	set	₱	₱
	D2 - (0.60m x 2.10m) Swing Type, PVC Door with Louver, Painted Finish (Kitten White)	1	set		
	Hardware accessories				
	Door Hinges, Heavy Duty Stainless	3	set		
	Door Knob, Lever Type, Stainless	1	set		
	Installation of Windows				
	W1 -(1.60m x 1.80m) Sliding Window, 6mm thk Clear Tempered Glass on White Color Powder Coated Aluminum Frams	2	set		
	W2 -(2.40m x 1.90m) Sliding Window, 6mm thk Clear Tempered Glass on White Color Powder Coated Aluminum Frames	3	set		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Painting Works				
	Elastomeric Paint (Exterior Wall)	118	sq.m	₱	₱
	Epoxy Enamel Paint Finish (Steel Members)	202	sq.m		
	Flat Latex Paint Finish				
	Interior Wall	141	sq.m		
	Ceiling	117	sq.m		
	Fabricated Materials				
	Hanging Cabinet	3	sq.m.		
	Kiddy Countertop with Aluminum Cover	3	l.m.		
	Standard Countertop with Aluminum Cover with Sink	4	l.m.		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
				Material Cost	₱
				Labor Cost	
				Direct Cost	₱
D	Plumbing / Sanitary Works				

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Sewer Line / Storm Drainage System				
	Roughing-Ins				
	50 mm Ø, PVC Pipe with Hub	3	piece	₱	₱
	75 mm Ø, PVC Pipe with Hub	4	piece		
	100mm Ø, PVC Pipe with Hub	4	piece		
	50mm Ø, P-Trap	5	piece		
	75mm Ø, P-Trap	1	piece		
	50mm Ø, 1/8 Bend	6	piece		
	75mm Ø, 1/8 Bend	2	piece		
	100mm Ø, 1/8 Bend	3	piece		
	75mm Ø, 1/4 Bend	4	piece		
	75mm Ø x 75mm Ø, Tee	4	piece		
	100mm Ø x 75mm Ø, Tee	4	piece		
	100mm Ø x 50mm Ø, Wye	8	piece		
	100mm Ø x 75mm Ø, Wye	2	piece		
	100mm Ø x 100mm Ø, Wye	3	piece		
	100mm Ø x 50mm Ø, Tee Reducer	1	piece		
	100mm Ø, Cleanout with Adapter	2	piece		
	Waterline System				
	Roughing-Ins				
	20mm Ø, PPR Pipe	5	piece		
	20mm Ø, Elbow	10	piece		
	20mm Ø, Coupling	5	piece		
	20mm Ø, Tee Equal	8	piece		
	20mm Ø, Female Threaded, Tee	11	piece		
	20mm Ø, Female Adapter	1	piece		
	32mm Ø x 20mm Ø, Reducer	1	piece		
	32mm Ø, Union Patente	1	piece		
	Valves and Appurtenances				
	20mm Ø Gate Valve, PPR	5	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Fixtures				
	Bidet with Accessories, Stainless (Water Efficient)	1	piece		
	Floor Drain, 100mm x 100mm, Stainless	4	piece		
	Grease Trap, 5 GPM, Stainless	1	piece		
	Hose Bibb Lever Type, Stainless Steel Heavy Duty (Water Efficient)	6	piece		
	Kitchen Faucet Lever Type, Stainless (Water Efficient)	1	piece		
	Kitchen Sink, Single Tub, Stainless	1	piece		
	Lavatory Faucet Lever Type, Stainless Steel (Water Efficient)	1	piece		
	Lavatory, Wall Hung, Kiddy	1	piece		
	Urinal, Flush Type, Kiddy (Water Efficient)	1	piece		
	Water Closet, Tank Type, Kiddy (Water Efficient)	1	piece		
	Accessories				
	Angle Valve, Stainless Steel, Single Way	3	piece		
	Angle Valve, Stainless Steel, Two Way	3	piece		
	Flexible Hose, Stainless Steel	1	piece		
	Miscellaneous & Consumables				
	400cc Solvent Cement	3	can		
	All-Around Sealant	1	can		
	Hacksaw Blade	2	piece		
	Teflon Tape	3	roll		
	Waste Cloth	1	kg		
				Materials Cost	₱
				Labor Cost	
				Direct Cost	₱
E	Electrical Works				
	Lighting and Power System				
	Roughing-ins				
	20mmØ PVC Pipe	62	piece	₱	₱
	32mmØ PVC Pipe	11	piece		
	40mmØ RSC Pipe	2	piece		
	15mmØ Flexible Metallic Conduit	15	lm		
	50mm x 100mm Metal Utility Box	7	piece		
	100mm x 100mm Metal Junction Box with cover	14	piece		
	Fittings & Accessories				
	15mmØ Angle Connector	22	piece		
	15mmØ IMC Locknut and Bushing	22	pair		
	20mmØ PVC Adaptor	63	piece		
	32mmØ PVC Adaptor	8	piece		
	20mmØ PVC Elbow	30	piece		
	32mmØ PVC Elbow	4	piece		
	20mmØ PVC Locknut and Bushing	63	pair		
	32mmØ PVC Locknut and Bushing	8	pair		
	40mmØ RSC Coupling	2	piece		
	40mmØ RSC Locknut and Bushing	4	pair		
	40mmØ Weatherproof Entrance Cap, Diecast	1	piece		
	Wires and Cables				
	3.5mm² THHN Wire	3	roll		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	8.0mm ² THHN Wire	70	lm		
	30mm ² THHN Wire	20	lm		
	3.5mm ² THW Wire (Green)	35	lm		
	8.0mm ² THW Wire (Green)	10	lm		
	2.0mm ² TW Wire (Green)	2	roll		
	Lighting Fixtures				
	150mmØ Pinlight LED	1	unit		
	1 x 18 LED,300mmx1200mm Troffer Fixture	2	unit		
	2 x 18 LED,600mmx1200mm Troffer Fixture	8	unit		
	Wiring Devices				
	Orbit Fan with Selector Switch	3	unit		
	Outlet with Gounding , Two-Gang	4	piece		
	Switch with plate and cover, One-Gang	1	piece		
	Switch with plate and cover, Two-Gang	1	piece		
	Switch with plate and cover, Three-Gang	1	piece		
	Pipe Hangers & Supports				
	Horizontal layout of pipe	15	lm		
	Vertical layout of pipe	12	lm		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Panelboard				
	LPPA	1	assy		
	MDP	1	assy		
	Miscellaneous & Consumables				
	16mmØ x 250mm Oval Eye Bolt w/ Nut	2	piece		
	20mm Ø x 3000mm Grounding Rod (Copper Clod) w/ Ground Clamp	1	piece		
	400cc Solvent Cement	10	can		
	Electrical Tape	10	piece		
	GI Tie Wire, Ga. 16 (for wire/cable pulling)	3	kg		
	Hacksaw Blade	2	piece		
	Masking Tape	10	piece		
	Pulling Lubricant	2	can		
	Rubber Tape	10	piece		
				Material Cost	₱
				Labor Cost	
				Direct Cost	₱
				MATERIAL COST III	₱
				LABOR COST III	
				DIRECT COST III	₱
IV	REHABILITATION OF B2 & B3 DAY CARE CENTER				
A	Site Works				
	Removal Works				
	Removal of Countertop	3	sq.m.	₱	₱
	Removal of Dilapidated Ceiling	117	sq.m.		
	Removal of Dilapidated Door	3	unit		
	Removal of Dilapidated Window	2	sq.m.		
	Removal of Lavatory	2	unit		
	Removal of Tiles	78	sq.m.		
	Removal of Water Closet	2	unit		
	Clearing / Cleaning for Painting Preparation	92	sq.m.		
				Subtotal	₱
B	Civil / Structural Works				
	Concrete Works				
	On Site Mix Concrete, 21Mpa, 3/4" Gravel @ 28 Days				
	Concrete Zocalo	1	cu.m	₱	₱
	Masonry Works				
	100mm CHB Wall Laying, including Mortar, Reinforcing and Two-Face Plastering	2	sq.m		
	Moisture Protection				
	Membrane Type Waterproofing (Roof Deck)	82	sq.m		
	Metal Works				
	Canopy Framing				
	50mm x 100mm x 2mm Tubular Bar	204	kg		
	50mm x 100mm x 2mm Purlin	141	kg		
	100mmØ G.I. Pipe Sched. 40	5	kg		
	200mm x 200mm Base Plate	19	kg		
	18mmØ Anchor Bolt	12	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	18mmØ x 150mm Dyna Bolt	18	piece		
	Window Grilles				
	25mm x 25mm x 2mm Tubular Bar	269	kg		
	Miscellaneous & Consumables				
	Acetylene Tank (Refill)	1	tank		
	Cut Off Blade	5	piece		
	Grinding Disc for Metal	5	piece		
	Oxygen Tank (Refill)	2	tank		
	Welding Rod	1	box		
	Roofing Works				
	Pre-Painted Rib-type G.I. Roofing	23	sq.m		
	Pre-Painted G.I. Flashing	21	l.m.		
	12mm x 300mm Fiber Cement Fascia Board	21	l.m.		
	Silicon Sealant	5	tube		
	Tekscrew	117	piece		
	Blind Rivets	119	piece		
				Materials Cost	₱
				Labor Cost	
				Direct Cost	₱

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
C	Architectural Works				
	Floor Finishes				
	Floor Topping for Preparation of Tile Works	88	sq.m.	₱	₱
	600mm x 600mm Non-Skid Homogeneous Tiles	85	sq.m		
	400mm x 400mm Non-Skid Homogeneous Tiles	4	sq.m		
	Wall Finishes and Partition				
	400mm x 400mm Homogeneous Tiles	17	sq.m		
	Ceiling Works				
	6mm thk Fiber Cement Board with Complete Framing and Accessories	123	sq.m		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Installation of Doors				
	D3 - (0.70m x 2.10m) Swing Type, PVC Door with Louver, Painted Finish (Kitten White)	2	set	₱	₱
	D4 - (0.60m x 1.80m) Swing Type, Flush Door, Painted Finish (Kitten White)	1	set		
	SD-1 (1.00m x 1.50m) Swing Type, Steel Door	2	set		
	SD-2 (1.00m x 2.10m) Swing Type, Steel Door	1	set		
	Door jamb				
	SD-1 (1.00m x 1.50m) Swing Type, Steel Door	1	set		
	SD-2 (1.00m x 2.10m) Swing Type, Steel Door	1	set		
	Hardware accessories				
	Door Hinges, Heavy Duty Stainless	15	set		
	Door Knob, Lever Type, Stainless	3	set		
	Barrel Bolt	2	set		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Painting Works				
	Elastomeric Paint Finish (Exterior Wall)	54	sq.m	₱	₱
	Epoxy Enamel Paint Finish (Steel Members)	92	sq.m		
	Flat Latex Paint Finish				
	Ceiling	123	sq.m		
	Fabricated Materials				
	Countertop Tiles with Aluminum Undercounter Cover	3	l.m.		
	Hanging Cabinet	2	sq.m.		
	Standard Countertop	3	l.m.		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
				Material Cost	₱
				Labor Cost	
				Direct Cost	₱
D	Plumbing / Sanitary Works				
	Sewer Line / Storm Drainage System				
	Roughing-Ins				

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	50 mm Ø, PVC Pipe with Hub	2	piece	₱	₱
	75 mm Ø, PVC Pipe with Hub	6	piece		
	100mm Ø, PVC Pipe with Hub	12	piece		
	150mm Ø, PVC Pipe with Hub	4	piece		
	50mm Ø, P-Trap	4	piece		
	75mm Ø, P-Trap	2	piece		
	50mm Ø, 1/8 Bend	4	piece		
	75mm Ø, 1/8 Bend	2	piece		
	100mm Ø, 1/8 Bend	3	piece		
	75mm Ø, 1/4 Bend	3	piece		
	100mm Ø, 1/4 Bend	9	piece		
	150mm Ø, 1/4 Bend	2	piece		
	75mm Ø x 75mm Ø, Tee	3	piece		
	100mm Ø x 100mm Ø, Tee	9	piece		
	100mm Ø x 75mm Ø, Tee	3	piece		
	100mm Ø x 50mm Ø, Wye	6	piece		
	100mm Ø x 75mm Ø, Wye	2	piece		
	100mm Ø x 100mm Ø, Wye	3	piece		
	150mm Ø x 100mm Ø, Wye	4	piece		
	100mm Ø x 50mm Ø, Tee Reducer	2	piece		
	100mm Ø, Cleanout with Adapter	4	piece		
	100mm Ø, Coupling	12	piece		
	150mm Ø, Coupling	4	piece		
	Waterline System				
	Roughing-Ins				
	20mm Ø, Pipe PPR	4	piece		
	20mm Ø, Elbow	10	piece		
	20mm Ø, Coupling	4	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	20mm Ø, Tee Equal	3	piece		
	20mm Ø, Female Threaded, Tee	7	piece		
	20mm Ø, Female Adapter	2	piece		
	25mm Ø x 20mm Ø, Reducer	1	piece		
	25mm Ø, Union Patente	1	piece		
	Valves and Appurtenances				
	20mm Ø Gate Valve, PPR	4	piece		
	Fixtures				
	Bidet with Complete Accessories, Stainless (Water Efficient)	2	set		
	Deck Drain 100mm Ø, Dome type, Stainless	9	set		
	Floor Drain, 100mm x 100mm, Stainless	2	set		
	Grease Trap, 5GPM, Stainless	2	set		
	Hose Bibb Lever Type, Stainless Steel Heavy Duty (Water Efficient)	5	piece		
	Kitchen Faucet Lever Type, Stainless (Water Efficient)	2	set		
	Kitchen Sink, Single Tub, Stainless	2	set		
	Lavatory Faucet Lever Type, Stainless (Water Efficient)	2	set		
	Lavatory, Wall Hung, Kiddy	2	set		
	Water Closet, Kiddy, Tank Type w/ Accessories (Water Efficient)	2	set		
	Accessories				
	Angle Valve, Single-Way, Stainless	2	piece		
	Angle Valve, Two-Way, Stainless	1	piece		
	Flexible Hose, Stainless	3	piece		
	Miscellaneous & Consumables				
	400cc Solvent Cement	4	can		
	All-Around Sealant	1	can		
	Hacksaw Blade	3	piece		
	Teflon Tape	3	roll		
	Waste Cloth	1	kg		
				Materials Cost	₱
				Labor Cost	
				Direct Cost	₱
E	Electrical Works				
	Lighting and Power System				
	Roughing-ins				
	20mmØ PVC Pipe	103	piece	₱	₱
	32mmØ RSC Pipe	4	piece		
	15mmØ Flexible Metallic Conduit	50	lm		
	50mm x 100mm Metal Utility Box	20	piece		
	100mm x 100mm Metal Junction Box with cover	27	piece		
	Fittings & Accessories				
	15mmØ Angle Connector	54	piece		
	15mmØ IMC Locknut and Bushing	54	pair		
	20mmØ PVC Adaptor	141	piece		
	20mmØ PVC Elbow	50	piece		
	20mmØ PVC Locknut and Bushing	141	pair		
	32mmØ RSC Coupling	6	piece		
	32mmØ RSC Locknut and Bushing	8	pair		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	32mmØ Weatherproof Entrance Cap, Diecast	2	piece		
	Wires and Cables				
	3.5mm² THHN Wire	4	roll		
	14mm² THHN Wire	70	lm		
	8.0mm² THW Wire (Green)	35	lm		
	2.0mm² TW Wire (Green)	2	roll		
	Lighting Fixtures				
	150mmØ Pinlight LED	3	unit		
	2 x 18 LED,600mmx1200mm Troffer Fixture	14	unit		
	Wiring Devices				
	Orbit Fan with Selector Switch	8	unit		
	Outlet with Grounding , Two-Gang	8	piece		
	Switch with plate and cover, One-Gang	3	piece		
	Switch with plate and cover, Three-Gang	5	piece		
	Switch with plate and cover, Three Way	5	piece		
	Pipe Hangers & Supports				
	Horizontal layout of pipe	35	lm		
	Vertical layout of pipe	12	lm		
	Secondary Rack, 2-Spool, Heavy Duty	6	piece		
	Panelboard				
	LPPB	1	assy		
	Miscellaneous & Consumables				
	400cc Solvent Cement	5	can		
	Electrical Tape	20	piece		
	GI Tie Wire, Ga. 16 (for wire/cable pulling)	5	kg		
	Hacksaw Blade	3	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Masking Tape	20	piece		
	Pulling Lubricant	3	can		
	Rubber Tape	20	piece		
				Material Cost E	₱
				Labor Cost E	
				Direct Cost E	₱
				MATERIAL COST IV	₱
				LABOR COST IV	
				DIRECT COST IV	₱

SUMMARY

ITEM NO.	WORK DESCRIPTION & SCOPE OF WORKS	TOTAL COST
I II III IV	GENERAL REQUIREMENTS CONSTRUCTION OF HANDWASHING FACILITY REHABILITATION OF B1 DAY CARE CENTER REHABILITATION OF B2 & B3 DAY CARE CENTER	₱
	TOTAL DIRECT COST	₱
	Overhead, Contingencies and Miscellaneous Expenses (OCM)	
	Profit	
	VAT	
	TOTAL ESTIMATED COST	₱

Note:
Strictly enforce Health Protocols relative to the latest applicable DPWH Memorandum

BILL OF QUANTITIES
(Building Construction/Rehabilitation Project)

PROJECT TITLE : PROPOSED REHABILITATION OF CONSTITUTIONAL DAY CARE CENTER

LOCATION : BARANGAY BATASAN HILLS, DISTRICT 2, QUEZON CITY

PROJECT NO. : 21 - 00177

SCOPE OF WORK :

- I General Requirements include billboard, scaffolding, temporary enclosure, clearing hauling and disposal of construction materials and debris and construction safety & health.
- II Rehabilitation of day care center.
 - a Site Works include removal of dilapidated ceiling, door, window, tiles, roof, gutter, countertop, water closet kiddy and cleaning and clearing for painting preparation.
 - b Civil Works include metal works and roofing works.
 - c Architectural Works include floor finishes, wall finishes, ceiling works, painting works, installation of doors and windows and fabricated materials.
 - d Plumbing Works include installation of waterline, fixtures, hardware and accessories.
 - e Electrical Works include installation of wiring devices and other fixtures.
 - f Mechanical works include installation of air-conditioning unit
- III Utilities and Ancillaries include civil works for electrical service post
- IV All necessary testing and commissioning shall be performed in accordance to standards.

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
I	GENERAL REQUIREMENTS				
	Billboard	1	unit	₱	₱
	Clearing, Hauling and Disposal of Construction Materials and Debris	1	t.l.		
	Construction Safety and Health	1	unit		
	Scaffolding (Rental)	25	sq.m.		
	Temporary Enclosure around the Construction Area (H=2.4m)	10	l.m.		
				DIRECT COST I	₱
II	REHABILITATION OF DAY CARE CENTER				
A	Site Works				
	Removal Works				
	Removal of Dilapidated Ceiling	54	sq.m.	₱	₱
	Removal of Dilapidated Door	2	unit		
	Removal of Dilapidated Window	4	sq.m.		
	Removal of Countertop (Standard & Kiddy)	3	sq.m.		
	Removal of Water Closet Kiddy	1	set		
	Removal of Tiles	41	sq.m.		
	Removal of Roof	54	sq.m.		
	Removal of Gutter	17	l.m.		
	Clearing / Cleaning for Painting Preparation	180	sq.m.		
				Subtotal-A	₱
B	Civil Works				
	Metal Works				
	Roof Framing				
	38mm x 38mm x 6mm Angle Bar	179	kg	₱	₱
	50mm x 50mm x 6mm Angle Bar	354	kg		
	1.20m x 2.40m x 6mm Mild Steel Plate	283	kg		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	50mm x 100mm x 2mm C-Purlin	170	kg		
	12mmØ Sagrod	27	kg		
	Window Grille				
	25mm x 25mm x 2mm Tubular	66	kg		
	Miscellaneous & Consumables				
	Acetylene Tank (Refill)	1	tank		
	Cut Off Blade	5	piece		
	Grinding Disc for Metal	5	piece		
	Oxygen Tank (Refill)	2	tank		
	Welding Rod	2	box		
	Roofing Works				
	Pre-Painted Rib-type G.I. Roofing	57	sq.m		
	Pre-Painted G.I. Flashing	32	l.m.		
	300mm Fiber Cement Fascia Board	32	l.m.		
	Tekscrew	42	piece		
	Blind Rivets	156	piece		
				Materials Cost-B	₱
				Labor Cost-B	
				Direct Cost-B	₱

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
C	Architectural Works				
	Floor Finishes				
	Floor Topping For Preparation of Tile Works	36	sq.m.	₱	₱
	600mm x 600mm Non-Skid Homogeneous Tiles	35	sq.m		
	400mm x 400mm Non-Skid Homogeneous Tiles	2	sq.m		
	Wall Finishes and Partition				
	400mm x 400mm Non-Skid Homogeneous Tiles	9	sq.m		
	Ceiling Works				
	6mm thk Fiber Cement Board with Complete Framing and Accessories	57	sq.m		
	Painting Works				
	Elastomeric Paint Finish (Exterior walls)	98	sq.m		
	Mural Painting (Elastomeric Paint)	27	sq.m		
	Flat Latex Paint Finish (Interior wall)	82	sq.m		
	Flat Latex Paint Finish (Ceiling)	57	sq.m		
	Epoxy Enamel Paint Finish (Metal Works)	68	sq.m		
	Fabricated Materials				
	Counter Top with 300mm x 300mm Tiles & Powder Coated Aluminum Framed Cabinet	3	l.m.		
	Kiddy Counter Top with 600mm x 600mm Tiles & Powder Coated Aluminum Framed Cabinet	2	l.m.		
	Hanging Cabinet (Pantry)	4	sq.m.		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Installation of Doors				
	D1 - (0.90m x 2.10m) Swing Type Panel Door Painted Finish	1	set	₱	₱
	D2 - (0.60m x 2.10m) Swing Type PVC Door Painted Finish (Kitten White) w/ 400mm X 200mm Louver Door Jamb	1	set		
	D1 - (0.80m x 2.10m) Panel Door	1	set		
	Hardware accessories				
	Door Hinges, Heavy Duty Stainless	6	set		
	Door Knob, Lever Type, Stainless	2	set		
	Installation of Windows				
	W1 -(2.00m x 1.00m) Sliding Window, 6mm Thk, Clear Tempered Glass White Color Powder Coated Aluminum Frame with Complete Accessories	1	set		
	W2 -(0.50m x 0.60m) Sliding Window, 6mm Thk, Clear Tempered Glass White Color Powder Coated Aluminum Frame with Complete Accessories	1	set		
	W3 -(1.00m x 1.30m) Sliding Window, 6mm Thk, Clear Tempered Glass White Color Powder Coated Aluminum Frame with Complete Accessories	1	set		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
				Materials Cost-C	₱
				Labor Cost-C	
				Direct Cost-C	₱
D	Plumbing / Sanitary Works				
	Sewer Line / Storm Drainage System				
	Roughing-Ins				
	50 mm Ø, PVC Pipe	3	piece	₱	₱
	75 mm Ø, PVC Pipe	4	piece		
	100mm Ø, PVC Pipe	3	piece		
	50mm Ø, P-Trap	4	piece		
	75mm Ø, P-Trap	1	piece		
	50mm Ø, 1/8 Bend	6	piece		
	75mm Ø, 1/8 Bend	2	piece		
	100mm Ø, 1/8 Bend	3	piece		
	75mm Ø, 1/4 Bend	4	piece		
	75mm Ø x 75mm Ø, Tee	4	piece		
	100mm Ø x 75mm Ø, Tee	4	piece		
	100mm Ø x 50mm Ø, Wye	6	piece		
	100mm Ø x 75mm Ø, Wye	2	piece		
	100mm Ø x 100mm Ø, Wye	3	piece		
	100mm Ø x 50mm Ø, Tee Reducer	2	piece		
	100mm Ø, Cleanout with Adapter	3	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Waterline System				
	Roughing-Ins				
	20mm Ø, Pipe PPR	4	piece		
	20mm Ø, Elbow	12	piece		
	20mm Ø, Coupling	4	piece		
	20mm Ø, Tee Equal	7	piece		
	20mm Ø, Female Threaded, Elbow	8	piece		
	20mm Ø, Female Adapter	1	piece		
	Valves and Appurtenances				
	20mm Ø Gate Valve, PPR	1	piece		
	Fixtures				
	Floor Drain, 100mm x 100mm, Stainless	3	piece		
	Bidet with Accessories, Stainless (Water Efficient)	1	piece		
	Grease Trap, 5GPM Heavy Duty	1	piece		
	Hose Bibb Lever Type, Stainless Steel Heavy Duty (Water Efficient)	3	piece		
	Kitchen Faucet Lever Type, Stainless Heavy Duty (Water Efficient)	1	piece		
	Sink 8" Deep, Stainless Steel	1	piece		
	Urinal Kiddy, Flush Type (Water Efficient)	1	piece		
	Water Closet Kiddy, Tank Type w/ Accessories (Water Efficient)	1	piece		
	Accessories				
	Flexible Hose, Stainless Steel	3	piece		
	Single Way Angle Valve, Stainless Steel	2	piece		
	Two Way Angle Valve, Stainless Steel	1	piece		
	Miscellaneous & Consumables				
	400cc Solvent Cement	3	can		
	Hacksaw Blade	2	piece		
	Teflon Tape	2	roll		
	Waste Cloth	1	kg		
				Materials Cost-D	₱
				Labor Cost-D	
				Direct Cost-D	₱
E	ELECTRICAL WORKS				
	Lighting and Power System				
	Roughing-ins				
	20mmØ RSC Pipe	6	piece	₱	₱
	20mmØ PVC Pipe	30	piece		
	25mmØ PVC Pipe	5	piece		
	15mmØ Flexible Metallic Conduit	10	lm		
	Pullbox, Junction Box & Utility Box				
	50mm x 100mm Metal Utility Box	12	piece		
	100mm x 100mm Metal Junction Box with cover	9	piece		
	Fittings & Accessories				
	15mmØ IMC Locknut and Bushing	18	pair		
	20mmØ RSC Locknut and Bushing	8	pair		
	20mmØ PVC Adaptor	84	piece		
	25mmØ PVC Adaptor	4	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	20mmØ PVC Elbow	15	piece		
	25mmØ PVC Elbow	3	piece		
	20mmØ PVC Locknut and Bushing	84	pair		
	25mmØ PVC Locknut and Bushing	4	pair		
	15mmØ Angle Connector	18	piece		
	Wires and Cables				
	3.5mm² THHN Wire	200	lm		
	5.5mm² THHN Wire	30	lm		
	8.0mm² THHN Wire	100	lm		
	2.0mm² TW Wire (Green)	100	lm		
	3.5mm² TW Wire (Green)	70	lm		
	Wiring Devices				
	150mmØ Pinlight LED	1	piece		
	1 x 18 LED,600mmx1200mm Troffer Fixture	4	unit		
	Exhaust Fan, ceiling-mounted	1	unit		
	Orbit Fan with Selector Switch	2	unit		
	Outlet with Grounding , One-gang, for ACU, Heavy Duty	1	piece		
	Outlet with Grounding , Two-gang	6	piece		
	Switch with plate and cover, One-Gang	2	piece		
	Switch with plate and cover, Two-Gang	1	piece		
	Pipe Hangers & Supports				
	Horizontal layout of pipe	20	lm		
	Vertical layout of pipe	6	lm		
	Secondary Rack, Heavy Duty, 3-Spool	3	piece		
	Miscellaneous & Consumables				
	16mmØ x 250mm Oval Eye Bolt w/ nut	1	piece		
	20mm Ø x 3000mm Grounding Rod (Copper Clod) w/ Ground Clamp	1	piece		
	400cc Solvent Cement	5	can		
	Electrical Tape	10	piece		
	GI Tie Wire, Ga. 16 (for wire/cable pulling)	2	kg		
	Hacksaw Blade	5	piece		
	Masking Tape	30	piece		
	Pulling Lubricant	2	can		
	Rubber Tape	30	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Panelboard				
	LPP (New) Main: 50 AT, 100AF, 2P, 240V, Bolt-on Branches: Enclosure: NEMA 1	1	assy		
	MCB Main: 50AT,100AF, 3P, 240V, MCCB Enclosure: NEMA 3R	2	assy		
F	MECHANICAL WORKS				
	Airconditioning System				
	Condensate Water Drainage System				
	Roughing-Ins				
	20mm Ø X 3m uPVC Pipe	1	piece		
	20mm Ø uPVC Elbow	3	piece		
	Insulation				
	20mmØ x 12mm thick Rubber Foam Insulation	3	l.m.		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Equipment and Accessories				
	Window-type Air Conditioning Unit				
	WAC 1 - Window-type Airconditioner 2.5 hp, 2.0 TR, 600cfm,2350W, 230/1/60	1	unit	₱	₱
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Pipe Hangers and Supports				
	Condensate Water Drainage System Support	3	l.m.	₱	₱
	Miscellaneous & Consumables				
	400cc Solvent Cement	1	can		
	Hacksaw Blade	5	piece		
	Teflon Tape	1	roll		
	Waste Cloth	3	kg		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
				Material Cost - F	₱
				Labor Cost - F	
				Direct Cost - F	₱
				MATERIAL COST II	₱
				LABOR COST II	
				DIRECT COST II	₱
III	UTILITIES AND ANCILLARIES				

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	150mm x 150mm x 3700mmm Electrical Service Entrance Post	1	unit	₱	₱
				DIRECT COST III	₱

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
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SUMMARY

ITEM NO.	WORK DESCRIPTION & SCOPE OF WORKS	TOTAL COST
I II III	GENERAL REQUIREMENTS REHABILITATION OF DAY CARE CENTER UTILITIES AND ANCILLARIES	P
Note: Strictly enforce Health Protocols relative to the latest applicable DPWH Memorandum	TOTAL DIRECT COST Overhead, Contingencies and Miscellaneous Expenses (OCM) Profit VAT	P
	TOTAL ESTIMATED COST	P

BILL OF QUANTITIES
(Building Construction/Rehabilitation Project)

PROJECT TITLE : PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF TALANAY DAY CARE CENTER

LOCATION : BARANGAY BATASAN HILLS, DISTRICT 2, QUEZON CITY

PROJECT NO. : 21 - 00177

SCOPE OF WORK :

- I General Requirements include billboard, clearing, hauling and disposal of construction materials and debris, temporary enclosure ,construction safety & health and scaffolding
- II Construction of Hand Washing Facility.
 - a Installation of single sink portable handwashing facility.
 - b Plumbing Works include installation of waterline, fixtures, hardware and accessories.
- III Rehabilitation of Day Care Center.
 - a Site Works include removal of dilapidated ceiling, door, window, tiles, roof, gutter, counter top, hanging cabinet excavation (trench canal) and cleaning and clearing for painting preparation.
 - b Civil Works include metal works and roofing works.
 - c Architectural Works include floor finishes, wall finishes, ceiling works, painting works, installation of doors and windows and fabricated materials.
 - d Plumbing Works include installation of waterline, fixtures, hardware and accessories.
 - e Electrical Works include installation of wiring devices and other fixtures.
 - f Mechanical Works include installation of air-conditioning unit and exhaust fans.
- IV Utilities and Ancillaries include construction of trench canal, tapping of drainage and construction of electrical service post
- V All necessary testing and commissioning shall be performed in accordance to standards.

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
I	GENERAL REQUIREMENTS				
	Billboard	1	unit	₱	₱
	Clearing, Hauling and Disposal of Construction Materials and Debris	1	t.l.		
	Construction Safety and Health	1	unit		
	Scaffolding (Rental)	21	sq.m.		
	Temporary Enclosure around the Construction Area (H=2.4m)	8	l.m.		
				DIRECT COST I	₱
II	CONSTRUCTION OF HAND WASHING FACILITY				
A	Hand Washing Facility				
	Single Sink, Portable Hand Washing Facility	2	unit	₱	₱
				Subtotal-A	₱
B	Plumbing / Sanitary Works				
	Sewer Line / Storm Drainage System				
	Roughing-Ins				
	50 mm Ø, Pipe PVC	1	piece	₱	₱
	75 mm Ø, Pipe PVC	1	piece		
	50mm Ø, 1/8 Bend	2	piece		
	100mm Ø, 1/8 Bend	2	piece		
	75mm Ø, 1/4 Bend	2	piece		
	100mm Ø x 50mm Ø, Wye	2	piece		
	Waterline System				

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Roughing-Ins				
	20mm Ø, Pipe PPR	3	piece		
	20mm Ø, Elbow	2	piece		
	20mm Ø, Coupling	3	piece		
	Miscellaneous & Consumables				
	400cc Solvent Cement	1	can		
	Hacksaw Blade	1	piece		
	Teflon Tape	1	rolls		
	Waste Cloth	1	kgs		
				Materials Cost	₱
				Labor Cost	
				Direct Cost	₱
				MATERIAL COST II	₱
				LABOR COST II	
				DIRECT COST II	₱

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
III	REHABILITATION OF DAY CARE CENTER				
A	Site Works				
	Removal Works				
	Removal of Dilapidated Ceiling	57	sq.m.	₱	₱
	Removal of Dilapidated Door	5	unit		
	Removal of Dilapidated Window	5	sq.m.		
	Removal of Countertop	2	sq.m.		
	Removal of Hanging Cabinet	1	sq.m.		
	Removal of Tiles	60	sq.m.		
	Removal of Roof	57	sq.m.		
	Removal of Gutter	6	l.m.		
	Removal of Water Closet	2	unit		
	Clearing / Cleaning for Painting Preparation	341	sq.m.		
	Excavation (Trench Canal)	4	cu.m.		
				Subtotal-A	₱
B	Civil Works				
	Metal Works				
	Truss				
	50mm x 50mm x 6mm Angle Bar	591	kg	₱	₱
	38mm x 38mm x 6 mm Angle Bar	442	kg		
	50mm x 100mm x 2mm Purlin	359	kg		
	1.20m x 2.40m x 6mm Gusset Plate	285	kg		
	10mm Ø Sagrod	13	kg		
	Window Grilles				
	25mm x 25mm x 2mm Tubular Bar	78	kg		
	Trench Steel Grating				
	25mm x 4mm Flat Bar	199	kg		
	50mm x 50mm x 4mm Channel Bar	129	kg		
	Miscellaneous & Consumables				
	Acetylene Tank (Refill)	3	tank		
	Cut Off Blade	5	piece		
	Grinding Disc for Metal	5	piece		
	Oxygen Tank (Refill)	6	tank		
	Welding Rod	3	box		
	Roofing Works				
	Pre-Painted Rib-type G.I. Roofing	61	sq.m		
	Pre-Painted G.I. Flashing	34	l.m.		
	12mm x 300mm Fiber Cement Fascia Board	34	l.m.		
	All Purpose Sealant	5	piece		
	Tekscrew	304	piece		
	Blind Rivets	187	piece		
				Material Cost -B	₱
				Labor Cost-B	
				Subtotal-B	₱
C	Architectural Works				
	Floor Finishes				
	Floor Topping For Preparation of Tile Works	43	sq.m.	₱	₱
	Plain Cement Finish	29	sq.m.		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	600mm x 600mm Non-Skid Homogeneous Tiles	38	sq.m		
	400mm x 400mm Non-Skid Homogeneous Tiles	6	sq.m		
	Wall Finishes and Partition				
	400mm x 400mm Homogeneous Tiles	19	sq.m		
	Ceiling Works				
	6mm thk Fiber Cement Board with Complete Framing and Accessories	64	sq.m		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Installation of Doors				
	D1 - (0.80m x 2.10m) Swing Type Flush Door	1	set	₱	₱
	D2 - (0.60m x 2.10m) Swing Type PVC Door with Louvers	1	set		
	D3 - (0.90m x 2.10m) Swing Type Panel Door	1	set		
	D4 - (0.60m x 1.50m) Swing Type PVC Door	2	set		
	Door jamb				
	D1 - (0.80m x 2.10m) Swing Type Flush Door	1	set		
	D3 - (0.90m x 2.10m) Swing Type Panel Door	1	set		
	Hardware accessories				
	Door Hinges, Heavy Duty Stainless	15	set		
	Door Knob, Lever Type, Stainless	5	set		
	Installation of Windows				
	W1 -(0.60m x 0.60m) Aluminum Frame Powder Coated Awning Window with 6mm Thk Clear Glass	2	set		
	W2 -(0.80m x 1.20m) Aluminum Frame Powder Coated Sliding Window with 6mm Thk Clear Glass	1	set		
	W3 -(2.40m x 1.20m) Aluminum Frame Powder Coated Sliding Window with 6mm Thk Clear Glass	1	set		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Painting Works				
	Elastomeric Paint (Exterior Wall)	88	sq.m	₱	₱
	Mural Painting (Elastomeric Paint)	13	sq.m		
	Flat Latex Paint Finish (Interior wall)	134	sq.m		
	Flat Latex Paint Finish (Ceiling)	64	sq.m		
	Epoxy Enamel Paint Finish (Steel Members)	119	sq.m		
	Fabricated Materials				
	Counter Top	3	l.m.		
	Hanging Cabinet	2	sq.m.		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
				Material Cost -C	₱
				Labor Cost-C	
				Subtotal-C	₱
D	Plumbing / Sanitary Works				
	Sewer Line / Storm Drainage System				
	Roughing-Ins				
	50 mm Ø, Pipe PVC	2	piece	₱	₱
	75 mm Ø, Pipe PVC	4	piece		
	100mm Ø, Pipe PVC	3	piece		
	50mm Ø, P-Trap	2	piece		
	75mm Ø, P-Trap	1	piece		
	50mm Ø, 1/8 Bend	3	piece		
	75mm Ø, 1/8 Bend	2	piece		
	100mm Ø, 1/8 Bend	3	piece		
	75mm Ø, 1/4 Bend	2	piece		
	100mm Ø x 75mm Ø, Tee	2	piece		
	100mm Ø x 50mm Ø, Wye	4	piece		
	100mm Ø x 75mm Ø, Wye	1	piece		
	100mm Ø x 100mm Ø, Wye	1	piece		
	100mm Ø, Cleanout with Adapter	1	piece		
	Waterline System				
	Roughing-Ins				
	20mm Ø, Pipe PPR	4	piece		
	20mm Ø, Elbow	9	piece		
	20mm Ø, Coupling	4	piece		
	20mm Ø, Tee Equal	3	piece		
	20mm Ø, Female Threaded, Elbow	3	piece		
	Valves and Appurtenances				
	20mm Ø Gate Valve, PPR	1	piece		
	Fixtures				
	Floor Drain, 100mm x 100mm, Stainless	2	piece		
	Bidet with Accessories, Stainless (Water Efficient)	2	piece		
	Grease Trap, 5GPM, Heavy Duty	1	piece		
	Kitchen Faucet Lever Type, Stainless Heavy Duty (Water Efficient)	1	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Sink 8" Deep, Stainless Steel	1	piece		
	Water Closet Kiddy, Tank Type w/ Accessories (Water Efficient)	2	piece		
	Accessories				
	Flexible Hose, Stainless Steel	4	piece		
	Angle Valve, Stainless Steel, Single Way	2	piece		
	Angle Valve, Stainless Steel, Two Way	2	piece		
	Miscellaneous & Consumables				
	400cc Solvent Cement	2	can		
	Hacksaw Blade	2	piece		
	Teflon Tape	1	rolls		
	Waste Cloth	1	kgs		
				Material Cost -D	₱
				Labor Cost-D	
				Subtotal-D	₱
E	Electrical Works				
	Lighting and Power System				
	Roughing-ins				
	20mmØ RSC Pipe	6	piece	₱	₱
	20mmØ PVC Pipe	25	piece		
	25mmØ PVC Pipe	3	piece		
	15mmØ Flexible Metallic Conduit	15	lm		
	Pullbox, Junction Box & Utility Box				
	50mm x 100mm Metal Utility Box	11	piece		
	100mm x 100mm Metal Junction Box with cover	13	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Fittings & Accessories				
	15mmØ IMC Locknut and Bushing	26	pair		
	20mmØ RSC Locknut and Bushing	4	pair		
	20mmØ PVC Adaptor	126	piece		
	25mmØ PVC Adaptor	18	piece		
	20mmØ PVC Elbow	15	piece		
	25mmØ PVC Elbow	3	piece		
	20mmØ PVC Locknut and Bushing	126	pair		
	25mmØ PVC Locknut and Bushing	18	pair		
	15mmØ Angle Connector	26	piece		
	Wires and Cables				
	3.5mm² THHN Wire	180	lm		
	5.5mm² THHN Wire	10	lm		
	8.0mm² THHN Wire	50	lm		
	2.0mm² TW Wire (Green)	90	lm		
	3.5mm² TW Wire (Green)	30	lm		
	Wiring Devices				
	150mmØ Pinlight LED	1	piece		
	1 x 18 LED,600mmx1200mm Troffer Fixture	9	unit		
	Orbit Fan with Selector Switch	1	unit		
	Outlet with Grounding , One-gang, for ACU, Heavy Duty	1	piece		
	Outlet with Grounding , Two-gang	6	piece		
	Switch with plate and cover, One-Gang	2	piece		
	Switch with plate and cover, Two-Gang	2	piece		
	Pipe Hangers & Supports				
	Horizontal layout of pipe	20	lm		
	Vertical layout of pipe	6	lm		
	Secondary Rack, Heavy Duty, 3-Spool	3	piece		
	Miscellaneous & Consumables				
	16mmØ x 250mm Oval Eye Bolt with nut	1	piece		
	20mm Ø x 3000mm Grounding Rod (Copper Clod) with Ground Clamp	1	piece		
	400cc Solvent Cement	5	can		
	Electrical Tape	10	piece		
	GI Tie Wire, Ga. 16 (for wire/cable pulling)	2	kg		
	Hacksaw Blade	5	piece		
	Masking Tape	30	piece		
	Pulling Lubricant	2	can		
	Rubber Tape	30	piece		
	Panelboard				
	LPP (New) Main: 50 AT, 100AF, 2P, 240V, Bolt-on Branches: 3-20 AT, 2P 1-30 AT, 2P Enclosure: NEMA 1	1	assy		
	MCB Main: 50AT,100AF, 3P, 240V, MCCB	1	assy		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Enclosure: NEMA 3R				
				Material Cost -E	₱
				Labor Cost-E	
				Subtotal-E	₱
F	Mechanical Works				
	Airconditioning System				
	Condensate Water Drainage System				
	Roughing-Ins				
	20mm Ø X 3m uPVC Pipe	1	piece	₱	₱
	20mm Ø uPVC Elbow	3	piece		
	Insulation				
	20mmØ x 12mm thick Rubber Foam Insulation	3	l.m.		
				Materials Cost	₱
				Labor Cost	
				Direct Cost	₱
	Equipment and Accessories				
	Window-type Air Conditioning Unit				
	WAC 1 - Window-type Airconditioner 2.5 hp, 2.0 TR, 600cfm,2350W, 230/1/60	1	unit	₱	₱
				Materials Cost	₱
				Labor Cost	
				Direct Cost	₱
	Ventilating Fan				
	EF 1 - Duct Mounted Ceiling Ventilation Fan 100 cfm / 20 w / 230 V / 1 ϕ	2	piece	₱	₱

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Ventilation System				
	Duct				
	100mm Ø, Pipe PVC	2	piece	₱	₱
	100mm Ø, Air Vent Cap	1	piece		
	Pipe Hangers and Supports				
	Condensate Water Drainage System Support	3	l.m.		
	Miscellaneous & Consumables				
	400cc Solvent Cement	1	can		
	Hacksaw Blade	5	piece		
	Teflon Tape	1	roll		
	Waste Cloth	3	kg		
				Materials Cost	₱
				Labor Cost	
				Direct Cost	₱
				Material Cost -D	₱
				Labor Cost-D	
				Subtotal-D	₱
				MATERIAL COST III	₱
				LABOR COST III	
				DIRECT COST III	₱
IV	UTILITIES AND ANCILLARIES				
	Trench Canal	11	l.m.	₱	₱
	Tapping of Drainage	1	set		
	150mm x 150mm x 3700mmm Electrical Service Entrance Post	1	unit		
				DIRECT COST IV	₱

SUMMARY

ITEM NO.	WORK DESCRIPTION & SCOPE OF WORKS	TOTAL COST
I	GENERAL REQUIREMENTS	₱
II	CONSTRUCTION OF HAND WASHING FACILITY	
III	REHABILITATION OF DAY CARE CENTER	
IV	UTILITIES AND ANCILLARIES	
	TOTAL DIRECT COST	₱
	Overhead, Contingencies and Miscellaneous Expenses (OCM)	
	Profit	
	VAT	
	TOTAL ESTIMATED COST	₱

Note:
Strictly enforce Health Protocols relative to the latest applicable DPWH Memorandum

BILL OF QUANTITIES
(Building Construction/Rehabilitation Project)

PROJECT TITLE : PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF
POOK PAG-ASA DAY CARE CENTER

LOCATION : BARANGAY BATASAN HILLS, DISTRICT 2, QUEZON CITY

PROJECT NO. : 21 - 00177

SCOPE OF WORK :

- I General Requirements include billboard, clearing, hauling and disposal of construction materials and debris, temporary enclosure, construction safety & health and scaffolding
- II Construction of Hand Washing Facility.
 - A Installation of single sink portable handwashing facility.
 - B Plumbing Works include installation of waterline, fixtures, hardware and accessories.
- III Rehabilitation of Day Care Center.
 - A Site Works include removal of dilapidated ceiling, door, steel gate, tiles, roof, gutter, counter top, plumbing fixtures cleaning and clearing for painting preparation, earthworks, layout and staking, site clearing and preparation
 - B Civil Works include concrete works, metal works, roofing works and masonry works
 - C Architectural Works include floor finishes, wall finishes, ceiling works, painting works, installation of doors fabricated materials and lettering
 - D Plumbing Works include installation of waterline, fixtures, hardware and accessories.
 - E Electrical Works include installation of wiring devices and other fixtures.
- IV Utilities and Ancillary Works include construction of electrical service post
- V All necessary testing and commissioning shall be performed in accordance to standards.

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
I	GENERAL REQUIREMENTS				
	Billboard	1	unit	₱	₱
	Clearing, Hauling and Disposal of Construction Materials and Debris	1	t.l.		
	Construction Safety and Health	1	unit		
	Scaffolding (Rental)	22	sq.m.		
	Temporary Enclosure around the Construction Area (H=2.4m)	8	l.m.		
				DIRECT COST I	₱
II	CONSTRUCTION OF HAND WASHING FACILITY				
A	Hand Washing Facility				
	Single Sink, Portable Hand Washing Facility	2	unit	₱	₱
				Subtotal-A	₱
B	Plumbing / Sanitary Works				
	Sewer Line / Storm Drainage System				
	Roughing-Ins				
	50 mm Ø, PVC Pipe	1	piece	₱	₱
	75 mm Ø, PVC Pipe	1	piece		
	50mm Ø, 1/8 Bend	2	piece		
	100mm Ø, 1/8 Bend	2	piece		
	75mm Ø, 1/4 Bend	2	piece		
	100mm Ø x 50mm Ø, Wye	2	piece		
	Waterline System				
	Roughing-Ins				
	20mm Ø, Pipe PPR	3	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	20mm Ø, Elbow	2	piece		
	20mm Ø, Coupling	3	piece		
	Miscellaneous & Consumables				
	400cc Solvent Cement	1	can		
	Hacksaw Blade	1	piece		
	Teflon Tape	1	roll		
	Waste Cloth	1	kg		
				Materials Cost	₱
				Labor Cost	
				Subtotal-B	₱
				MATERIAL COST II	₱
				LABOR COST II	
				DIRECT COST II	₱

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
III	REHABILITATION OF DAY CARE CENTER				
A	Site Works				
	Site Clearing and Preparations	7	sq.m.	₱	₱
	Layout and Staking	7	sq.m.		
	Removal Works				
	Removal of Dilapidated Ceiling	58	sq.m.		
	Removal of Dilapidated Door	1	unit		
	Removal of Steel Gate	1	unit		
	Removal of Countertop	2	sq.m.		
	Removal of Lavatory	1	unit		
	Removal of Water Closet	1	unit		
	Removal of Tiles	53	sq.m.		
	Removal of Roof	58	sq.m.		
	Removal of Gutter	8	l.m.		
	Clearing / Cleaning for Painting Preparation	166	sq.m.		
	Excavation for Wall Footing	3	cu.m.		
				Subtotal	₱
	Gravel Bedding	1	cu.m.	₱	₱
	Soil Treatment	7	sq.m.		
				Material Cost	₱
				Labor Cost	
				Subtotal	₱
	Backfill and Compaction	2	cu.m.	₱	₱
				Subtotal	₱
				Material Cost-A	₱
				Labor Cost-A	
				Direct Cost-A	₱
B	Civil Works				
	Concrete Works				
	On Site Mix Concrete, 21Mpa, 3/4" Gravel @28 Days				
	Column	1	cu.m.	₱	₱
	Slab on Grade	1	cu.m.		
	Wall Footing	1	cu.m.		
	Reinforcing Steel Bar				
	Grade 40 Reinforcing Steel Bar including G.I. Tie Wire # 16				
	10mmØ Column	16	kg		
	10mmØ Slab on Grade	38	kg		
	12mmØ Wall Footing	46	kg		
	Grade 60 Reinforcing Steel Bar including G.I. Tie Wire # 16				
	16mmØ Column	43	kg		
	Formworks				
	Column	3	sq.m		
	Wall Footing	3	sq.m		
	Masonry Works				

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	150mm CHB Wall Laying, including Mortar, Reinforcing and Two-Face Plastering	12	sq.m		
	Plastering of CHB Wall	29	sq.m		
	Metal Works				
	Pedestal				
	12mm thk Base Plate	16	kg		
	100mmØ G.I. Pipe Sched 40	152	kg		
	18mmØ Anchor Bolt	16	piece		
	Covered Walkway Enclosure				
	50mm x 50mm x 2mm Tubular Bar	159	kg		
	10mm x 10mm Square Bar	134	kg		
	Gate				
	10mmx 10mm Square Bar	5	kg		
	50mm x 50mm x 2mm Tubular Bar	36	kg		
	50mm x 6mm Flat Bar	17	kg		
	Gauge 18 G.I. Sheet	12	kg		
	Barrel Bolt	3	set		
	Cylindrical Hinge, Heavy Duty, Stainless	3	piece		
	Covered Walkway Roofing				
	50mm x 150mmx 4mm Tubular Bar	330	kg		
	50mm X 100mm X 2mm C Purlin	40	kg		
	12mmØ Sagrod	3	kg		
	Miscellaneous & Consumables				
	Acetylene Tank (Refill)	1	tank		
	Cut Off Blade	5	piece		
	Grinding Disc for Metal	5	piece		
	Oxygen Tank (Refill)	1	tank		
	Welding Rod	2	box		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Roofing Works				
	Pre-Painted Rib-type G.I. Roofing	80	sq.m		
	Pre-Painted G.I. Flashing	46	l.m.		
	12mm x 300mm Fiber Cement Fascia Board	46	l.m.		
	Blind Rivets	304	piece		
	Silicon Sealant	5	tube		
	Tekscrew	187	piece		
				Materials Cost-B	₱
				Labor Cost-B	
				Direct Cost-B	₱
C	Architectural Works				
	Floor Finishes				
	Floor Topping for Preparation of Tile Works	44	sq.m	₱	₱
	Plain Cement Finish	7	sq.m		
	600mm x 600mm Non-Skid Homogeneous Tiles	41	sq.m		
	400mm x 400mm Non-Skid Homogeneous Tiles	3	sq.m		
	Wall Finishes				
	400mm x 400mm Homogeneous Tiles	11	sq.m		
	Ceiling Works				
	6mm thk Fiber Cement Board with Complete Framing and Accessories	59	sq.m		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Installation of Doors				
	D1 - (0.70m x 2.10m) Swing Type PVC Door with Louvers	1	set	₱	₱
	Hardware accessories				
	Door Hinges, Heavy Duty Stainless	3	set		
	Door Knob, Lever Type, Stainless	1	set		
	Door Closer, Heavy Duty Stainless	1	set		
	Door Lock Set, Stainless	1	piece		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Painting Works				
	Elastomeric Paint Finish (Exterior Wall)	69	sq.m	₱	₱
	Flat Latex Paint Finish (Interior wall)	118	sq.m		
	Flat Latex Paint Finish (Ceiling)	59	sq.m		
	Epoxy Enamel Paint Finish (Steel Members)	31	sq.m		
	Fabricated Materials				
	Countertop	4	l.m.		
	Lettering				
	Stainless Steel Signage with Neon Backlights (150mm x 150mm) "POOK PAG ASA DAY CARE CENTER"	23	set		
				Material Cost	₱
				Labor Cost	
				Subtotal	₱

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
				Materials Cost-C	₱
				Labor Cost-C	
				Direct Cost-C	₱
D	Plumbing / Sanitary Works				
	Sewer Line / Storm Drainage System				
	Roughing-Ins				
	50 mm Ø, PVC Pipe	2	piece	₱	₱
	75 mm Ø, PVC Pipe	4	piece		
	100mm Ø, PVC Pipe	7	piece		
	50mm Ø, P-Trap	2	piece		
	75mm Ø, P-Trap	1	piece		
	50mm Ø, 1/8 Bend	4	piece		
	75mm Ø, 1/8 Bend	2	piece		
	100mm Ø, 1/8 Bend	2	piece		
	75mm Ø, 1/4 Bend	2	piece		
	100mm Ø x 75mm Ø, Tee	2	piece		
	100mm Ø x 50mm Ø, Wye	2	piece		
	100mm Ø x 75mm Ø, Wye	2	piece		
	100mm Ø x 100mm Ø, Wye	2	piece		
	100mm Ø x 50mm Ø, Tee Reducer	1	piece		
	100mm Ø, Cleanout with Adapter	2	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Waterline System				
	Roughing-Ins				
	20mm Ø, PPR Pipe	5	piece		
	20mm Ø, Elbow	12	piece		
	20mm Ø, Coupling	5	piece		
	20mm Ø, Tee Equal	5	piece		
	20mm Ø, Female Threaded, Elbow	4	piece		
	Valves and Appurtenances				
	20mm Ø Gate Valve, PPR	2	piece		
	Fixtures				
	Bidet with Accessories, Stainless (Water Efficient)	1	piece		
	Floor Drain, 100mm x 100mm, Stainless	1	piece		
	Grease Trap, 5GPM, Heavy Duty	1	piece		
	Kitchen Faucet Lever Type, Stainless Heavy Duty (Water Efficient)	1	piece		
	Lavatory Wall Hung	1	unit		
	Lavatory Faucet Lever Type, Stainless Steel Heavy Duty (Water Efficient)	1	piece		
	Sink 8" Deep, Stainless Steel	1	unit		
	Water Closet Kiddy, Tank Type w/ Accessories (Water Efficient)	1	unit		
	Accessories				
	Angle Valve, Stainless Steel, Single Way	3	piece		
	Angle Valve, Stainless Steel, Two Way	1	piece		
	Flexible Hose, Stainless Steel	4	piece		
	Miscellaneous & Consumables				
	400cc Solvent Cement	2	can		
	Hacksaw Blade	2	piece		
	Teflon Tape	2	roll		
	Waste Cloth	1	kg		
				Materials Cost-D	₱
				Labor Cost-D	
				Direct Cost-D	₱
E	Electrical Works				
	Lighting and Power System				
	Roughing-ins				
	20mmØ RSC Pipe	6	piece	₱	₱
	20mmØ PVC Pipe	30	piece		
	25mmØ PVC Pipe	4	piece		
	15mmØ Flexible Metallic Conduit	20	lm		
	Pullbox, Junction Box & Utility Box				
	50mm x 100mm Metal Utility Box	5	piece		
	100mm x 100mm Metal Junction Box with cover	15	piece		
	Fittings & Accessories				
	15mmØ IMC Locknut and Bushing	30	pair		
	20mmØ RSC Locknut and Bushing	4	pair		
	20mmØ PVC Adaptor	45	piece		
	25mmØ PVC Adaptor	15	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	20mmØ PVC Elbow	15	piece		
	25mmØ PVC Elbow	4	piece		
	20mmØ PVC Locknut and Bushing	45	pair		
	25mmØ PVC Locknut and Bushing	15	pair		
	15mmØ Angle Connector	30	piece		
	Wires and Cables				
	3.5mm² THHN Wire	190	lm		
	8.0mm² THHN Wire	30	lm		
	2.0mm² TW Wire (Green)	190	lm		
	3.5mm² TW Wire (Green)	15	lm		
	Lighting Fixtures (Energy Efficient)				
	150mmØ Pinlight LED	1	piece		
	1 x 18 LED,300mmx1200mm Troffer Fixture	6	unit		
	1x18w T8 LED Tube Light, Box Type	3	unit		
	Wiring Devices				
	Orbit Fan with Selector Switch	2	unit		
	Outlet with Gounding , Two-gang	4	piece		
	Switch with plate and cover, One-Gang	2	piece		
	Switch with plate and cover, Three-Gang	1	piece		
	Pipe Hangers & Supports				
	Horizontal layout of pipe	20	lm		
	Vertical layout of pipe	6	lm		
	Miscellaneous & Consumables				
	16mmØ x 250mm Oval Eye Bolt w/ nut	1	piece		
	20mm Ø x 3000mm Grounding Rod (Copper Clod) w/ Ground Clamp	1	piece		
	400cc Solvent Cement	5	can		
	Electrical Tape	10	piece		
	GI Tie Wire, Ga. 16 (for wire/cable pulling)	2	kg		
	Hacksaw Blade	5	piece		
	Masking Tape	30	piece		
	Pulling Lubricant	2	can		
	Rubber Tape	30	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Panelboard				
	LPP (New) Main: 50 AT, 100AF, 2P, 230V, Bolt-on Branches: 4- 20 AT Enclosure: NEMA 1	1	assy		
	MCB Main: 50AT,100AF, 3P, 230V, MCCB Enclosure: NEMA 3R	1	assy		
				Material Cost-E	₱
				Labor Cost-E	
				Direct Cost-E	₱
F	MECHANICAL WORKS				
	Ventilating Fan				
	EF 1 - Duct Mounted Ceiling Ventilation Fan 100 cfm / 20 w / 230 V / 1 ϕ	2	piece	₱	₱
	Ventilation System				
	Duct				
	100mm Ø, PVC Pipe	2	piece		
	100mm Ø, Air Vent Cap	1	piece		
	Miscellaneous & Consumables				
	400cc Solvent Cement	1	can		
	Hacksaw Blade	5	piece		
	Waste Cloth	3	kg		
				Materials Cost-F	₱
				Labor Cost-F	
				Direct Cost-F	₱
				MATERIAL COST III	₱
				LABOR COST III	
				DIRECT COST III	₱
IV	UTILITIES AND ANCILLARY WORKS				
	150mm x 150mm x 3700mmm Electrical Service Entrance Post	1	unit	₱	₱
				DIRECT COST IV	₱

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
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SUMMARY

ITEM NO.	WORK DESCRIPTION & SCOPE OF WORKS	TOTAL COST
I II III IV	GENERAL REQUIREMENTS CONSTRUCTION OF HAND WASHING FACILITY REHABILITATION OF DAY CARE CENTER UTILITIES AND ANCILLARY WORKS	P
Note: Strictly enforce Health Protocols relative to the latest applicable DPWH Memorandum	TOTAL DIRECT COST Overhead, Contingencies and Miscellaneous Expenses (OCM) Profit VAT	P
	TOTAL ESTIMATED COST	P

BILL OF QUANTITIES
(Building Construction/Rehabilitation Project)

PROJECT TITLE : PROPOSED REHABILITATION OF JASMIN DAY CARE CENTER

LOCATION : BARANGAY BATASAN HILLS, DISTRICT 2, QUEZON CITY

PROJECT NO. : 21 - 00177

SCOPE OF WORK :

- I General Requirements include temporary enclosure, billboard, clearing, hauling and disposal of construction materials and debris , scaffolding and construction safety & health.
- II Site Works include removal works, and clearing and cleaning for painting preparation.
- III Civil / Structural Works include concrete works, masonry works, metal works and roofing works.
- IV Architectural Works include floor finishes, wall finishes, ceiling finishes, painting works, installation of doors and windows, fabricated materials and letterings.
- V Plumbing Works include installation of roughing-ins, fixtures, equipment and accessories.
- VI Electrical Works include installation of roughing-ins, wiring devices and fixtures.
- VII All necessary testing and commissioning shall be performed in accordance to standards.

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
I	GENERAL REQUIREMENTS				
	Billboard	1	unit	₱	₱
	Clearing, Hauling and Disposal of Construction Materials and Debris	1	t.l.		
	Construction Safety and Health	1	unit		
	Scaffolding	29	sq.m.		
	Temporary Enclosure around the Construction Area (H=2.4m)	12	l.m.		
				DIRECT COST I	₱
II	SITE WORKS				
	Removal Works				
	Removal of Countertop	3	sq.m.	₱	₱
	Removal of Dilapidated Ceiling	89	sq.m.		
	Removal of Dilapidated Door	4	unit		
	Removal of Dilapidated Window	12	sq.m.		
	Removal of Gate	5	sq.m.		
	Removal of Gutter	16	l.m.		
	Removal of Hanging Cabinet	2	sq.m.		
	Removal of Lavatory	2	unit		
	Removal of Roof	90	sq.m.		
	Removal of Tiles	72	sq.m.		
	Removal of Urinal	1	unit		
	Removal of Water Closet	2	unit		
	Clearing / Cleaning for Painting Preparation	413	sq.m.		
				DIRECT COST II	₱
III	CIVIL / STRUCTURAL WORKS				
	Concrete Works				
	On Site Mix Concrete, 21Mpa, 3/4" Gravel @28 Days				
	Column	1	cu.m.	₱	₱
	Reinforcing Steel Bar				

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Grade 40 Reinforcing Steel Bar including G.I. Tie Wire # 16				
	10mmØ Column	5	kg		
	Grade 60 Reinforcing Steel Bar including G.I. Tie Wire # 16				
	16mmØ Column	17	kg		
	Formworks				
	Column	1	sq.m		
	Masonry Works				
	100mm CHB Wall Laying, including Mortar, Reinforcing and Two-Face Plastering	9	sq.m		
	Metal Works				
	Roof Framing				
	50mm x 50mm x 6mm Angle Bar	577	kg		
	38mm x 38mm x 6 mm Angle Bar	391	kg		
	50mm x 100mm x 2mm Purlin	602	kg		
	100mm x 100mm x 6mm Gusset Plate	51	kg		
	12mm Ø Sagrod	50	kg		
	12mm Base Plate	32	kg		
	18mm Ø Anchor Bolt	11	kg		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Gate				
	32mmØ G.I. Pipe	41	kg		
	10mm Square Bar	24	kg		
	50mm x 50mm Wire Mesh	6	sq.m		
	38mmØ Round Bar Barrel Bolt	1	set		
	Cylindrical Hinge, Heavy Duty, Stainless	3	piece		
	Gate Pathwalk				
	100mmØ G.I. Pipe Sched 40	111	kg		
	50mm x 100mm x 4 mm Tubular Bar	98	kg		
	50mm x 100mm x 2 mm C- Purlin	22	kg		
	32mmØ G.I. Pipe (Railings)	19	kg		
	12mm thk Base Plate	16	kg		
	18mmØ Anchor Bolt	6	kg		
	Window Grilles				
	25mm x 25mm x 2mm Tubular Bar	106	kg		
	Miscellaneous & Consumables				
	Acetylene Tank (Refill)	3	tank		
	Cut Off Blade	5	piece		
	Grinding Disc for Metal	5	piece		
	Oxygen Tank (Refill)	6	tank		
	Welding Rod	3	box		
	Roofing Works				
	Pre-Painted Rib-type G.I. Roofing	111	sq.m		
	Pre-Painted G.I. Flashing	50	l.m.		
	6mm thk One-Sided Aluminum Foil Thermal Insulation	106	sq.m.		
	12mm x 300mm Fiber Cement Fascia Board	50	l.m.		
	All Purpose Sealant	5	piece		
	Tekscrew	479	piece		
	Blind Rivets	271	piece		
	Silicon Sealant	3	tube		
				MATERIAL COST III	₱
				LABOR COST III	
				DIRECT COST III	₱
IV	ARCHITECTURAL WORKS				
	Floor Finishes				
	Floor Topping For Preparation of Tile Works	63	sq.m.	₱	₱
	600mm x 600mm Non-Skid Homogeneous Tiles	56	sq.m		
	400mm x 400mm Non-Skid Homogeneous Tiles	4	sq.m		
	Wall Finishes and Partition				
	400mm x 400mm Homogeneous Tiles	17	sq.m		
	Ceiling Works				
	6mm thk Fiber Cement Board including Metal Framing	103	sq.m		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Installation of Doors				
	D1 - (0.90m x 2.10m) Swing Type Panel Door	1	set	₱	₱

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	D2 - (0.60m x 2.10m) Swing Type PVC Door with Louver	2	set		
	D3 - (1.60m x 2.10m) Aluminum Frame Powder Coated Sliding Door with 6mm Thk Clear Glass	1	set		
	Door jamb				
	D1 - (0.90m x 2.10m) Swing Type Panel Door	1	set		
	Hardware accessories				
	Door Hinges, Heavy Duty Stainless	9	set		
	Door Knob, Lever Type, Stainless	3	set		
	Installation of Windows				
	W1 -(2.4m x 1.55m) Aluminum Frame Powder Coated Sliding Window with 6mm Thk Clear Glass	1	set		
	W2 -(0.60m x 0.60m) Aluminum Frame Powder Coated Awning Window with 6mm Thk Clear Glass	3	set		
	W3 -(1.50m x 1.55m) Aluminum Frame Powder Coated Sliding Window with 6mm Thk Clear Glass	3	set		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Painting Works				
	Elastomeric Paint (Exterior Wall)	101	sq.m	₱	₱
	Epoxy Enamel Paint Finish (Steel Members)	147	sq.m		
	Flat Latex Paint Finish				
	Interior wall	165	sq.m		
	Ceiling	103	sq.m		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Fabricated Materials				
	Counter Top	7	l.m.		
	Hanging Cabinet	5	sq.m.		
	Lettering				
	Stainless Steel Signage with Neon Backlights (150mm x 150mm) "JASMIN DAY CARE CENTER"	19	set		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
				MATERIAL COST IV	₱
				LABOR COST IV	
				DIRECT COST IV	₱
V	SANITARY / PLUMBING WORKS				
	Sewer Line / Storm Drainage System				
	Roughing-Ins				
	50 mm Ø, PVC Pipe with Hub	4	piece	₱	₱
	75 mm Ø, PVC Pipe with Hub	4	piece		
	100mm Ø, PVC Pipe with Hub	5	piece		
	50mm Ø, P-Trap	4	piece		
	75mm Ø, P-Trap	2	piece		
	50mm Ø, 1/8 Bend	9	piece		
	75mm Ø, 1/8 Bend	3	piece		
	100mm Ø, 1/8 Bend	4	piece		
	75mm Ø, 1/4 Bend	4	piece		
	75mm Ø x 75mm Ø, Tee	4	piece		
	100mm Ø x 75mm Ø, Tee	4	piece		
	100mm Ø x 50mm Ø, Wye	7	piece		
	100mm Ø x 75mm Ø, Wye	3	piece		
	100mm Ø x 100mm Ø, Wye	3	piece		
	100mm Ø, Cleanout with Adapter	3	piece		
	Waterline System				
	Roughing-Ins				
	20mm Ø, PPR Pipe	6	piece		
	20mm Ø, Elbow	14	piece		
	20mm Ø, Coupling	6	piece		
	20mm Ø, Tee Equal	10	piece		
	20mm Ø, Female Threaded, Tee	4	piece		
	20mm Ø, Female Adapter	6	piece		
	20mm Ø, Male Adapter	1	piece		
	20mm Ø, Union Patente	1	piece		
	Valves and Appurtenances				
	20mm Ø Gate Valve, PPR	2	piece		
	Fixtures				
	Bidet with Accessories, Stainless (Water Efficient)	2	piece		
	Floor Drain , 100mm x 100mm , Stainless	5	piece		
	Grease Trap, 5 Gpm, Heavy Duty	1	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Hose Bibb Lever Type, Stainless Steel Heavy Duty (Water Efficient)	5	piece		
	Kitchen Faucet Lever Type, Stainless (Water Efficient)	1	piece		
	Lavatory Wall Hung, Kiddy	2	unit		
	Lavatory Faucet Lever Type, Stainless Steel (Water Efficient)	2	piece		
	Sink, 8" Deep, Stainless Steel	1	unit		
	Urinal , Kiddy, Flush Type (Water Efficient)	1	unit		
	Water Closet , Kiddy , Tank Type w/ Accessories (Water Efficient)	2	unit		
	Accessories				
	Angle Valve, Stainless Steel, Single Way	4	piece		
	Angle Valve, Stainless Steel, Two Way	2	piece		
	Flexible Hose, Stainless Steel	6	piece		
	Miscellaneous & Consumables				
	400cc Solvent Cement	3	can		
	Hacksaw Blade	2	piece		
	Teflon Tape	3	roll		
	Waste Cloth	1	kg		
				MATERIAL COST V	₱
				LABOR COST V	
				DIRECT COST V	₱
VI	ELECTRICAL WORKS				
	Lighting and Power System				
	Roughing-ins				
	20mmØ RSC Pipe	6	piece	₱	₱
	20mmØ PVC Pipe	35	piece		
	15mmØ Flexible Metallic Conduit	20	lm		
	50mm x 100mm Metal Utility Box	8	piece		
	100mm x 100mm Metal Junction Box with Cover	12	piece		
	Fittings & Accessories				
	15mmØ IMC Locknut and Bushing	12	pair		
	20mmØ RSC Locknut and Bushing	4	pair		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	20mmØ PVC Adaptor	80	piece		
	20mmØ PVC Elbow	20	piece		
	20mmØ PVC Locknut and Bushing	80	pair		
	15mmØ Angle Connector	12	piece		
	20mmØ Weatherproof Entrance Cap, Diecast Type	1	piece		
	Wires and Cables				
	3.5mm² THHN Wire	210	lm		
	8.0mm² THHN Wire	40	lm		
	2.0mm² TW Wire (Green)	105	lm		
	3.5mm² TW Wire (Green)	20	lm		
	Lighting Fixture (Energy Efficient)				
	150mmØ Pinlight LED	2	piece		
	1 x 18 LED,300mmx1200mm Troffer Fixture, Energy Efficient	6	unit		
	1 x 18 T8 LED Tube in Box Type Lighting Fixture, Energy Efficient	2	unit		
	Wiring Devices				
	Orbit Fan with Selector Switch	2	unit		
	Outlet with Grounding , Two-Gang	4	piece		
	Switch with Plate and Cover, One-Gang	3	piece		
	Switch with Plate and Cover, Two-Gang	1	piece		
	Pipe Hangers & Supports				
	Horizontal Layout of Pipe	20	lm		
	Vertical Layout of Pipe	6	lm		
	Panelboard				
	LPP (New)	1	assy		
	MCB	1	assy		
	Miscellaneous & Consumables				
	16mmØ x 250mm Oval Eye Bolt with Nut	1	piece		
	20mm Ø x 3000mm Grounding Rod (Copper Clod) with Ground Clamp	1	piece		
	400cc Solvent Cement	5	can		
	Electrical Tape	10	piece		
	GI Tie Wire, Ga. 16 (for Wire/Cable Pulling)	2	kg		
	Hacksaw Blade	5	piece		
	Masking Tape	30	piece		
	Pulling Lubricant	2	can		
	Rubber Tape	30	piece		
				MATERIAL COST VI	₱
				LABOR COST VI	
				DIRECT COST VI	₱

ITEM NO.	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
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SUMMARY

ITEM NO.	WORK DESCRIPTION & SCOPE OF WORKS	TOTAL COST
I II III IV V VI	GENERAL REQUIREMENTS SITE WORKS CIVIL / STRUCTURAL WORKS ARCHITECTURAL WORKS SANITARY / PLUMBING WORKS ELECTRICAL WORKS	P
Note: Strictly enforce Health Protocols relative to the latest applicable DPWH Memorandum	TOTAL DIRECT COST Overhead, Contingencies and Miscellaneous Expenses (OCM) Profit VAT TOTAL ESTIMATED COST	P P

Section IX. Checklist of Technical and Financial Documents

Notes on the Checklist of Technical and Financial Documents

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

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

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

Checklist of Technical and Financial Documents

I. TECHNICAL COMPONENT ENVELOPE

Class “A” Documents

Legal Documents

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

Technical Documents

- (f) Statement of the prospective bidder of all its ongoing government and private contracts, including contracts awarded but not yet started, if any, whether similar or not similar in nature and complexity to the contract to be bid (*please see attached prescribed forms required by the QC – BAC for Infrastructure and Consultancy*); **and**
- (g) Statement of the bidder’s Single Largest Completed Contract (SLCC) similar to the contract to be bid, except under conditions provided under the rules with an attached Notice of Award, Notice to Proceed, Contract and Certificate of Acceptance (*please see attached prescribed form required by the QC – BAC for Infrastructure and Consultancy*); **and**
- (h) Philippine Contractors Accreditation Board (PCAB) License;
or
Special PCAB License in case of Joint Ventures;
and registration for the type and cost of the contract to be bid; **and**
- (i) Original copy of Bid Security. If in the form of a Surety Bond, submit also a certification issued by the Insurance Commission;
or
Original copy of Notarized Bid Securing Declaration; **and**
- (j) Project Requirements, which shall include the following:
 - a. Organizational chart for the contract to be bid;
 - b. List of contractor’s key personnel (*e.g.*, Project Manager, Project Engineers, Materials Engineers, and Foremen), to be assigned to the contract to be bid, with their complete qualification and experience data (*please see attached prescribed form required by the QC – BAC for Infrastructure and Consultancy*);
 - 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 (*please see attached prescribed form required by the QC – BAC for Infrastructure and Consultancy*); **and**

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

Additional Technical Requirements:

- Certificate of Site Inspection or Affidavit of Site Inspection as part of Omnibus Sworn Statement
- Affidavit of Undertaking for Key Personnel and Equipment (*please see attached prescribed form required by the QC – BAC for Infrastructure and Consultancy*)
- Equipment Utilization Schedule
- Manpower Schedule
- Construction Schedule and S-Curve
- PERT-CMP
- Construction Methods

Financial Documents

- (l) The prospective bidder's audited financial statements, showing, among others, the prospective bidder's total and current assets and liabilities, stamped "received" by the BIR or its duly accredited and authorized institutions, for the preceding calendar year which should not be earlier than two (2) years from the date of bid submission; **and**
- (m) The prospective bidder's computation of Net Financial Contracting Capacity (NFCC) (*please see attached prescribed form required by the QC – BAC for Infrastructure and Consultancy*).

Class "B" Documents

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

II. FINANCIAL COMPONENT ENVELOPE

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

Other documentary requirements under RA No. 9184

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

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 guidelines¹ 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.

¹ currently based on GPPB Resolution No. 09-2020

- k. We likewise certify/confirm that the undersigned, is the duly authorized representative of the bidder, and granted full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for the [Name of Project] of the [Name of the Procuring Entity].
- l. We acknowledge that failure to sign each and every page of this Bid Form, including the Bill of Quantities, shall be a ground for the rejection of our bid.

Name: _____

Legal Capacity: _____

Signature: _____

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

Date: _____

Bid Securing Declaration Form

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

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

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

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

I/We, the undersigned, declare that:

1. I/We understand that, according to your conditions, bids must be supported by a Bid Security, which may be in the form of a Bid Securing Declaration.
2. I/We accept that: (a) I/we will be automatically disqualified from bidding for any procurement contract with any procuring entity for a period of two (2) years upon receipt of your Blacklisting Order; and, (b) I/we will pay the applicable fine provided under Section 6 of the Guidelines on the Use of Bid Securing Declaration, within fifteen (15) days from receipt of the written demand by the procuring entity for the commission of acts resulting to the enforcement of the bid securing declaration under Sections 23.1(b), 34.2, 40.1 and 69.1, except 69.1(f), of the IRR of RA No. 9184; without prejudice to other legal action the government may undertake.
3. I/We understand that this Bid Securing Declaration shall cease to be valid on the following circumstances:
 - a. Upon expiration of the bid validity period, or any extension thereof pursuant to your request;
 - b. I am/we are declared ineligible or post-disqualified upon receipt of your notice to such effect, and (i) I/we failed to timely file a request for reconsideration or (ii) I/we filed a waiver to avail of said right; and
 - c. I am/we are declared the bidder with the Lowest Calculated Responsive Bid, and I/we have furnished the performance security and signed the Contract.

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

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

[Jurat]

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

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.**
11. We pledge that the project will be completed in accordance and congruency with the approved plans and programs.

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

[Insert NAME OF BIDDER OR ITS AUTHORIZED REPRESENTATIVE]

[Insert signatory's legal capacity]

Affiant

[Jurat]

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

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

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

CONTRACT AGREEMENT

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

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

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement, words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following documents as required by the 2016 revised Implementing Rules and Regulations of Republic Act No. 9184 shall be deemed to form and be read and construed as part of this Agreement, viz.:
 - a. Philippine Bidding Documents (PBDs);
 - i. Drawings/Plans;
 - ii. Specifications;
 - iii. Bill of Quantities;
 - iv. General and Special Conditions of Contract;
 - v. Supplemental or Bid Bulletins, if any;
 - b. Winning bidder's bid, including the Eligibility requirements, Technical and Financial Proposals, and all other documents or statements submitted;

Bid form, including all the documents/statements contained in the Bidder's bidding envelopes, as annexes, and all other documents submitted (e.g., Bidder's response to request for clarifications on the bid), including corrections to the bid, if any, resulting from the Procuring Entity's bid evaluation;
 - c. Performance Security;
 - d. Notice of Award of Contract and the Bidder's conforme thereto; and
 - e. Other contract documents that may be required by existing laws and/or the Procuring Entity concerned in the PBDs. **Winning bidder agrees that additional contract documents or information prescribed by the GPPB that are subsequently required for submission after the contract execution, such as the Notice to Proceed, Variation Orders, and Warranty Security, shall likewise form part of the Contract.**
3. In consideration for the sum of *[total contract price in words and figures]* or such other sums as may be ascertained, *[Named of the bidder]* agrees to *[state the object of the contract]* in accordance with his/her/its Bid.

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

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

[Insert Name and Signature] [Insert Name and Signature]

[Insert Signatory's Legal Capacity] [Insert Signatory's Legal Capacity]

for: for:

[Insert Procuring Entity] [Insert Name of Supplier]

Acknowledgment

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

Performance Securing Declaration (Revised)

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

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

PERFORMANCE SECURING DECLARATION

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

I/We, the undersigned, declare that:

1. I/We understand that, according to your conditions, to guarantee the faithful performance by the supplier/distributor/manufacturer/contractor/consultant of its obligations under the Contract, I/we shall submit a Performance Securing Declaration within a maximum period of ten (10) calendar days from the receipt of the Notice of Award prior to the signing of the Contract.
2. I/We accept that: I/we will be automatically disqualified from bidding for any procurement contract with any procuring entity for a period of one (1) year for the first offense, or two (2) years **for the second offense**, upon receipt of your Blacklisting Order if I/We have violated my/our obligations under the Contract;
3. I/We understand that this Performance Securing Declaration shall cease to be valid upon:
 - a. issuance by the Procuring Entity of the Certificate of Final Acceptance, subject to the following conditions:
 - i. Procuring Entity has no claims filed against the contract awardee;
 - ii. It has no claims for labor and materials filed against the contractor; and
 - iii. Other terms of the contract; or
 - b. replacement by the winning bidder of the submitted PSD with a performance security in any of the prescribed forms under Section 39.2 of the 2016 revised IRR of RA No. 9184 as required by the end-user.

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

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

[Jurat]

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

LIST OF ALL AWARDED BUT NOT YET STARTED GOVERNMENT AND PRIVATE CONTRACTS OF THE BIDDER

NAME OF CONTRACTOR: _____

PROJECT TITLE: _____

PROJECT TITLE & EXACT LOCATION	MAJOR SCOPE OF WORKS & DATE STARTED	NAME AND ADDRESS OF PROJECT OWNER	CONTRACT PRICE (PHP) AS AWARDED	DATE OF SCHEDULED COMPLETION	ROLE OF BIDDER IN THE <u>CONTRACT</u> <u>SOLE CONTRACTOR / SUB-CONTRACTOR/PARTNER IN A</u>
	TOTAL AMOUNT OF CONTRACT (Php)				

SINGLE LARGEST COMPLETED CONTRACT SIMILAR TO THE CONTRACT TO BE BID

NAME OF CONTRACTOR: _____

PROJECT TITLE: _____

PROJECT TITLE (Name of the Contract) & EXACT PROJECT LOCATION	DATE OF CONTRACT	CONTRACT DURATION	PROJECT OWNER & POSTAL ADDRESS	NATURE OF WORK	CONTRACTOR'S ROLE (SOLE CONTRACTOR, SUBCONTRACTOR, PARTNER IN A JV) and PERCENTAGE OF PARTICIPATION	TOTAL CONTRACT VALUE AT AWARD	DATE OF COMPLETION or ESTIMATED COMPLETION TIME	TOTAL CONTRACT VALUE AT COMPLETION IF APPLICABLE

PHOTOCOPY ADDITIONAL FORMS, IF NECESSARY

Page _____ of _____

LIST OF MAJOR EQUIPMENT TO BE USED FOR THE PROJECT

NAME OF CONTRACTOR: _____

PROJECT TITLE: _____

TYPE	DESCRIPTION / CAPACITY	SERIAL NO.	YEAR ACQUIRED	PRESENT LOCATION (SPECIFIC ADDRESS)	STATUS OF AVAILABILITY (OWNED/LEASED)

A. LIST OF KEY CONSTRUCTION PERSONNEL TO BE ASSIGNED TO THE PROJECT

NAME OF CONTRACTOR: _____

PROJECT TITLE: _____

NAME	POSITION	AGE	EDUCATIONAL ATTAINMENT	TYPE OF CONSTRUCTION EXPERIENCE	NO.OF YEARS WITH THE CONTRACTOR	PROFESSION	PRC NO.

COMPUTATION OF NET FINANCIAL CONTRACTING CAPACITY (NFCC)

NAME OF BIDDER: _____

CURRENT ASSETS*		PHP	_____
(LESS) CURRENT LIABILITIES*	(LESS)	PHP	_____
NETWORTH		PHP	_____
NETWORTH x 15	x 15	PHP	_____
(LESS) VALUE OF ALL OUTSTANDING ON-GOING CONTRACTS**	(LESS)	PHP	_____
(LESS) VALUE OF ALL AWARDED BUT NOT YET STARTED CONTRACTS AS OF DATE**	(LESS)	PHP	_____
NET FINANCIAL CONTRACTING CAPACITY		PHP	_____

NOTES: * CURRENT ASSETS AND LIABILITIES BASED ON AUDITED FINANCIAL STATEMENT FOR THE PRECEDING CALENDAR YEAR SUBMITTED TO B.I.R.

** BASED ON LIST OF ON-GOING AND AWRDED BUT NOT VEY STARTED CONTRACTS SUBMITTED

REPUBLIC OF THE PHILIPPINES)

_____) S.S.

AFFIDAVIT OF UNDERTAKING

I, _____ of legal age, Filipino, _____ [OFFICER OR REPRESENTATIVE]

with office address at _____ after having been duly sworn to in accordance with law, hereby voluntary depose and state:

That I am duly authorized representative of the [Name of Bidder] to execute this undertaking as evidenced by Secretary's Certificate and Board Resolution.

That [Name of Bidder] bidding for the (Name of Project)

That relative to the aforementioned Project, the [Name of Bidder] hereby undertake that the equipment to be use and the key personnel to be assign shall exclusively be used and will only perform to the said project until its completion.

That I am executing this affidavit to attest to the truth of the foregoing and in compliance with the submission of the technical requirements for the public bidding of the said project.

IN WITNESS HEREOF, I have hereunto signed my name below this _____ day of _____ at _____.

AFFIANT FURTHER SAYETH NAUGHT.

Affiant

SUBSCRIBED AND SWORN TO BEFORE ME this _____ day of _____
in _____

affiant exhibiting to me his/her _____ issued at _____
on _____

Doc. No. ;
Page No. ;
Book No. ;
Series of 2020

Notary Public

